May 2011
SCANNED
Hazardous Waste
Section

THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
SWMU 21 GROUNDWATER MONITORING REPORT
CHAPEL HILL, NORTH CAROLINA
EPA ID NUMBER 982 093 783

Prepared for:

THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
CHAPEL HILL, NORTH CAROLINA

Prepared by:

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701 CORPORATE CENTER DRIVE, SUITE 475
RALEIGH, NORTH CAROLINA 27607

Received
AUG 2010
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Waste Section

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1.0 INTRODUCTION AND OBJECTIVES

Groundwater monitoring was conducted in response to the November 30, 1998 comments from the North Carolina Department of Environment and Natural Resources (NCDENR), Hazardous Waste Section (HWS) on the "Phase II RCRA Facility Investigation for Groundwater Assessment at Solid Waste Management Unit (SWMU) 21." In response to the 1998 comments from the HWS, UNC submitted a revised Phase II RFI Workplan on January 15, 1999. The revised Workplan was approved by the HWS on October 26, 2005 in Permit Condition IV.F, which required implementation of the Workplan for SWMU 21. SWMU 21 is the former "P" parking lot landfill, located near the intersection of Airport Road and Estes Drive Extension in Chapel Hill, North Carolina. The site location is shown on Figure 1 (Site Location Map).

Analytical results for the previous groundwater sampling event (May 2006) showed no volatile organic compounds (VOCs) or metals above the Federal Drinking Water Maximum Contaminant Levels (MCLs) in any of the samples from the monitoring wells. However, the HWS, in a letter dated March 17, 2010, requested that another round of sampling, following the same protocols as the May 2006 sampling, be performed.

A summary of historical analytical results is presented in Table 1 (Historical Groundwater Chemistry Summary).

The objectives of this sampling event were to:

- Evaluate the current water quality conditions, and
- Evaluate the groundwater flow direction.

2.0 MONITORING METHODS

To achieve the stated objectives, groundwater samples were collected and analyzed from the former landfill area. Four shallow groundwater monitoring wells were sampled (MW-1, MW-5, MW-7 and MW-8). Table 2 presents groundwater elevation data from the site wells sampled.

2.1 SAMPLING PROCEDURES

Sampling activities were conducted on May 25, 2010 and were completed in accordance with industry-accepted protocols and existing regulatory guidelines. Sampling methods and procedures were conducted as described below:

1. Each monitoring well was inspected for damage or other well integrity problems. The well cap was unlocked and removed, and the water level was allowed to equilibrate. The depth to groundwater from the measuring point was measured with an electronic depth indicator and recorded.

2. New 1/8" polyethylene tubing was placed in each well with the tube opening approximately 2.5 feet from the well bottom. A peristaltic pump was used in a low flow/low volume setup to slowly draw groundwater from the formation, through the sandpack and into the well. This technique minimizes the turbidity of the sample water, leads to more accurate VOC analytical results, and also significantly reduces the amount of purge water for disposal.

3. The groundwater was pumped through a flow cell with an attached calibrated water quality meter to measure the designated field parameters (pH, Specific Conductance, Temperature and Turbidity). The flow cell is a 1-liter Plexiglas container with fittings that allow water to continuously flow into the bottom and out the top of the cell. Water flowing through the cell is continuously monitored by probes inserted into the top of the cell. Groundwater was purged and field parameters recorded at 1-liter intervals until they stabilized to within 10 percent of the previous reading. The target measurement for turbidity was 10 NTU or the lowest possible reading at the slowest pumping rate. The field data is summarized in Table 3 and the logs are included in Appendix A.

4. The silicone pump head tubing was replaced and the flow cell rinsed with distilled water between wells. To minimize the chance of cross contamination, no contact parts or equipment were used well to well.

5. To collect groundwater samples, the pump was disconnected from the flow cell and the flow directed into laboratory-supplied sample containers at a flow not exceeding 100 milliliters per minute. The samples were logged onto a chain-of-custody, placed on ice in a cooler and shipped to the contract laboratory via the laboratory courier.

SGS North America, a North Carolina-certified laboratory located in Wilmington, North Carolina, analyzed the groundwater samples for the following parameters:

- Volatile organic compounds (VOCs) using USEPA SW-846 Method 8260
- Semivolatile organic compounds (SVOCs) using USEPA SW-846 Method 8270
- RCRA Metals (mercury, arsenic, lead, selenium, silver, barium, cadmium, and chromium)

3.0 MONITORING RESULTS

3.1 GROUNDWATER FLOW

Groundwater levels were measured and recorded for the site monitor wells (Table 2) using an electronic water level indicator. A groundwater elevation contour map of the unconfined aquifer at the facility was developed using water level measurements collected on May 25, 2010 from the sampled wells (Figure 2). Historical groundwater elevation contour maps are presented in Figures 3 through 10. Historical groundwater elevation measurements are presented in Table 4.

Based on the current and historical water level data, the groundwater appears to generally follow the existing site topography and drainage features. The current water level data indicates the groundwater is flowing to the south-southeast from SWMU 21. Additionally, the data indicates groundwater leaving the area of SWMU 21 would pass through monitoring points MW-7 and MW-8 on either side of the creek.

3.2 GROUNDWATER ANALYTICAL RESULTS

Groundwater samples were collected and analyzed from four monitoring wells: MW-1, MW-5, MW-7 and MW-8. The laboratory analyzed the samples for VOCs, SVOCs, and RCRA metals. Analytical results for the monitoring wells are presented in Table 1 and compared to the applicable MCLs. Historical groundwater monitoring data is additionally included in Table 1 for comparison purposes. Laboratory analytical reports are presented in Appendix B.

Review of the analytical reports shows that organic compounds were not detected at concentrations above the method quantitation limit in any of the groundwater samples. RCRA metals were detected above the quantitation limit in samples from two wells. Chromium was detected in the sample from well MW-1 at a concentration of 0.0150 mg/L. Mercury, lead and chromium were detected in the sample from well MW-5 at concentrations of 0.00119 mg/L, 0.0104 mg/L and 0.0420 mg/L, respectively. The detected concentrations for the metals are below the respective MCLs.

As part of the quality assurance/quality control (QA/QC) of the samples from this event, a

duplicate sample (MW-5a), equipment blank (EB), field blank (FB), matrix spike (MS) and matrix spike duplicate (MSD) were collected and analyzed for the same parameters as the well samples. Additionally, a trip blank was provided by the laboratory and analyzed for VOCs.

The analytical report for the duplicate sample (MW-5a) shows similar results as those from the primary sample (MW-5), except that lead was not detected above the quantitation limit in the duplicate sample. The analytical reports for the trip blank, equipment blank and field blank show all target compounds below quantitation limits. The reports for the matrix spike and matrix spike duplicate samples indicate all parameters are within acceptable method ranges.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The laboratory analytical reports show that no organic target compounds were detected above the method quantitation limit in the groundwater samples during this sampling event. RCRA metals were detected above the quantitation limit in samples from two wells. However, the metals were detected at concentrations below the appropriate Federal MCLs (drinking water standards). Chromium was detected in the sample from well MW-1 at a concentration of 0.0150 mg/L, while the MCL is 0.1 mg/L. Mercury, lead and chromium were detected in the sample from well MW-5 at concentrations of 0.00119 mg/L (MCL = 0.002 mg/L), 0.0104 mg/L (MCL = 0.015 mg/L), and 0.0420 mg/L (MCL = 0.1 mg/L), respectively. Field personnel used a low flow/low volume sampling method to minimize disturbance of the groundwater during purging and sampling.

The QA/QC data indicates that the sampling and analysis methods produced results that are reasonably accurate and within the guidelines of the respective analytical methods. According to the analytical laboratory, SGS North America, Inc., the MS/MSD performed on the groundwater sample obtained from monitoring well MW-5 has reported recoveries for mercury that are below the method's recommended QC limit. However, the data is validated by the batch Laboratory Control Spike (LCS)/Laboratory Control Spike Duplicate (LCSD) that meets all acceptable criteria. A brief narrative has been included by the laboratory in the analytical report contained in Appendix B.

Based on the analytical results of the May 25, 2010 ground water monitoring activities, no additional sampling activities are recommended.

5.0 REFERENCES

Arcadis Geraghty & Miller, January 1999, Expanded Phase II RCRA Facility Investigation Workplan, the University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

USEPA, 40 CFR Part 141, National Primary Drinking Water Regulations.

USEPA, Environmental Monitoring System Laboratory, 1984, Characterization of Hazardous Waste Sites – A Methods Manual: Volume II. Available Sampling Methods, Second Edition.

USEPA, Office of Research and Development, 1996, Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures.

Figures

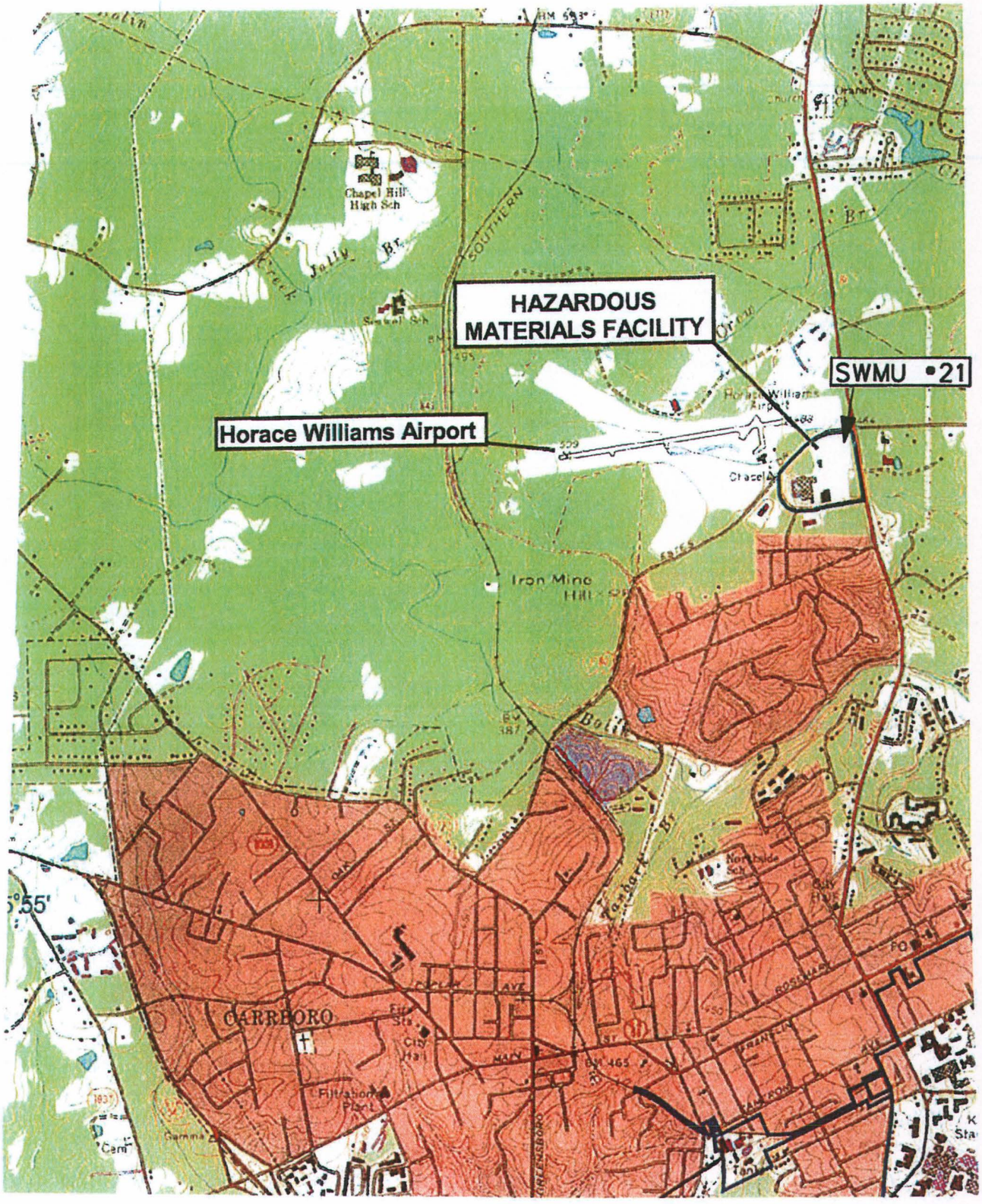

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FIGURE 1
SITE LOCATION MAP
UNC AT CHAPEL HILL SWMU 21 GROUNDWATER MONITORING
CHAPEL HILL, NORTH CAROLINA

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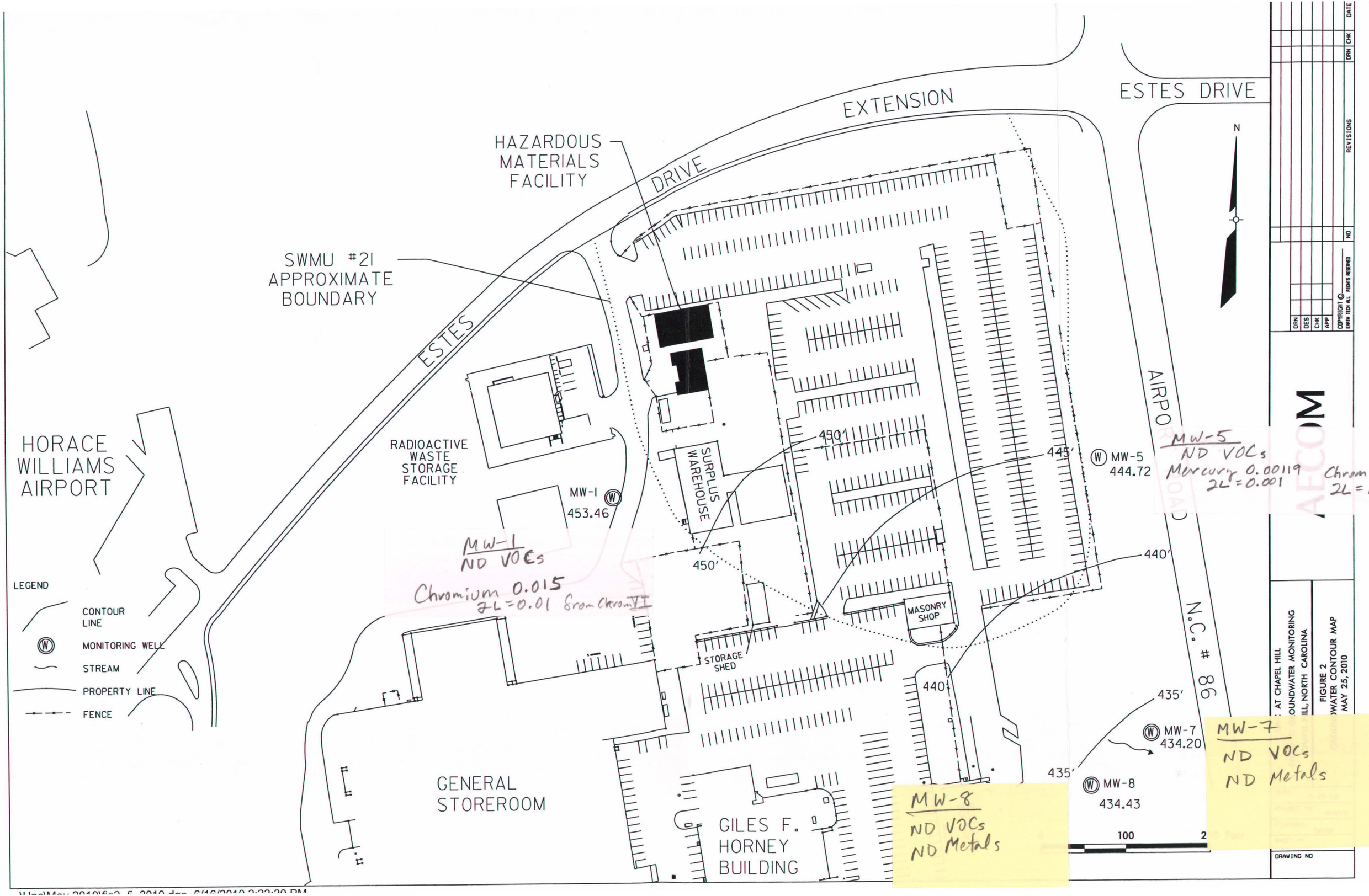
HAZARDOUS MATERIALS FACILITY
SWMU #21 APPROXIMATE BOUNDARY
ESTES DRIVE EXTENSION
ESTES DRIVE
AIRPORT ROAD
N.C. # 86
N
HORACE WILLIAMS AIRPORT
RADIOACTIVE WASTE STORAGE FACILITY
MW-1
453.46
MW-1
ND VOCs
Chromium 0.015
2L=0.01 from Chrom VI
SURPLUS WAREHOUSE
450'
445'
440'
435'
MW-5
444.72
MW-5
ND VOCs
Mercury 0.00119
2L=0.001
Chrom 0.0
2L=0.0
MASONRY SHOP
STORAGE SHED
MW-7
434.20
MW-7
ND VOCs
ND Metals
MW-8
434.43
MW-8
ND VOCs
ND Metals
GENERAL STOREROOM
GILES F. HORNEY BUILDING
100
LEGEND
CONTOUR LINE
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AT CHAPEL HILL
GROUNDWATER MONITORING
HILL, NORTH CAROLINA
FIGURE 2
DWATER CONTOUR MAP
MAY 25, 2010
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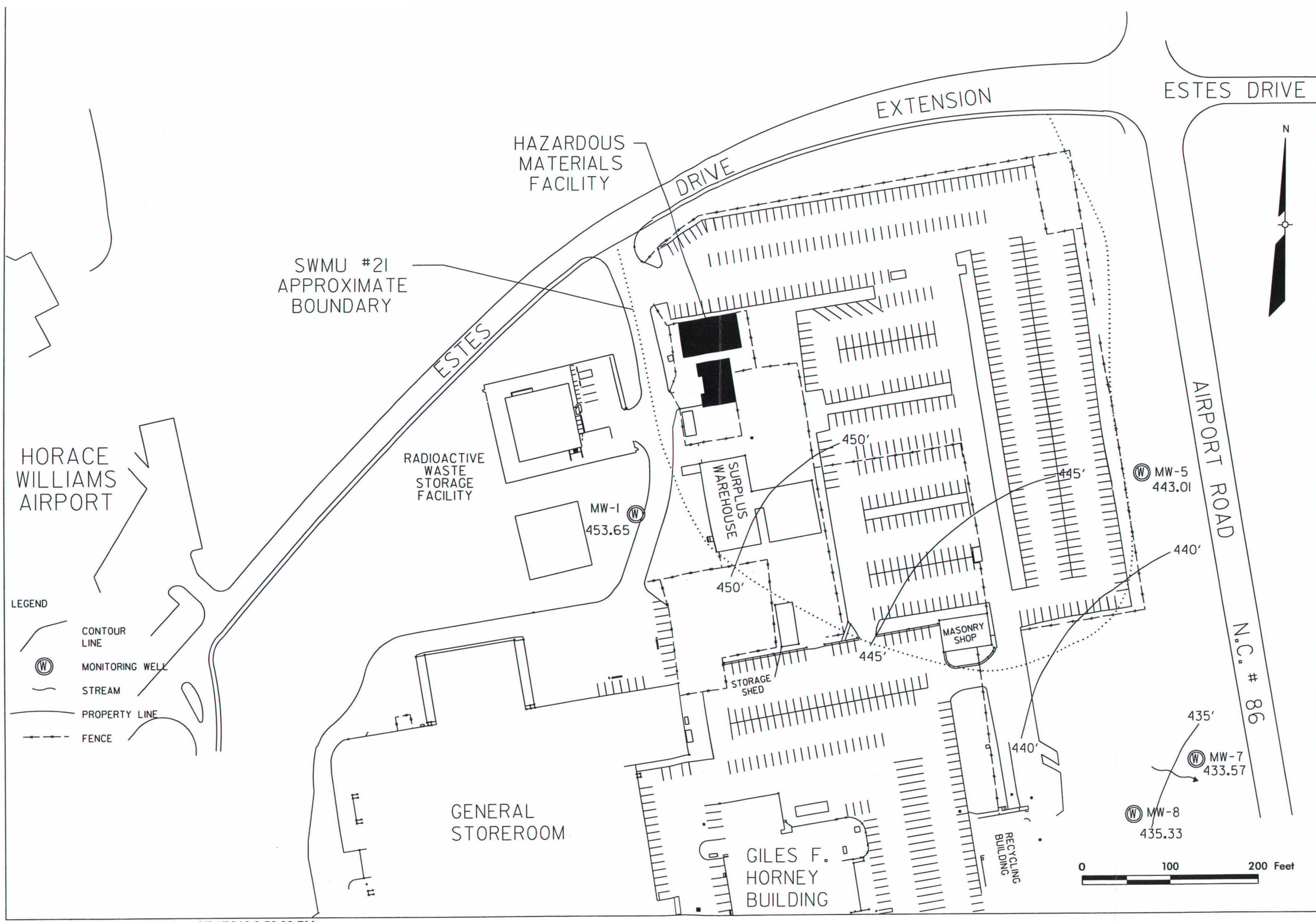

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UNC AT CHAPEL HILL
SWMU 21 GROUNDWATER MONITORING
CHAPEL HILL, NORTH CAROLINA

FIGURE 3
GROUNDWATER CONTOUR MAP
MAY 17, 2006

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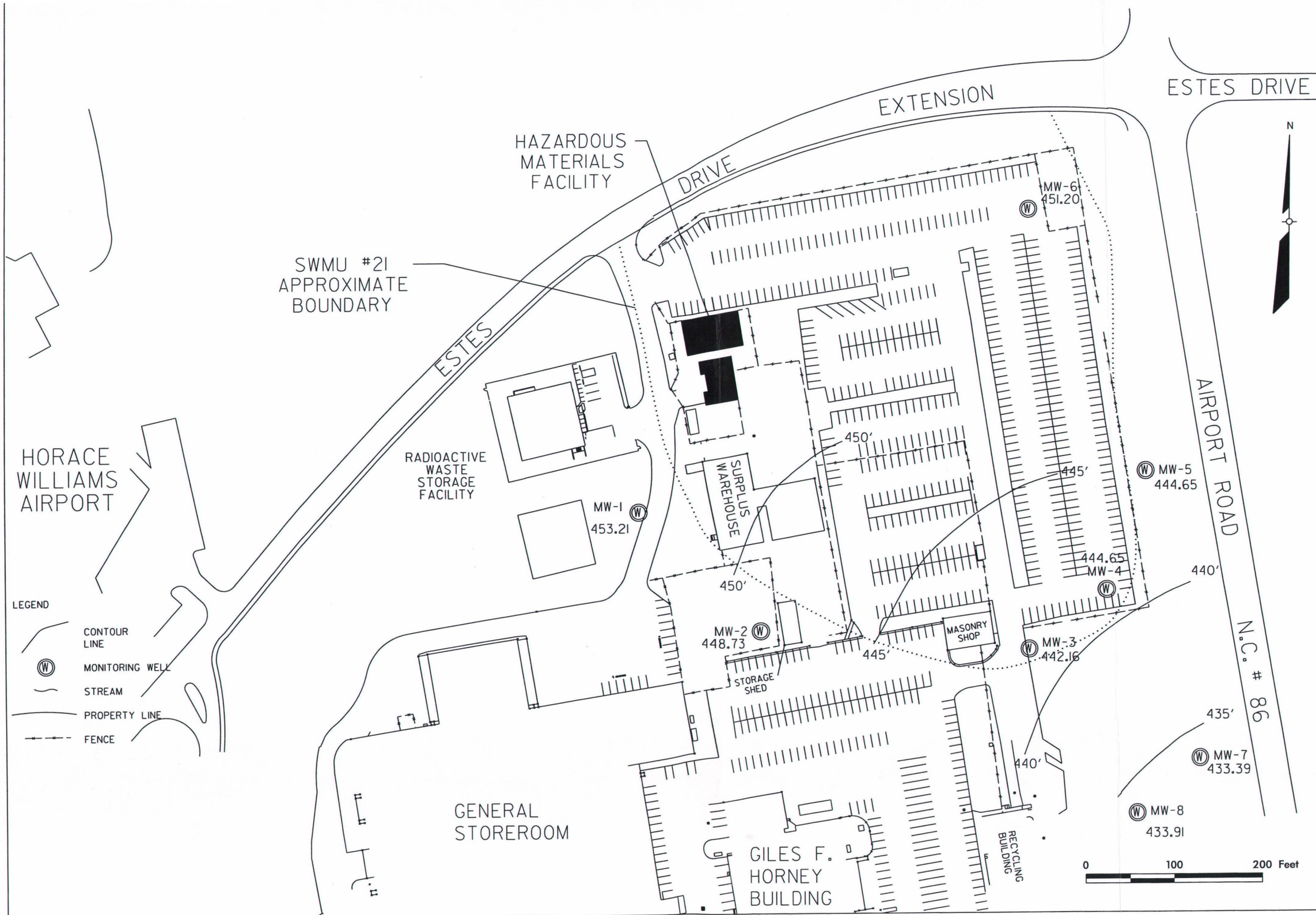

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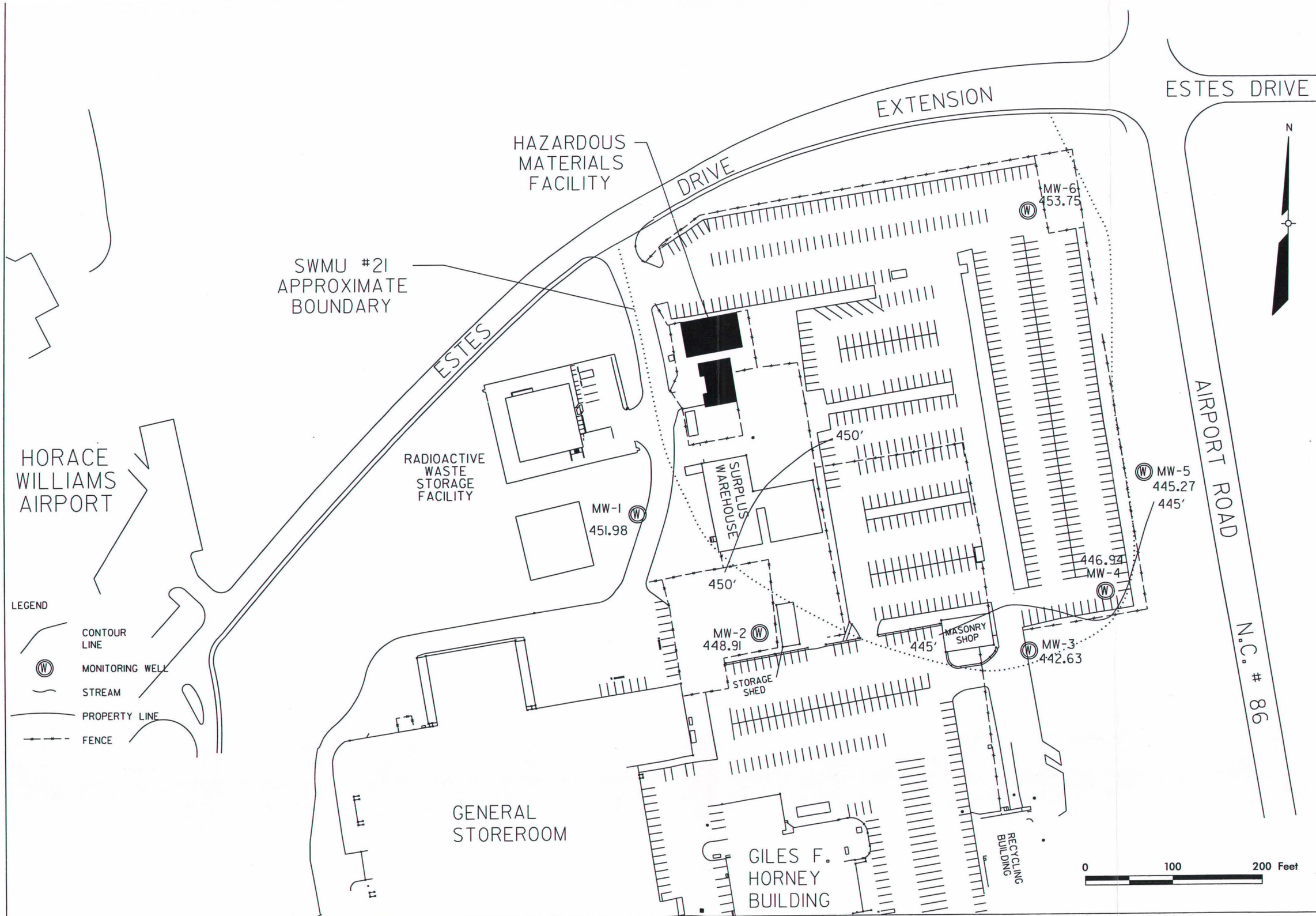
UNC AT CHAPEL HILL
SWMU 21 GROUNDWATER MONITORING
CHAPEL HILL, NORTH CAROLINA

FIGURE 4
GROUNDWATER CONTOUR MAP
SEPTEMBER 19, 1997

DATE 11-6-07
PROJECT NO 93764.01
FILENAME fig4_5_2010.dgn
SHEET NO
DRAWING NO



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UNC AT CHAPEL HILL
SWMU 21 GROUNDWATER MONITORING
CHAPEL HILL, NORTH CAROLINA

FIGURE 5
GROUNDWATER CONTOUR MAP
APRIL 3, 1995

DATE 11-6-07
PROJECT NO 93764.01
FILENAME fig5.dgn
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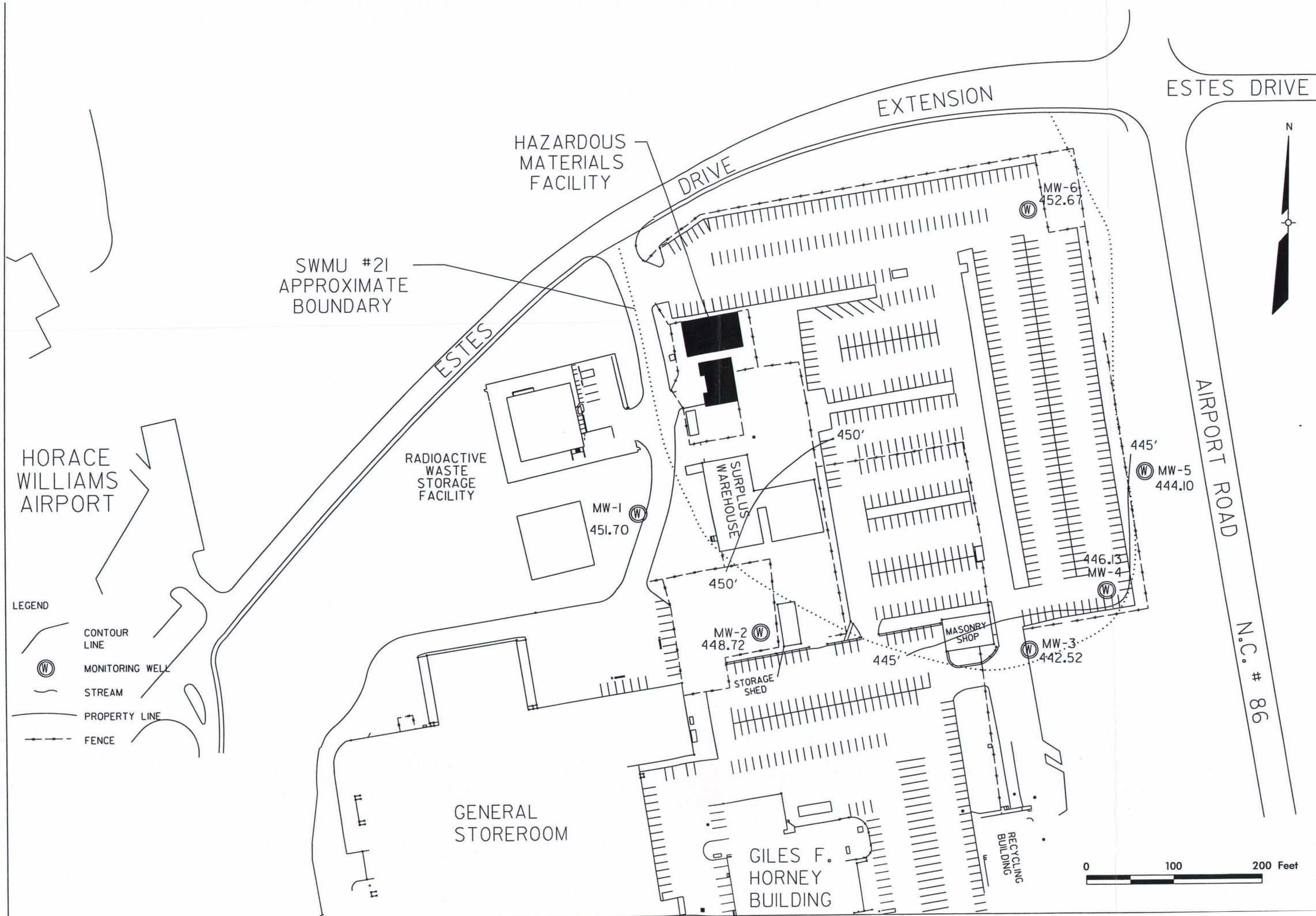
DRAWING NO



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UNC AT CHAPEL HILL
SWMU 21 GROUNDWATER MONITORING
CHAPEL HILL, NORTH CAROLINA

FIGURE 6
GROUNDWATER CONTOUR MAP
DECEMBER 31, 1993

DATE 11-6-07
PROJECT NO 93764.01
FILENAME fig6_5_2010.dgn
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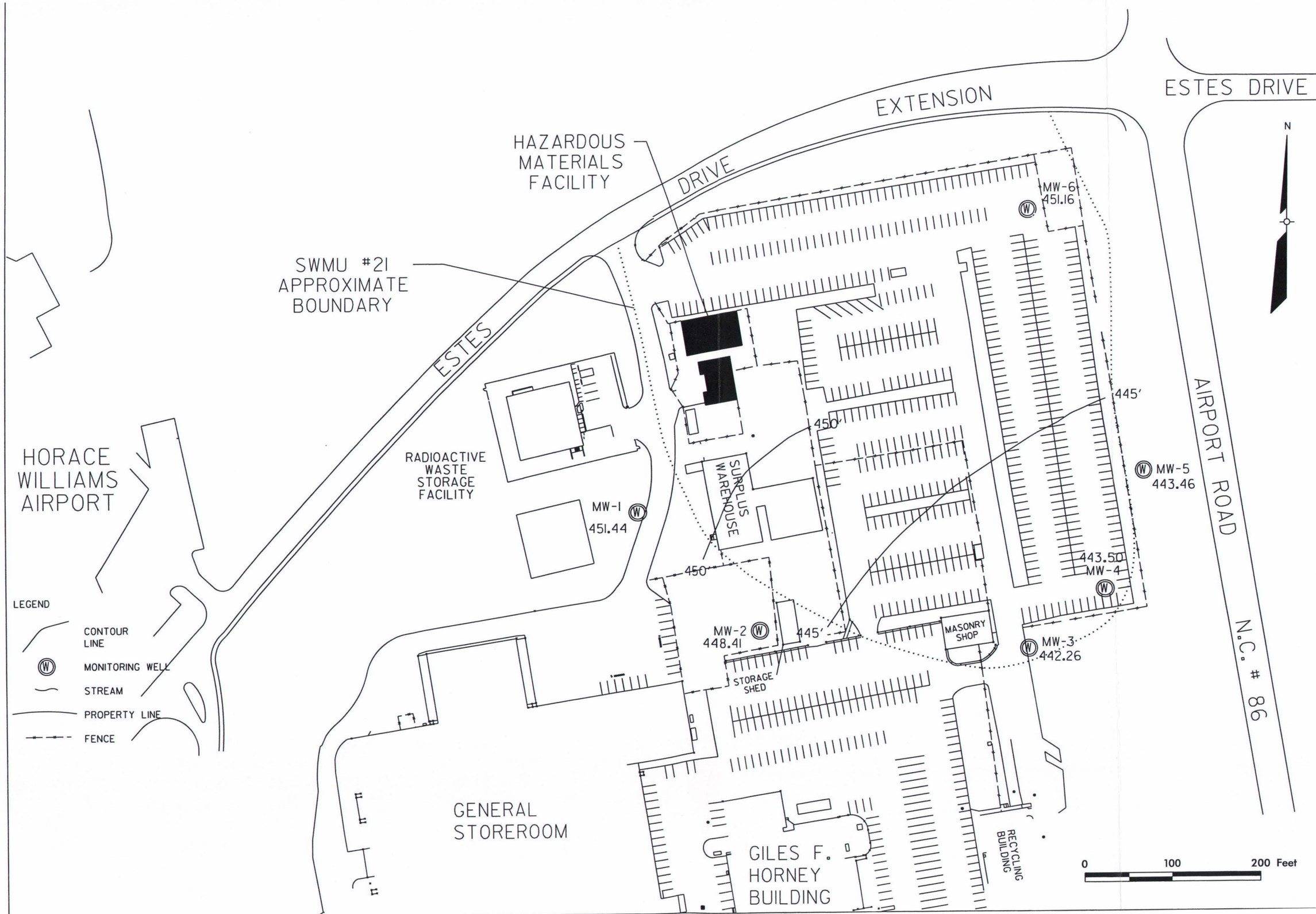
DRAWING NO



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UNC AT CHAPEL HILL
SWMU 21 GROUNDWATER MONITORING
CHAPEL HILL, NORTH CAROLINA

FIGURE 7
GROUNDWATER CONTOUR MAP
NOVEMBER 23, 1993

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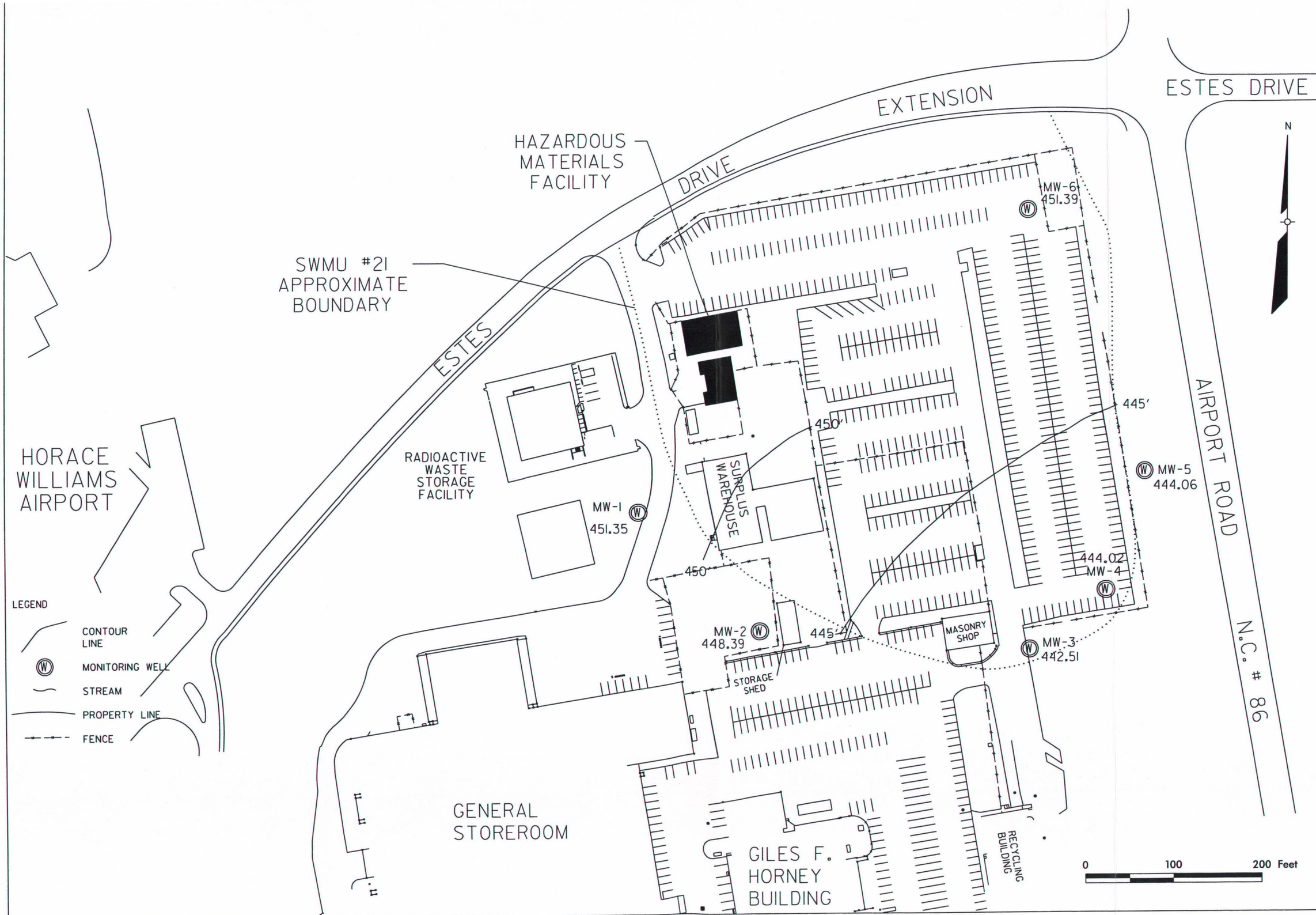

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UNC AT CHAPEL HILL
SWMU 21 GROUNDWATER MONITORING
CHAPEL HILL, NORTH CAROLINA

FIGURE 8
GROUNDWATER CONTOUR MAP
OCTOBER 14, 1993

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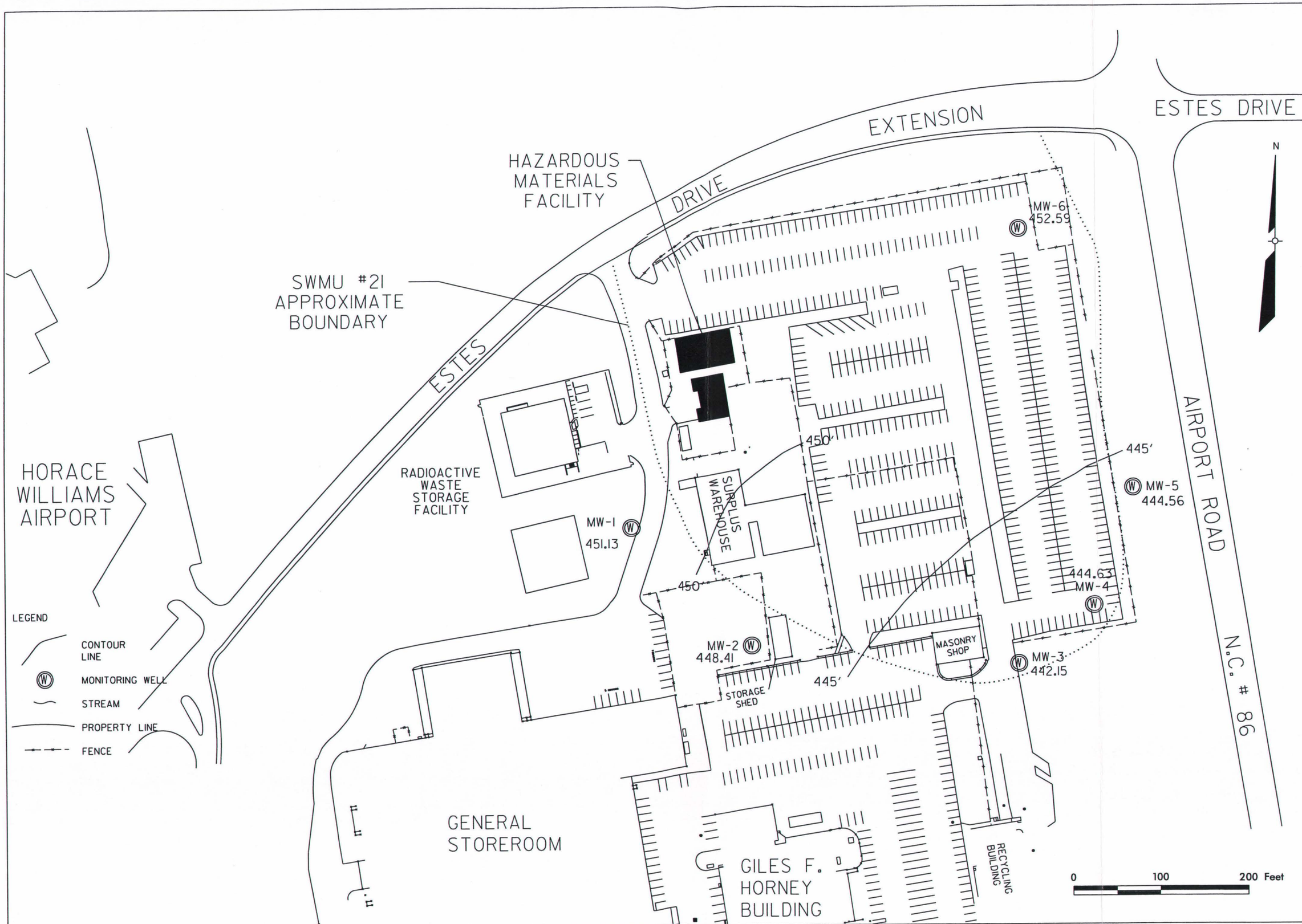

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UNC AT CHAPEL HILL
SWMU 21 GROUNDWATER MONITORING
CHAPEL HILL, NORTH CAROLINA

FIGURE 9
GROUNDWATER CONTOUR MAP
SEPTEMBER 10, 1993

DATE	11-6-07
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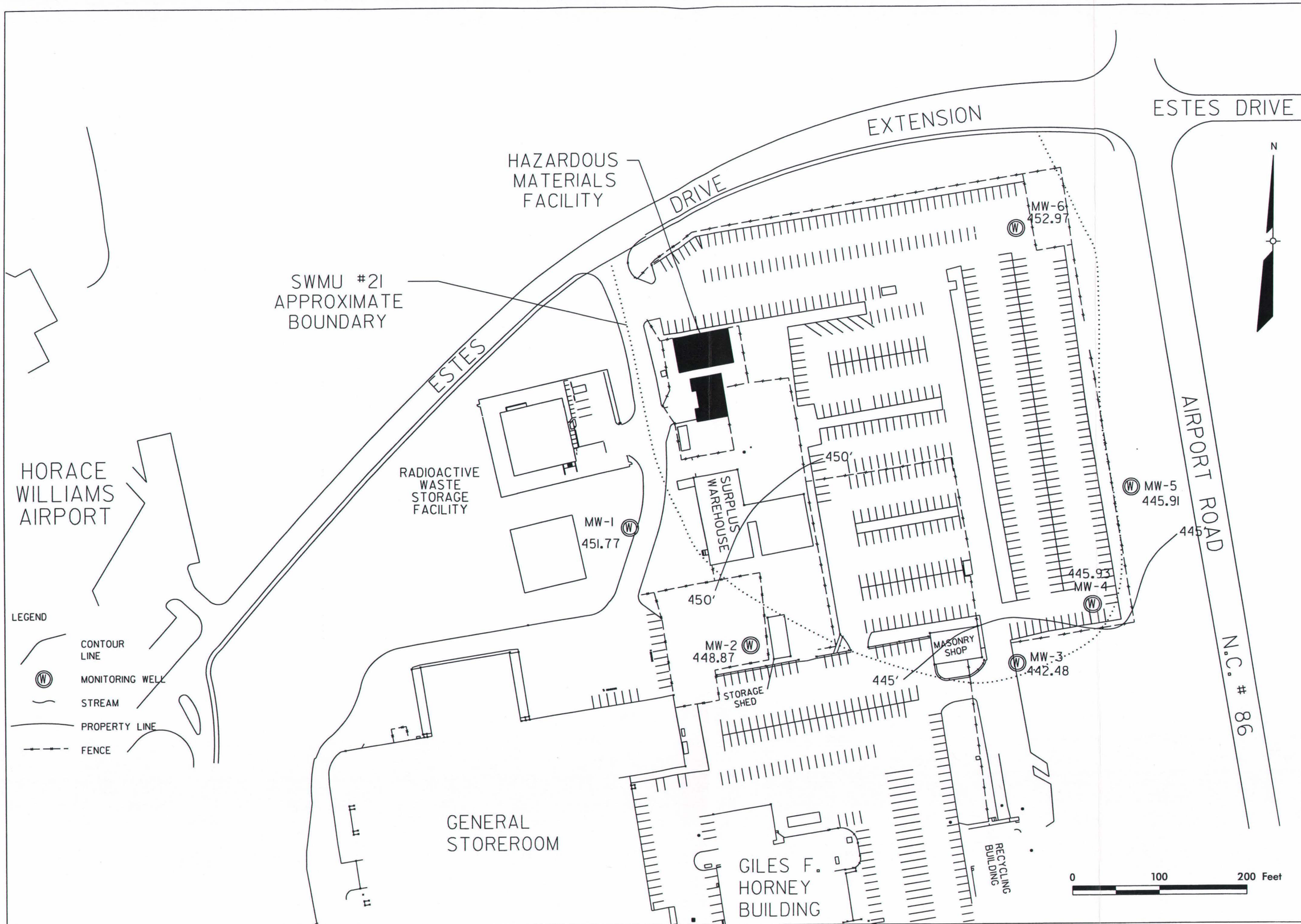

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UNC AT CHAPEL HILL
SWMU 21 GROUNDWATER MONITORING
CHAPEL HILL, NORTH CAROLINA

FIGURE 10
GROUNDWATER CONTOUR MAP
AUGUST 9, 1993

DATE	11-6-07
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Tables

Table 1
Historical Groundwater Chemistry Summary
SWMU 21, UNC at Chapel Hill
Chapel Hill, NC

MW-1	Carbon Disulfide	1,1-Dichloroethene	Trichloroethene	Benzene	Toluene	Chlorobenzene	Benzoic Acid	Phenol	Mercury	Arsenic	Lead	Selenium	Silver	Barium	Cadmium	Chromium
	VOCs (µg/L)						SVOCs (µg/L)		RCRA Metals (mg/L)							
MCL	NS	7	5	5	1000	100	NS	NS	0.002	0.05	0.015	0.05	0.1	2	0.005	0.1
Aug-93	<5	<5	<5	<5	<5	<5	<50	<10	<0.0002	<0.010	**0.013**	<0.005	<0.01	<0.20	**0.007***	<0.010
Oct-93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dec-93	NA	NA	NA	NA	NA	NA	NA	NA	<0.0002	<0.010	**0.014**	<0.005	**0.04**	<0.20	<0.005	**0.12***
Oct-97	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<50	<10	R	<0.010	<0.0050	<0.020	<0.010	<0.20	<0.0050	**0.01**
May-06	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<10	<0.00025	<0.010	<0.010	<0.020	<0.010	<0.10	<0.010	<0.010
May-10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<26	<5	<0.000285	<0.010	<0.010	<0.020	<0.010	<0.10	0.01	**0.015**

MW-2	Carbon Disulfide	1,1-Dichloroethene	Trichloroethene	Benzene	Toluene	Chlorobenzene	Benzoic Acid	Phenol	Mercury	Arsenic	Lead	Selenium	Silver	Barium	Cadmium	Chromium
	VOCs (µg/L)						SVOCs (µg/L)		RCRA Metals (mg/L)							
MCL	NS	7	5	5	1000	100	NS	NS	0.002	0.05	0.015	0.05	0.1	2	0.005	0.1
Aug-93	NA	NA	NA	NA	NA	NA	NA	NA	<0.0002	<0.010	<0.010	<0.005	<0.01	<0.20	<0.005	<0.010
Oct-93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dec-93	NA	NA	NA	NA	NA	NA	NA	NA	<0.0002	<0.010	**0.009**	<0.005	**0.05**	<0.20	<0.005	**0.18***
Oct-97	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<50	<10	R	<0.010	<0.0050	<0.020	<0.010	<0.10	<0.0050	<0.10
May-06	Not Sampled-Destroyed during construction activities.															

Table 1 (cont.)
Historical Groundwater Chemistry Summary
SWMU 21, UNC at Chapel Hill
Chapel Hill, NC

MW-3	Carbon Disulfide	1,1-Dichloroethene	Trichloroethene	Benzene	Toluene	Chlorobenzene	Benzoic Acid	Phenol	Mercury	Arsenic	Lead	Selenium	Silver	Barium	Cadmium	Chromium
	VOCs (µg/L)						SVOCs (µg/L)		RCRA Metals (mg/L)							
MCL	NS	7	5	5	1000	100	NS	NS	0.002	0.05	0.015	0.05	0.1	2	0.005	0.1
Aug-93	<5	<5	<5	<5	<5	<5	**63**	**88**	**0.0022***	**0.012**	**0.086***	<0.005	<0.01	**0.4**	<0.005	**0.01**
Oct-93	<5	<5	<5	<5	<5	<5	<50	<10	NA	NA	NA	NA	NA	NA	NA	NA
Dec-93	<5	<5	<5	<5	<5	<5	<50	<10	<0.0002	<0.010	**0.026**	<0.005	**0.02**	**0.69**	<0.005	**0.02**
May-06	Not Sampled-Previously abandoned.															

MW-4	Carbon Disulfide	1,1-Dichloroethene	Trichloroethene	Benzene	Toluene	Chlorobenzene	Benzoic Acid	Phenol	Mercury	Arsenic	Lead	Selenium	Silver	Barium	Cadmium	Chromium
	VOCs (µg/L)						SVOCs (µg/L)		RCRA Metals (mg/L)							
MCL	NS	7	5	5	1000	100	NS	NS	0.002	0.05	0.015	0.05	0.1	2	0.005	0.1
Aug-93	NA	NA	NA	NA	NA	NA	NA	NA	**0.002**	<0.010	**1.5***	<0.005	<0.01	**0.55**	<0.005	<0.010
Oct-93	<5	<5	<5	<5	<5	<5	<50	<10	NA	NA	NA	NA	NA	NA	NA	NA
Dec-93	NA	NA	NA	NA	NA	NA	NA	NA	<0.0002	<0.010	**0.039***	<0.005	<0.01	<0.20	<0.005	**0.02**
May-06	Not Sampled-Previously abandoned.															

Table 1 (cont.)
Historical Groundwater Chemistry Summary
SWMU 21, UNC at Chapel Hill
Chapel Hill, NC

MW-5	Carbon Disulfide	1,1-Dichloroethene	Trichloroethene	Benzene	Toluene	Chlorobenzene	Benzoic Acid	Phenol	Mercury	Arsenic	Lead	Selenium	Silver	Barium	Cadmium	Chromium
	VOCs (µg/L)						SVOCs (µg/L)		RCRA Metals (mg/L)							
MCL	NS	7	5	5	1000	100	NS	NS	0.002	0.05	0.015	0.05	0.1	2	0.005	0.1
Aug-93	NA	NA	NA	NA	NA	NA	NA	NA	0.0002	<0.010	**0.046***	<0.005	<0.01	<0.20	<0.005	<0.010
Oct-93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dec-93	<5	<5	<5	<5	<5	<5	<50	<10	<0.0002	<0.010	**0.005**	<0.005	<0.010	<0.20	<0.005	**0.03**
Oct-97	<1.0	**6.8**	**12**	**10**	**10**	**11**	<50	<10	R	<0.010	<0.0050	<0.010	<0.010	**0.0297**	<0.0050	<0.010
May-06	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<10	<0.00025	<0.010	<0.010	<0.020	<0.010	<0.10	<0.010	<0.010
May-10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<26	<5	**0.00119**	<0.010	**0.0104**	<0.020	<0.010	<0.10	<0.010	**0.042**

MW-6	Carbon Disulfide	1,1-Dichloroethene	Trichloroethene	Benzene	Toluene	Chlorobenzene	Benzoic Acid	Phenol	Mercury	Arsenic	Lead	Selenium	Silver	Barium	Cadmium	Chromium
	VOCs (µg/L)						SVOCs (µg/L)		RCRA Metals (mg/L)							
MCL	NS	7	5	5	1000	100	NS	NS	0.002	0.05	0.015	0.05	0.1	2	0.005	0.1
Aug-93	NA	NA	NA	NA	NA	NA	NA	NA	<0.0002	<0.010	**0.004**	<0.005	<0.01	<0.20	<0.005	<0.010
Oct-93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dec-93	NA	NA	NA	NA	NA	NA	NA	NA	<0.0002	<0.010	**0.029***	<0.005	<0.01	<0.20	<0.005	**0.02**
May-06	Not Sampled-Previously abandoned.															

Table 1 (cont.)
Historical Groundwater Chemistry Summary
SWMU 21, UNC at Chapel Hill
Chapel Hill, NC

MW-7	Carbon Disulfide	1,1-Dichloroethene	Trichloroethene	Benzene	Toluene	Chlorobenzene	Benzoic Acid	Phenol	Mercury	Arsenic	Lead	Selenium	Silver	Barium	Cadmium	Chromium
	VOCs (µg/L)						SVOCs (µg/L)		RCRA Metals (mg/L)							
MCL	NS	7	5	5	1000	100	NS	NS	0.002	0.05	0.015	0.05	0.1	2	0.005	0.1
Oct-97	**33**	<1.0	<1.0	<1.0	<1.0	<1.0	<50	<10	R	<0.010	<0.0050	<0.010	<0.010	**0.0194**	<0.0050	**0.0193**
May-06	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<10	<0.00025	<0.010	<0.010	<0.020	<0.010	<0.10	<0.010	<0.010
May-10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<26	<5	<0.000285	<0.010	<0.010	<0.020	<0.010	<0.10	<0.010	<0.010

MW-8	Carbon Disulfide	1,1-Dichloroethene	Trichloroethene	Benzene	Toluene	Chlorobenzene	Benzoic Acid	Phenol	Mercury	Arsenic	Lead	Selenium	Silver	Barium	Cadmium	Chromium
	VOCs (µg/L)						SVOCs (µg/L)		RCRA Metals (mg/L)							
MCL	NS	7	5	5	1000	100	NS	NS	0.002	0.05	0.015	0.05	0.1	2	0.005	0.1
Oct-97	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<50	<10	R	<0.010	<0.0050	<0.010	<0.010	<0.010	<0.0050	<0.010
May-06	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<10	<0.00025	<0.010	<0.010	<0.020	<0.010	<0.10	<0.010	<0.010
May-10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<27	<5	<0.000285	<0.010	<0.010	<0.020	<0.010	<0.10	<0.010	<0.010

µg/L - Micrograms per liter
mg/L - Milligrams per liter
< - Constituent not detected above reporting limit
R - Unusable data
NA - Not analyzed
ND - Not detected
NS - No federal MCL established
* - Samples not collected using low flow sampling procedure
Shaded area denotes concentration exceeding MCL
Bold type denotes concentration equal to or exceeding reporting limit
Historical Data from Table 4-1, Arcadis Geraghty & Miller report dated January 1999

Table 2
Groundwater Elevation Data-May 25, 2010
UNC-Chapel Hill SWMU #21
Chapel Hill, NC

WELL NO.	TOP OF WELL ELEVATION(ft)	DEPTH TO WATER (ft)	GROUNDWATER ELEVATION (ft)
MW-1	465.96	12.50	453.46
MW-5	461.84	17.12	444.72
MW-7	439.49	5.29	434.20
MW-8	439.28	4.85	434.43

Table 3
Summary of Field Measurements-May 25, 2010
UNC at Chapel Hill SWMU 21
Chapel Hill, NC

WELL NO.	TOP OF WELL ELEVATION(ft)	DEPTH TO WATER (ft)	GROUNDWATER ELEVATION (ft)	Turbidity (NTU)	TEMP (C)	SPECIFIC COND. (µS)	pH
MW-1	465.96	12.50	453.46	3.13	17.80	216	5.78
MW-5	461.84	17.12	444.72	2.64	17.50	2594	6.61
MW-7	439.49	5.29	434.20	2.86	15.90	414	6.33
MW-8	439.28	4.85	434.43	4.86	16.40	281	6.34

Table 4
Historical Groundwater Elevation Data
UNC-Chapel Hill SWMU #21
Chapel Hill, NC

Well ID	MP Elevation (ft. MSL)	4/3/1995		9/19/1997		5/17/2006		5/25/2010	
		Depth to Water (ft. MSL)	Water Elevation (ft. MSL)	Depth to Water (ft. MSL)	Water Elevation (ft. MSL)	Depth to Water (ft. MSL)	Water Elevation (ft. MSL)	Depth to Water (ft. MSL)	Water Elevation (ft. MSL)
MW-1	465.96	13.98	451.98	12.75	453.21	12.31	453.65	12.50	453.46
MW-2	463.63	14.72	448.91	14.90	448.73	NA	NA	NA	NA
MW-3	457.98	15.35	442.63	15.82	442.16	NA	NA	NA	NA
MW-4	460.28	13.34	446.94	14.37	445.91	NA	NA	NA	NA
MW-5	461.84	16.57	445.27	17.19	444.65	18.83	443.01	17.12	444.72
MW-6	473.39	19.64	453.75	22.19	451.20	NA	NA	NA	NA
MW-7	439.49	NA	NA	5.89	433.60	5.92	433.57	5.29	434.20
MW-8	439.28	NA	NA	5.58	433.70	3.95	435.33	4.85	434.43

Well ID	MP Elevation (ft. MSL)	8/9/1993		9/10/1993		10/14/1993		11/23/1993		12/31/1993	
		Depth to Water (ft. MSL)	Water Elevation (ft. MSL)	Depth to Water (ft. MSL)	Water Elevation (ft. MSL)	Depth to Water (ft. MSL)	Water Elevation (ft. MSL)	Depth to Water (ft. MSL)	Water Elevation (ft. MSL)	Depth to Water (ft. MSL)	Water Elevation (ft. MSL)
MW-1	465.96	14.19	451.77	14.83	451.13	14.61	451.35	14.52	451.44	14.26	451.70
MW-2	463.63	14.76	448.87	15.22	448.41	15.24	448.39	15.22	448.41	14.91	448.72
MW-3	457.98	15.50	442.48	15.83	442.15	15.47	442.51	15.72	442.26	15.46	442.52
MW-4	460.28	14.35	445.93	15.65	444.63	16.26	444.02	16.78	443.50	14.15	446.13
MW-5	461.84	16.43	445.41	17.28	444.56	17.78	444.06	18.38	443.46	17.74	444.10
MW-6	473.39	20.42	452.97	20.80	452.59	22.00	451.39	22.23	451.16	20.72	452.67
MW-7	439.49	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-8	439.28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Appendix A

GROUND WATER SAMPLING FIELD LOG

Project Name UNC-SWMU 21
Well ID MW-1 Sampling Purpose GWMON Personnel RH/DJ
Date/Time 5/25/10 In _____ Out _____ Weather Hot, rain, PC

I. WELL INFORMATION

Reference Point Elevation 465.96
Well Diameter 2" Well Depth From Measuring Point _____
Water Depth From Measuring Point 12.50

II. WELL VOLUME INFORMATION

Length of Water Column (ft.) _____ Volume of Water Column (gal) _____

III. EVACUATION INFORMATION

Evacuation Method Low Flow/Low vol
Calibration Standards ✓ 7 ✓ 4 _____ 10

Purge Volume ~~(gal)~~ L	Temp (C°)	pH	SpC (μmhos)	Turb ~~Time~~
1	19.1	6.16	475	8
2	17.7	5.85	373	6
3	17.8	5.83	342	4
4	17.9	5.81	291	3
5	17.9	5.80	249	3
6	17.8	5.79	218	3
7	17.8	5.78	216	3.13

IV. SAMPLE DATA

Container (s)	Preservation	Time Collected	Sample ID No.	Analysis
3	HCL	1320	MW-1	8260
2	NONE	1320	MW-1	8270 BNA
1	HNO_3	1320	MW-1	RCRA metals

V. FIELD MEASUREMENTS

Temp C° 17.8 pH 5.78 SpC (μmhos) 216 ~~Sheen~~ Turb 3.13

VI. COMMENTS

VII. SAMPLE DESTINATION

Shipped to SGS Via Lab pickup By R. Holland

R. Holland
Field Services Coordinator

GROUND WATER SAMPLING FIELD LOG

Project Name UNC SWMU 21
Well ID mw-5 Sampling Purpose GWMON Personnel RH/DJ
Date/Time 5/25/10 In _____ Out _____ Weather Hot, rain, PC

I. WELL INFORMATION

Reference Point Elevation 461.84
Well Diameter 2" Well Depth From Measuring Point _____
Water Depth From Measuring Point 17.12

II. WELL VOLUME INFORMATION

Length of Water Column (ft.) _____ Volume of Water Column (gal) _____

III. EVACUATION INFORMATION

Evacuation Method Low flow / Low vol
Calibration Standards ✓ 7 ✓ 4 _____ 10

Purge Volume ~~(gal)~~ L	Temp (C°)	pH	SpC (µmhos)	Turb ~~Time~~
1	17.7	6.61	2490	8
2	17.6	6.56	2544	5
3	17.6	6.56	2583	3
4	17.5	6.59	2598	3
5	17.5	6.61	2594	2.64

IV. SAMPLE DATA

Container (s)	Preservation	Time Collected	Sample ID No.	Analysis
3	HCL	1205	mw-5	8260
2	None	1205	mw-5	8270 BNA
1	HNO_3	1205	mw-5	RCRA metals

V. FIELD MEASUREMENTS

Temp C° 17.5 pH 6.61 SpC (µmhos) 2594 Turb ~~Sheen~~ 2.64

VI. COMMENTS

Collected dupes for all parameters

VII. SAMPLE DESTINATION

Shipped to SGS Via Lab Pickup By R. Holland

R. Holland
Field Services Coordinator

GROUND WATER SAMPLING FIELD LOG

Project Name UNC-SWMU 21
Well ID MW-7 Sampling Purpose GW Mon Personnel RH, DJ
Date/Time 5/25/10 In _____ Out _____ Weather Hot, rain, PC

I. WELL INFORMATION

Reference Point Elevation 439.49
Well Diameter 2" Well Depth From Measuring Point _____
Water Depth From Measuring Point 5.29

II. WELL VOLUME INFORMATION

Length of Water Column (ft.) _____ Volume of Water Column (gal) _____

III. EVACUATION INFORMATION

Evacuation Method Low Flow/Low vol
Calibration Standards ✓ 7 ✓ 4 _____ 10

Purge Volume ~~(gal)~~ L	Temp (C°)	pH	SpC (µmhos)	~~Time~~ Turb
1	17.2	6.39	411	6
2	16.4	6.35	413	5
3	16.0	6.34	413	5
4	15.9	6.33	414	2.86

IV. SAMPLE DATA

Container (s)	Preservation	Time Collected	Sample ID No.	Analysis
3	HCL	1125	MW-7	8260
2	NONE	1125	MW-7	8270 BNA
1	HNO_3	1125	MW-7	RCRA metals

V. FIELD MEASUREMENTS

Temp C° 15.9 pH 6.33 SpC (µmhos) 414 ~~Sheen~~ Turb 2.86

VI. COMMENTS

VII. SAMPLE DESTINATION

Shipped to SGS Via Lab Pickup By R Holland

[signature]
Field Services Coordinator

GROUND WATER SAMPLING FIELD LOG

Project Name UNC-SWMU 21
Well ID MW-8 Sampling Purpose GW MON Personnel RH, DJ
Date/Time 5/25/10 In _____ Out _____ Weather hot, rain, PC

I. WELL INFORMATION

Reference Point Elevation 439.28
Well Diameter 2" Well Depth From Measuring Point _____
Water Depth From Measuring Point 4.85

II. WELL VOLUME INFORMATION

Length of Water Column (ft.) _____ Volume of Water Column (gal) _____

III. EVACUATION INFORMATION

Evacuation Method Low Flow / Low vol
Calibration Standards ✓ 7 ✓ 4 _____ 10

Purge Volume ~~(gal)~~ L	Temp (C°)	pH	SpC (μmhos)	Turb ~~Time~~
1	17.3	6.48	291	6
2	16.5	6.28	285	5
3	16.4	6.34	281	4.86

IV. SAMPLE DATA

Container (s)	Preservation	Time Collected	Sample ID No.	Analysis
3	HCL	1048	MW-8	8260
2	none	1048	MW-8	8270 BNA
1	HNO_3	1048	MW-8	RCRA Metals

V. FIELD MEASUREMENTS

Temp C° 16.4 pH 6.34 SpC (μmhos) 281 Turb ~~Sheen~~ 4.86

VI. COMMENTS

VII. SAMPLE DESTINATION

Shipped to SGS Via Lab Pickup By R. Holland

R. Holland
Field Services Coordinator

Appendix B

Rob Holland
AECOM-Earth Tech
701 Corporate Dr. Suite 475
Raleigh, NC 27607

Report Number: G1037-76

Client Project: UNC

Dear Rob Holland,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or services performed during this project, please call Barbara Hager at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America, Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America, Inc.

Barbara Hager June 7, 2010

Project Manager Date
Barbara Hager

Case Narrative
AECOM
SGS Project: **G1037-76**
Project Name: **UNC**

SGS North America Inc.

June 25th, 2010

- Nine water samples were accepted into the laboratory on May 26th, 2010 at 1015 for analyses as indicated on the chain of custody. The samples were received in good condition, with a temperature range of 3.7-5.0°C.
- All extractions and analyses were completed within holding time limits, with the following quality control exceptions.

Metals Analyses

- The MS/MSD performed on client sample **MW-5** has reported recoveries for Mercury that are below the method's recommended QC limits. The data is validated by the batch LCS/LCSD that meets all acceptance criteria. The data is not qualified by MS/MSD results and are provided for client interpretation only.

Craig R Tronzo Date 6/25/10
Craig R Tronzo
Data Validation

List of Reporting Abbreviations
And Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantification Limit (RL or MDL)

DF = Dilution Factor

Dup = Duplicate

D = Detected, but RPD is > 40% between results in dual column method.

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL/CL = Reporting Limit / Control Limit

RPD = Relative Percent Difference

UJ = Target analytes with recoveries that are 10% < %R < LCL; # of MEs are allowable and compounds are not detected in the sample.

mg/kg = milligram per kilogram, ppm, parts per million

ug/kg = micrograms per kilogram, ppb, parts per billion

mg/L = milligram per liter, ppm, parts per million

ug/L = micrograms per liter, ppb, parts per billion

% Rec = Percent Recovery

% soilds = Percent Solids

Special Notes:
1) Metals and mercury samples are digested with a hot block; see the standard operating procedure document for details.
2) Uncertainty for all reported data is less than or equal to 30 percent.

MI34.021808.4

SGS North America, Inc.

Results for Volatiles
by GCMS 8260

Client Sample ID: MW-8
Client Project ID: UNC
Lab Sample ID: G1037-76-1A
Lab Project ID: G1037-76

Analyzed By: CLP
Date Collected: 5/25/2010 10:48
Date Received: 5/26/2010
Matrix: Water
Sample Amount: 5 mL

Compound	Result MG/L	Quantitation Limit MG/L	Dilution Factor	Date Analyzed
Acetone	BQL	0.0250	1	6/2/2010
Benzene	BQL	0.00100	1	6/2/2010
Bromobenzene	BQL	0.00100	1	6/2/2010
Bromochloromethane	BQL	0.00100	1	6/2/2010
Bromodichloromethane	BQL	0.00100	1	6/2/2010
Bromoform	BQL	0.00100	1	6/2/2010
Bromomethane	BQL	0.00100	1	6/2/2010
2-Butanone	BQL	0.0250	1	6/2/2010
n-Butylbenzene	BQL	0.00100	1	6/2/2010
sec-Butylbenzene	BQL	0.00100	1	6/2/2010
tert-Butylbenzene	BQL	0.00100	1	6/2/2010
Carbon disulfide	BQL	0.00100	1	6/2/2010
Carbon tetrachloride	BQL	0.00100	1	6/2/2010
Chlorobenzene	BQL	0.00100	1	6/2/2010
Chloroethane	BQL	0.00100	1	6/2/2010
Chloroform	BQL	0.00100	1	6/2/2010
Chloromethane	BQL	0.00100	1	6/2/2010
2-Chlorotoluene	BQL	0.00100	1	6/2/2010
4-Chlorotoluene	BQL	0.00100	1	6/2/2010
Dibromochloromethane	BQL	0.00100	1	6/2/2010
1,2-Dibromo-3-chloropropane	BQL	0.00500	1	6/2/2010
Dibromomethane	BQL	0.00100	1	6/2/2010
1,2-Dibromoethane (EDB)	BQL	0.00100	1	6/2/2010
1,2-Dichlorobenzene	BQL	0.00100	1	6/2/2010
1,3-Dichlorobenzene	BQL	0.00100	1	6/2/2010
1,4-Dichlorobenzene	BQL	0.00100	1	6/2/2010
trans-1,4-Dichloro-2-butene	BQL	0.00500	1	6/2/2010
1,1-Dichloroethane	BQL	0.00100	1	6/2/2010
1,1-Dichloroethene	BQL	0.00100	1	6/2/2010
1,2-Dichloroethane	BQL	0.00100	1	6/2/2010
cis-1,2-Dichloroethene	BQL	0.00100	1	6/2/2010
trans-1,2-dichloroethene	BQL	0.00100	1	6/2/2010
1,2-Dichloropropane	BQL	0.00100	1	6/2/2010
1,3-Dichloropropane	BQL	0.00100	1	6/2/2010
2,2-Dichloropropane	BQL	0.00100	1	6/2/2010
1,1-Dichloropropene	BQL	0.00100	1	6/2/2010
cis-1,3-Dichloropropene	BQL	0.00100	1	6/2/2010
trans-1,3-Dichloropropene	BQL	0.00100	1	6/2/2010
Dichlorodifluoromethane	BQL	0.00500	1	6/2/2010
Diisopropyl ether (DIPE)	BQL	0.00100	1	6/2/2010
Ethylbenzene	BQL	0.00100	1	6/2/2010
Hexachlorobutadiene	BQL	0.00100	1	6/2/2010
2-Hexanone	BQL	0.00500	1	6/2/2010
Iodomethane	BQL	0.00100	1	6/2/2010
Isopropylbenzene	BQL	0.00100	1	6/2/2010

Results for Volatiles
by GCMS 8260

Client Sample ID: MW-8
Client Project ID: UNC
Lab Sample ID: G1037-76-1A
Lab Project ID: G1037-76

Analyzed By: CLP
Date Collected: 5/25/2010 10:48
Date Received: 5/26/2010
Matrix: Water
Sample Amount: 5 mL

Compound	Result MG/L	Quantitation Limit MG/L	Dilution Factor	Date Analyzed
4-Isopropyltoluene	BQL	0.00100	1	6/2/2010
Methylene chloride	BQL	0.00500	1	6/2/2010
4-Methyl-2-pentanone	BQL	0.00500	1	6/2/2010
Methyl-tert-butyl ether (MTBE)	BQL	0.00100	1	6/2/2010
Naphthalene	BQL	0.00100	1	6/2/2010
n-Propyl benzene	BQL	0.00100	1	6/2/2010
Styrene	BQL	0.00100	1	6/2/2010
1,1,1,2-Tetrachloroethane	BQL	0.00100	1	6/2/2010
1,1,2,2-Tetrachloroethane	BQL	0.00100	1	6/2/2010
Tetrachloroethene	BQL	0.00100	1	6/2/2010
Toluene	BQL	0.00100	1	6/2/2010
1,2,3-Trichlorobenzene	BQL	0.00100	1	6/2/2010
1,2,4-Trichlorobenzene	BQL	0.00100	1	6/2/2010
Trichloroethene	BQL	0.00100	1	6/2/2010
1,1,1-Trichloroethane	BQL	0.00100	1	6/2/2010
1,1,2-Trichloroethane	BQL	0.00100	1	6/2/2010
Trichlorofluoromethane	BQL	0.00100	1	6/2/2010
1,2,3-Trichloropropane	BQL	0.00100	1	6/2/2010
1,2,4-Trimethylbenzene	BQL	0.00100	1	6/2/2010
1,3,5-Trimethylbenzene	BQL	0.00100	1	6/2/2010
Vinyl chloride	BQL	0.00100	1	6/2/2010
m-,p-Xylene	BQL	0.00200	1	6/2/2010
o-Xylene	BQL	0.00100	1	6/2/2010

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	0.03	0.0305	102
Toluene-d8	0.03	0.029	97
4-Bromofluorobenzene	0.03	0.0293	98

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: DVO for CLP

Reviewed By: [illegible]

Results for Volatiles
by GCMS 8260

Client Sample ID: MW-7
Client Project ID: UNC
Lab Sample ID: G1037-76-2A
Lab Project ID: G1037-76

Analyzed By: CLP
Date Collected: 5/25/2010 11:25
Date Received: 5/26/2010
Matrix: Water
Sample Amount: 5 mL

Compound	Result MG/L	Quantitation Limit MG/L	Dilution Factor	Date Analyzed
Acetone	BQL	0.0250	1	6/2/2010
Benzene	BQL	0.00100	1	6/2/2010
Bromobenzene	BQL	0.00100	1	6/2/2010
Bromochloromethane	BQL	0.00100	1	6/2/2010
Bromodichloromethane	BQL	0.00100	1	6/2/2010
Bromoform	BQL	0.00100	1	6/2/2010
Bromomethane	BQL	0.00100	1	6/2/2010
2-Butanone	BQL	0.0250	1	6/2/2010
n-Butylbenzene	BQL	0.00100	1	6/2/2010
sec-Butylbenzene	BQL	0.00100	1	6/2/2010
tert-Butylbenzene	BQL	0.00100	1	6/2/2010
Carbon disulfide	BQL	0.00100	1	6/2/2010
Carbon tetrachloride	BQL	0.00100	1	6/2/2010
Chlorobenzene	BQL	0.00100	1	6/2/2010
Chloroethane	BQL	0.00100	1	6/2/2010
Chloroform	BQL	0.00100	1	6/2/2010
Chloromethane	BQL	0.00100	1	6/2/2010
2-Chlorotoluene	BQL	0.00100	1	6/2/2010
4-Chlorotoluene	BQL	0.00100	1	6/2/2010
Dibromochloromethane	BQL	0.00100	1	6/2/2010
1,2-Dibromo-3-chloropropane	BQL	0.00500	1	6/2/2010
Dibromomethane	BQL	0.00100	1	6/2/2010
1,2-Dibromoethane (EDB)	BQL	0.00100	1	6/2/2010
1,2-Dichlorobenzene	BQL	0.00100	1	6/2/2010
1,3-Dichlorobenzene	BQL	0.00100	1	6/2/2010
1,4-Dichlorobenzene	BQL	0.00100	1	6/2/2010
trans-1,4-Dichloro-2-butene	BQL	0.00500	1	6/2/2010
1,1-Dichloroethane	BQL	0.00100	1	6/2/2010
1,1-Dichloroethene	BQL	0.00100	1	6/2/2010
1,2-Dichloroethane	BQL	0.00100	1	6/2/2010
cis-1,2-Dichloroethene	BQL	0.00100	1	6/2/2010
trans-1,2-dichloroethene	BQL	0.00100	1	6/2/2010
1,2-Dichloropropane	BQL	0.00100	1	6/2/2010
1,3-Dichloropropane	BQL	0.00100	1	6/2/2010
2,2-Dichloropropane	BQL	0.00100	1	6/2/2010
1,1-Dichloropropene	BQL	0.00100	1	6/2/2010
cis-1,3-Dichloropropene	BQL	0.00100	1	6/2/2010
trans-1,3-Dichloropropene	BQL	0.00100	1	6/2/2010
Dichlorodifluoromethane	BQL	0.00500	1	6/2/2010
Diisopropyl ether (DIPE)	BQL	0.00100	1	6/2/2010
Ethylbenzene	BQL	0.00100	1	6/2/2010
Hexachlorobutadiene	BQL	0.00100	1	6/2/2010
2-Hexanone	BQL	0.00500	1	6/2/2010
Iodomethane	BQL	0.00100	1	6/2/2010
Isopropylbenzene	BQL	0.00100	1	6/2/2010

SGS North America, Inc.

Results for Volatiles
by GCMS 8260

Client Sample ID: MW-7
Client Project ID: UNC
Lab Sample ID: G1037-76-2A
Lab Project ID: G1037-76

Analyzed By: CLP
Date Collected: 5/25/2010 11:25
Date Received: 5/26/2010
Matrix: Water
Sample Amount: 5 mL

Compound	Result MG/L	Quantitation Limit MG/L	Dilution Factor	Date Analyzed
4-Isopropyltoluene	BQL	0.00100	1	6/2/2010
Methylene chloride	BQL	0.00500	1	6/2/2010
4-Methyl-2-pentanone	BQL	0.00500	1	6/2/2010
Methyl-tert-butyl ether (MTBE)	BQL	0.00100	1	6/2/2010
Naphthalene	BQL	0.00100	1	6/2/2010
n-Propyl benzene	BQL	0.00100	1	6/2/2010
Styrene	BQL	0.00100	1	6/2/2010
1,1,1,2-Tetrachloroethane	BQL	0.00100	1	6/2/2010
1,1,2,2-Tetrachloroethane	BQL	0.00100	1	6/2/2010
Tetrachloroethene	BQL	0.00100	1	6/2/2010
Toluene	BQL	0.00100	1	6/2/2010
1,2,3-Trichlorobenzene	BQL	0.00100	1	6/2/2010
1,2,4-Trichlorobenzene	BQL	0.00100	1	6/2/2010
Trichloroethene	BQL	0.00100	1	6/2/2010
1,1,1-Trichloroethane	BQL	0.00100	1	6/2/2010
1,1,2-Trichloroethane	BQL	0.00100	1	6/2/2010
Trichlorofluoromethane	BQL	0.00100	1	6/2/2010
1,2,3-Trichloropropane	BQL	0.00100	1	6/2/2010
1,2,4-Trimethylbenzene	BQL	0.00100	1	6/2/2010
1,3,5-Trimethylbenzene	BQL	0.00100	1	6/2/2010
Vinyl chloride	BQL	0.00100	1	6/2/2010
m-,p-Xylene	BQL	0.00200	1	6/2/2010
o-Xylene	BQL	0.00100	1	6/2/2010

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	0.03	0.0312	104
Toluene-d8	0.03	0.0288	96
4-Bromofluorobenzene	0.03	0.0288	96

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: DVO for CLP

Reviewed By: [illegible]

SGS North America, Inc.

Results for Volatiles
by GCMS 8260

Client Sample ID: MW-5
Client Project ID: UNC
Lab Sample ID: G1037-76-3A
Lab Project ID: G1037-76

Analyzed By: CLP
Date Collected: 5/25/2010 12:05
Date Received: 5/26/2010
Matrix: Water
Sample Amount: 5 mL

Compound	Result MG/L	Quantitation Limit MG/L	Dilution Factor	Date Analyzed
Acetone	BQL	0.0250	1	6/2/2010
Benzene	BQL	0.00100	1	6/2/2010
Bromobenzene	BQL	0.00100	1	6/2/2010
Bromochloromethane	BQL	0.00100	1	6/2/2010
Bromodichloromethane	BQL	0.00100	1	6/2/2010
Bromoform	BQL	0.00100	1	6/2/2010
Bromomethane	BQL	0.00100	1	6/2/2010
2-Butanone	BQL	0.0250	1	6/2/2010
n-Butylbenzene	BQL	0.00100	1	6/2/2010
sec-Butylbenzene	BQL	0.00100	1	6/2/2010
tert-Butylbenzene	BQL	0.00100	1	6/2/2010
Carbon disulfide	BQL	0.00100	1	6/2/2010
Carbon tetrachloride	BQL	0.00100	1	6/2/2010
Chlorobenzene	BQL	0.00100	1	6/2/2010
Chloroethane	BQL	0.00100	1	6/2/2010
Chloroform	BQL	0.00100	1	6/2/2010
Chloromethane	BQL	0.00100	1	6/2/2010
2-Chlorotoluene	BQL	0.00100	1	6/2/2010
4-Chlorotoluene	BQL	0.00100	1	6/2/2010
Dibromochloromethane	BQL	0.00100	1	6/2/2010
1,2-Dibromo-3-chloropropane	BQL	0.00500	1	6/2/2010
Dibromomethane	BQL	0.00100	1	6/2/2010
1,2-Dibromoethane (EDB)	BQL	0.00100	1	6/2/2010
1,2-Dichlorobenzene	BQL	0.00100	1	6/2/2010
1,3-Dichlorobenzene	BQL	0.00100	1	6/2/2010
1,4-Dichlorobenzene	BQL	0.00100	1	6/2/2010
trans-1,4-Dichloro-2-butene	BQL	0.00500	1	6/2/2010
1,1-Dichloroethane	BQL	0.00100	1	6/2/2010
1,1-Dichloroethene	BQL	0.00100	1	6/2/2010
1,2-Dichloroethane	BQL	0.00100	1	6/2/2010
cis-1,2-Dichloroethene	BQL	0.00100	1	6/2/2010
trans-1,2-dichloroethene	BQL	0.00100	1	6/2/2010
1,2-Dichloropropane	BQL	0.00100	1	6/2/2010
1,3-Dichloropropane	BQL	0.00100	1	6/2/2010
2,2-Dichloropropane	BQL	0.00100	1	6/2/2010
1,1-Dichloropropene	BQL	0.00100	1	6/2/2010
cis-1,3-Dichloropropene	BQL	0.00100	1	6/2/2010
trans-1,3-Dichloropropene	BQL	0.00100	1	6/2/2010
Dichlorodifluoromethane	BQL	0.00500	1	6/2/2010
Diisopropyl ether (DIPE)	BQL	0.00100	1	6/2/2010
Ethylbenzene	BQL	0.00100	1	6/2/2010
Hexachlorobutadiene	BQL	0.00100	1	6/2/2010
2-Hexanone	BQL	0.00500	1	6/2/2010
Iodomethane	BQL	0.00100	1	6/2/2010
Isopropylbenzene	BQL	0.00100	1	6/2/2010

SGS North America, Inc.

Results for Volatiles
by GCMS 8260

Client Sample ID: MW-5
Client Project ID: UNC
Lab Sample ID: G1037-76-3A
Lab Project ID: G1037-76

Analyzed By: CLP
Date Collected: 5/25/2010 12:05
Date Received: 5/26/2010
Matrix: Water
Sample Amount: 5 mL

Compound	Result MG/L	Quantitation Limit MG/L	Dilution Factor	Date Analyzed
4-Isopropyltoluene	BQL	0.00100	1	6/2/2010
Methylene chloride	BQL	0.00500	1	6/2/2010
4-Methyl-2-pentanone	BQL	0.00500	1	6/2/2010
Methyl-tert-butyl ether (MTBE)	BQL	0.00100	1	6/2/2010
Naphthalene	BQL	0.00100	1	6/2/2010
n-Propyl benzene	BQL	0.00100	1	6/2/2010
Styrene	BQL	0.00100	1	6/2/2010
1,1,1,2-Tetrachloroethane	BQL	0.00100	1	6/2/2010
1,1,2,2-Tetrachloroethane	BQL	0.00100	1	6/2/2010
Tetrachloroethene	BQL	0.00100	1	6/2/2010
Toluene	BQL	0.00100	1	6/2/2010
1,2,3-Trichlorobenzene	BQL	0.00100	1	6/2/2010
1,2,4-Trichlorobenzene	BQL	0.00100	1	6/2/2010
Trichloroethene	BQL	0.00100	1	6/2/2010
1,1,1-Trichloroethane	BQL	0.00100	1	6/2/2010
1,1,2-Trichloroethane	BQL	0.00100	1	6/2/2010
Trichlorofluoromethane	BQL	0.00100	1	6/2/2010
1,2,3-Trichloropropane	BQL	0.00100	1	6/2/2010
1,2,4-Trimethylbenzene	BQL	0.00100	1	6/2/2010
1,3,5-Trimethylbenzene	BQL	0.00100	1	6/2/2010
Vinyl chloride	BQL	0.00100	1	6/2/2010
m-,p-Xylene	BQL	0.00200	1	6/2/2010
o-Xylene	BQL	0.00100	1	6/2/2010

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	0.03	0.0312	104
Toluene-d8	0.03	0.0295	98
4-Bromofluorobenzene	0.03	0.0297	99

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: Dvo for CLP

Reviewed By: [illegible]

Results for Volatiles
by GCMS 8260

Client Sample ID: MW-5a
Client Project ID: UNC
Lab Sample ID: G1037-76-4A
Lab Project ID: G1037-76

Analyzed By: CLP
Date Collected: 5/25/2010 12:05
Date Received: 5/26/2010
Matrix: Water
Sample Amount: 5 mL

Compound	Result MG/L	Quantitation Limit MG/L	Dilution Factor	Date Analyzed
Acetone	BQL	0.0250	1	6/2/2010
Benzene	BQL	0.00100	1	6/2/2010
Bromobenzene	BQL	0.00100	1	6/2/2010
Bromochloromethane	BQL	0.00100	1	6/2/2010
Bromodichloromethane	BQL	0.00100	1	6/2/2010
Bromoform	BQL	0.00100	1	6/2/2010
Bromomethane	BQL	0.00100	1	6/2/2010
2-Butanone	BQL	0.0250	1	6/2/2010
n-Butylbenzene	BQL	0.00100	1	6/2/2010
sec-Butylbenzene	BQL	0.00100	1	6/2/2010
tert-Butylbenzene	BQL	0.00100	1	6/2/2010
Carbon disulfide	BQL	0.00100	1	6/2/2010
Carbon tetrachloride	BQL	0.00100	1	6/2/2010
Chlorobenzene	BQL	0.00100	1	6/2/2010
Chloroethane	BQL	0.00100	1	6/2/2010
Chloroform	BQL	0.00100	1	6/2/2010
Chloromethane	BQL	0.00100	1	6/2/2010
2-Chlorotoluene	BQL	0.00100	1	6/2/2010
4-Chlorotoluene	BQL	0.00100	1	6/2/2010
Dibromochloromethane	BQL	0.00100	1	6/2/2010
1,2-Dibromo-3-chloropropane	BQL	0.00500	1	6/2/2010
Dibromomethane	BQL	0.00100	1	6/2/2010
1,2-Dibromoethane (EDB)	BQL	0.00100	1	6/2/2010
1,2-Dichlorobenzene	BQL	0.00100	1	6/2/2010
1,3-Dichlorobenzene	BQL	0.00100	1	6/2/2010
1,4-Dichlorobenzene	BQL	0.00100	1	6/2/2010
trans-1,4-Dichloro-2-butene	BQL	0.00500	1	6/2/2010
1,1-Dichloroethane	BQL	0.00100	1	6/2/2010
1,1-Dichloroethene	BQL	0.00100	1	6/2/2010
1,2-Dichloroethane	BQL	0.00100	1	6/2/2010
cis-1,2-Dichloroethene	BQL	0.00100	1	6/2/2010
trans-1,2-dichloroethene	BQL	0.00100	1	6/2/2010
1,2-Dichloropropane	BQL	0.00100	1	6/2/2010
1,3-Dichloropropane	BQL	0.00100	1	6/2/2010
2,2-Dichloropropane	BQL	0.00100	1	6/2/2010
1,1-Dichloropropene	BQL	0.00100	1	6/2/2010
cis-1,3-Dichloropropene	BQL	0.00100	1	6/2/2010
trans-1,3-Dichloropropene	BQL	0.00100	1	6/2/2010
Dichlorodifluoromethane	BQL	0.00500	1	6/2/2010
Diisopropyl ether (DIPE)	BQL	0.00100	1	6/2/2010
Ethylbenzene	BQL	0.00100	1	6/2/2010
Hexachlorobutadiene	BQL	0.00100	1	6/2/2010
2-Hexanone	BQL	0.00500	1	6/2/2010
Iodomethane	BQL	0.00100	1	6/2/2010
Isopropylbenzene	BQL	0.00100	1	6/2/2010

SGS North America, Inc.

Results for Volatiles
by GCMS 8260

Client Sample ID: MW-5a
Client Project ID: UNC
Lab Sample ID: G1037-76-4A
Lab Project ID: G1037-76

Analyzed By: CLP
Date Collected: 5/25/2010 12:05
Date Received: 5/26/2010
Matrix: Water
Sample Amount: 5 mL

Compound	Result MG/L	Quantitation Limit MG/L	Dilution Factor	Date Analyzed
4-Isopropyltoluene	BQL	0.00100	1	6/2/2010
Methylene chloride	BQL	0.00500	1	6/2/2010
4-Methyl-2-pentanone	BQL	0.00500	1	6/2/2010
Methyl-tert-butyl ether (MTBE)	BQL	0.00100	1	6/2/2010
Naphthalene	BQL	0.00100	1	6/2/2010
n-Propyl benzene	BQL	0.00100	1	6/2/2010
Styrene	BQL	0.00100	1	6/2/2010
1,1,1,2-Tetrachloroethane	BQL	0.00100	1	6/2/2010
1,1,2,2-Tetrachloroethane	BQL	0.00100	1	6/2/2010
Tetrachloroethene	BQL	0.00100	1	6/2/2010
Toluene	BQL	0.00100	1	6/2/2010
1,2,3-Trichlorobenzene	BQL	0.00100	1	6/2/2010
1,2,4-Trichlorobenzene	BQL	0.00100	1	6/2/2010
Trichloroethene	BQL	0.00100	1	6/2/2010
1,1,1-Trichloroethane	BQL	0.00100	1	6/2/2010
1,1,2-Trichloroethane	BQL	0.00100	1	6/2/2010
Trichlorofluoromethane	BQL	0.00100	1	6/2/2010
1,2,3-Trichloropropane	BQL	0.00100	1	6/2/2010
1,2,4-Trimethylbenzene	BQL	0.00100	1	6/2/2010
1,3,5-Trimethylbenzene	BQL	0.00100	1	6/2/2010
Vinyl chloride	BQL	0.00100	1	6/2/2010
m-,p-Xylene	BQL	0.00200	1	6/2/2010
o-Xylene	BQL	0.00100	1	6/2/2010

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	0.03	0.0311	104
Toluene-d8	0.03	0.0297	99
4-Bromofluorobenzene	0.03	0.0292	97

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: OVO for CLP

Reviewed By: [illegible]

Results for Volatiles
by GCMS 8260

Client Sample ID: EB
Client Project ID: UNC
Lab Sample ID: G1037-76-5A
Lab Project ID: G1037-76

Analyzed By: CLP
Date Collected: 5/25/2010 12:35
Date Received: 5/26/2010
Matrix: Water
Sample Amount: 5 mL

Compound	Result MG/L	Quantitation Limit MG/L	Dilution Factor	Date Analyzed
Acetone	BQL	0.0250	1	6/2/2010
Benzene	BQL	0.00100	1	6/2/2010
Bromobenzene	BQL	0.00100	1	6/2/2010
Bromochloromethane	BQL	0.00100	1	6/2/2010
Bromodichloromethane	BQL	0.00100	1	6/2/2010
Bromoform	BQL	0.00100	1	6/2/2010
Bromomethane	BQL	0.00100	1	6/2/2010
2-Butanone	BQL	0.0250	1	6/2/2010
n-Butylbenzene	BQL	0.00100	1	6/2/2010
sec-Butylbenzene	BQL	0.00100	1	6/2/2010
tert-Butylbenzene	BQL	0.00100	1	6/2/2010
Carbon disulfide	BQL	0.00100	1	6/2/2010
Carbon tetrachloride	BQL	0.00100	1	6/2/2010
Chlorobenzene	BQL	0.00100	1	6/2/2010
Chloroethane	BQL	0.00100	1	6/2/2010
Chloroform	BQL	0.00100	1	6/2/2010
Chloromethane	BQL	0.00100	1	6/2/2010
2-Chlorotoluene	BQL	0.00100	1	6/2/2010
4-Chlorotoluene	BQL	0.00100	1	6/2/2010
Dibromochloromethane	BQL	0.00100	1	6/2/2010
1,2-Dibromo-3-chloropropane	BQL	0.00500	1	6/2/2010
Dibromomethane	BQL	0.00100	1	6/2/2010
1,2-Dibromoethane (EDB)	BQL	0.00100	1	6/2/2010
1,2-Dichlorobenzene	BQL	0.00100	1	6/2/2010
1,3-Dichlorobenzene	BQL	0.00100	1	6/2/2010
1,4-Dichlorobenzene	BQL	0.00100	1	6/2/2010
trans-1,4-Dichloro-2-butene	BQL	0.00500	1	6/2/2010
1,1-Dichloroethane	BQL	0.00100	1	6/2/2010
1,1-Dichloroethene	BQL	0.00100	1	6/2/2010
1,2-Dichloroethane	BQL	0.00100	1	6/2/2010
cis-1,2-Dichloroethene	BQL	0.00100	1	6/2/2010
trans-1,2-dichloroethene	BQL	0.00100	1	6/2/2010
1,2-Dichloropropane	BQL	0.00100	1	6/2/2010
1,3-Dichloropropane	BQL	0.00100	1	6/2/2010
2,2-Dichloropropane	BQL	0.00100	1	6/2/2010
1,1-Dichloropropene	BQL	0.00100	1	6/2/2010
cis-1,3-Dichloropropene	BQL	0.00100	1	6/2/2010
trans-1,3-Dichloropropene	BQL	0.00100	1	6/2/2010
Dichlorodifluoromethane	BQL	0.00500	1	6/2/2010
Diisopropyl ether (DIPE)	BQL	0.00100	1	6/2/2010
Ethylbenzene	BQL	0.00100	1	6/2/2010
Hexachlorobutadiene	BQL	0.00100	1	6/2/2010
2-Hexanone	BQL	0.00500	1	6/2/2010
Iodomethane	BQL	0.00100	1	6/2/2010
Isopropylbenzene	BQL	0.00100	1	6/2/2010

SGS North America, Inc.

Results for Volatiles
by GCMS 8260

Client Sample ID: EB
Client Project ID: UNC
Lab Sample ID: G1037-76-5A
Lab Project ID: G1037-76

Analyzed By: CLP
Date Collected: 5/25/2010 12:35
Date Received: 5/26/2010
Matrix: Water
Sample Amount: 5 mL

Compound	Result MG/L	Quantitation Limit MG/L	Dilution Factor	Date Analyzed
4-Isopropyltoluene	BQL	0.00100	1	6/2/2010
Methylene chloride	BQL	0.00500	1	6/2/2010
4-Methyl-2-pentanone	BQL	0.00500	1	6/2/2010
Methyl-tert-butyl ether (MTBE)	BQL	0.00100	1	6/2/2010
Naphthalene	BQL	0.00100	1	6/2/2010
n-Propyl benzene	BQL	0.00100	1	6/2/2010
Styrene	BQL	0.00100	1	6/2/2010
1,1,1,2-Tetrachloroethane	BQL	0.00100	1	6/2/2010
1,1,2,2-Tetrachloroethane	BQL	0.00100	1	6/2/2010
Tetrachloroethene	BQL	0.00100	1	6/2/2010
Toluene	BQL	0.00100	1	6/2/2010
1,2,3-Trichlorobenzene	BQL	0.00100	1	6/2/2010
1,2,4-Trichlorobenzene	BQL	0.00100	1	6/2/2010
Trichloroethene	BQL	0.00100	1	6/2/2010
1,1,1-Trichloroethane	BQL	0.00100	1	6/2/2010
1,1,2-Trichloroethane	BQL	0.00100	1	6/2/2010
Trichlorofluoromethane	BQL	0.00100	1	6/2/2010
1,2,3-Trichloropropane	BQL	0.00100	1	6/2/2010
1,2,4-Trimethylbenzene	BQL	0.00100	1	6/2/2010
1,3,5-Trimethylbenzene	BQL	0.00100	1	6/2/2010
Vinyl chloride	BQL	0.00100	1	6/2/2010
m-,p-Xylene	BQL	0.00200	1	6/2/2010
o-Xylene	BQL	0.00100	1	6/2/2010

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	0.03	0.0309	103
Toluene-d8	0.03	0.0293	98
4-Bromofluorobenzene	0.03	0.0285	95

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: DVO for CLP

Reviewed By: [illegible]

SGS North America, Inc.

Results for Volatiles
by GCMS 8260

Client Sample ID: FB
Client Project ID: UNC
Lab Sample ID: G1037-76-6A
Lab Project ID: G1037-76

Analyzed By: CLP
Date Collected: 5/25/2010 12:45
Date Received: 5/26/2010
Matrix: Water
Sample Amount: 5 mL

Compound	Result MG/L	Quantitation Limit MG/L	Dilution Factor	Date Analyzed
Acetone	BQL	0.0250	1	6/2/2010
Benzene	BQL	0.00100	1	6/2/2010
Bromobenzene	BQL	0.00100	1	6/2/2010
Bromochloromethane	BQL	0.00100	1	6/2/2010
Bromodichloromethane	BQL	0.00100	1	6/2/2010
Bromoform	BQL	0.00100	1	6/2/2010
Bromomethane	BQL	0.00100	1	6/2/2010
2-Butanone	BQL	0.0250	1	6/2/2010
n-Butylbenzene	BQL	0.00100	1	6/2/2010
sec-Butylbenzene	BQL	0.00100	1	6/2/2010
tert-Butylbenzene	BQL	0.00100	1	6/2/2010
Carbon disulfide	BQL	0.00100	1	6/2/2010
Carbon tetrachloride	BQL	0.00100	1	6/2/2010
Chlorobenzene	BQL	0.00100	1	6/2/2010
Chloroethane	BQL	0.00100	1	6/2/2010
Chloroform	BQL	0.00100	1	6/2/2010
Chloromethane	BQL	0.00100	1	6/2/2010
2-Chlorotoluene	BQL	0.00100	1	6/2/2010
4-Chlorotoluene	BQL	0.00100	1	6/2/2010
Dibromochloromethane	BQL	0.00100	1	6/2/2010
1,2-Dibromo-3-chloropropane	BQL	0.00500	1	6/2/2010
Dibromomethane	BQL	0.00100	1	6/2/2010
1,2-Dibromoethane (EDB)	BQL	0.00100	1	6/2/2010
1,2-Dichlorobenzene	BQL	0.00100	1	6/2/2010
1,3-Dichlorobenzene	BQL	0.00100	1	6/2/2010
1,4-Dichlorobenzene	BQL	0.00100	1	6/2/2010
trans-1,4-Dichloro-2-butene	BQL	0.00500	1	6/2/2010
1,1-Dichloroethane	BQL	0.00100	1	6/2/2010
1,1-Dichloroethene	BQL	0.00100	1	6/2/2010
1,2-Dichloroethane	BQL	0.00100	1	6/2/2010
cis-1,2-Dichloroethene	BQL	0.00100	1	6/2/2010
trans-1,2-dichloroethene	BQL	0.00100	1	6/2/2010
1,2-Dichloropropane	BQL	0.00100	1	6/2/2010
1,3-Dichloropropane	BQL	0.00100	1	6/2/2010
2,2-Dichloropropane	BQL	0.00100	1	6/2/2010
1,1-Dichloropropene	BQL	0.00100	1	6/2/2010
cis-1,3-Dichloropropene	BQL	0.00100	1	6/2/2010
trans-1,3-Dichloropropene	BQL	0.00100	1	6/2/2010
Dichlorodifluoromethane	BQL	0.00500	1	6/2/2010
Diisopropyl ether (DIPE)	BQL	0.00100	1	6/2/2010
Ethylbenzene	BQL	0.00100	1	6/2/2010
Hexachlorobutadiene	BQL	0.00100	1	6/2/2010
2-Hexanone	BQL	0.00500	1	6/2/2010
Iodomethane	BQL	0.00100	1	6/2/2010
Isopropylbenzene	BQL	0.00100	1	6/2/2010

Results for Volatiles
by GCMS 8260

Client Sample ID: FB
Client Project ID: UNC
Lab Sample ID: G1037-76-6A
Lab Project ID: G1037-76

Analyzed By: CLP
Date Collected: 5/25/2010 12:45
Date Received: 5/26/2010
Matrix: Water
Sample Amount: 5 mL

Compound	Result MG/L	Quantitation Limit MG/L	Dilution Factor	Date Analyzed
4-Isopropyltoluene	BQL	0.00100	1	6/2/2010
Methylene chloride	BQL	0.00500	1	6/2/2010
4-Methyl-2-pentanone	BQL	0.00500	1	6/2/2010
Methyl-tert-butyl ether (MTBE)	BQL	0.00100	1	6/2/2010
Naphthalene	BQL	0.00100	1	6/2/2010
n-Propyl benzene	BQL	0.00100	1	6/2/2010
Styrene	BQL	0.00100	1	6/2/2010
1,1,1,2-Tetrachloroethane	BQL	0.00100	1	6/2/2010
1,1,2,2-Tetrachloroethane	BQL	0.00100	1	6/2/2010
Tetrachloroethene	BQL	0.00100	1	6/2/2010
Toluene	BQL	0.00100	1	6/2/2010
1,2,3-Trichlorobenzene	BQL	0.00100	1	6/2/2010
1,2,4-Trichlorobenzene	BQL	0.00100	1	6/2/2010
Trichloroethene	BQL	0.00100	1	6/2/2010
1,1,1-Trichloroethane	BQL	0.00100	1	6/2/2010
1,1,2-Trichloroethane	BQL	0.00100	1	6/2/2010
Trichlorofluoromethane	BQL	0.00100	1	6/2/2010
1,2,3-Trichloropropane	BQL	0.00100	1	6/2/2010
1,2,4-Trimethylbenzene	BQL	0.00100	1	6/2/2010
1,3,5-Trimethylbenzene	BQL	0.00100	1	6/2/2010
Vinyl chloride	BQL	0.00100	1	6/2/2010
m-,p-Xylene	BQL	0.00200	1	6/2/2010
o-Xylene	BQL	0.00100	1	6/2/2010

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	0.03	0.0302	101
Toluene-d8	0.03	0.0286	96
4-Bromofluorobenzene	0.03	0.0287	96

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: OVO for CLP

Reviewed By: [illegible]

SGS North America, Inc.

Results for Volatiles
by GCMS 8260

Client Sample ID: MW-1
Client Project ID: UNC
Lab Sample ID: G1037-76-7A
Lab Project ID: G1037-76

Analyzed By: CLP
Date Collected: 5/25/2010 13:20
Date Received: 5/26/2010
Matrix: Water
Sample Amount: 5 mL

Compound	Result MG/L	Quantitation Limit MG/L	Dilution Factor	Date Analyzed
Acetone	BQL	0.0250	1	6/2/2010
Benzene	BQL	0.00100	1	6/2/2010
Bromobenzene	BQL	0.00100	1	6/2/2010
Bromochloromethane	BQL	0.00100	1	6/2/2010
Bromodichloromethane	BQL	0.00100	1	6/2/2010
Bromoform	BQL	0.00100	1	6/2/2010
Bromomethane	BQL	0.00100	1	6/2/2010
2-Butanone	BQL	0.0250	1	6/2/2010
n-Butylbenzene	BQL	0.00100	1	6/2/2010
sec-Butylbenzene	BQL	0.00100	1	6/2/2010
tert-Butylbenzene	BQL	0.00100	1	6/2/2010
Carbon disulfide	BQL	0.00100	1	6/2/2010
Carbon tetrachloride	BQL	0.00100	1	6/2/2010
Chlorobenzene	BQL	0.00100	1	6/2/2010
Chloroethane	BQL	0.00100	1	6/2/2010
Chloroform	BQL	0.00100	1	6/2/2010
Chloromethane	BQL	0.00100	1	6/2/2010
2-Chlorotoluene	BQL	0.00100	1	6/2/2010
4-Chlorotoluene	BQL	0.00100	1	6/2/2010
Dibromochloromethane	BQL	0.00100	1	6/2/2010
1,2-Dibromo-3-chloropropane	BQL	0.00500	1	6/2/2010
Dibromomethane	BQL	0.00100	1	6/2/2010
1,2-Dibromoethane (EDB)	BQL	0.00100	1	6/2/2010
1,2-Dichlorobenzene	BQL	0.00100	1	6/2/2010
1,3-Dichlorobenzene	BQL	0.00100	1	6/2/2010
1,4-Dichlorobenzene	BQL	0.00100	1	6/2/2010
trans-1,4-Dichloro-2-butene	BQL	0.00500	1	6/2/2010
1,1-Dichloroethane	BQL	0.00100	1	6/2/2010
1,1-Dichloroethene	BQL	0.00100	1	6/2/2010
1,2-Dichloroethane	BQL	0.00100	1	6/2/2010
cis-1,2-Dichloroethene	BQL	0.00100	1	6/2/2010
trans-1,2-dichloroethene	BQL	0.00100	1	6/2/2010
1,2-Dichloropropane	BQL	0.00100	1	6/2/2010
1,3-Dichloropropane	BQL	0.00100	1	6/2/2010
2,2-Dichloropropane	BQL	0.00100	1	6/2/2010
1,1-Dichloropropene	BQL	0.00100	1	6/2/2010
cis-1,3-Dichloropropene	BQL	0.00100	1	6/2/2010
trans-1,3-Dichloropropene	BQL	0.00100	1	6/2/2010
Dichlorodifluoromethane	BQL	0.00500	1	6/2/2010
Diisopropyl ether (DIPE)	BQL	0.00100	1	6/2/2010
Ethylbenzene	BQL	0.00100	1	6/2/2010
Hexachlorobutadiene	BQL	0.00100	1	6/2/2010
2-Hexanone	BQL	0.00500	1	6/2/2010
Iodomethane	BQL	0.00100	1	6/2/2010
Isopropylbenzene	BQL	0.00100	1	6/2/2010

SGS North America, Inc.

Results for Volatiles
by GCMS 8260

Client Sample ID: MW-1
Client Project ID: UNC
Lab Sample ID: G1037-76-7A
Lab Project ID: G1037-76

Analyzed By: CLP
Date Collected: 5/25/2010 13:20
Date Received: 5/26/2010
Matrix: Water
Sample Amount: 5 mL

Compound	Result MG/L	Quantitation Limit MG/L	Dilution Factor	Date Analyzed
4-Isopropyltoluene	BQL	0.00100	1	6/2/2010
Methylene chloride	BQL	0.00500	1	6/2/2010
4-Methyl-2-pentanone	BQL	0.00500	1	6/2/2010
Methyl-tert-butyl ether (MTBE)	BQL	0.00100	1	6/2/2010
Naphthalene	BQL	0.00100	1	6/2/2010
n-Propyl benzene	BQL	0.00100	1	6/2/2010
Styrene	BQL	0.00100	1	6/2/2010
1,1,1,2-Tetrachloroethane	BQL	0.00100	1	6/2/2010
1,1,2,2-Tetrachloroethane	BQL	0.00100	1	6/2/2010
Tetrachloroethene	BQL	0.00100	1	6/2/2010
Toluene	BQL	0.00100	1	6/2/2010
1,2,3-Trichlorobenzene	BQL	0.00100	1	6/2/2010
1,2,4-Trichlorobenzene	BQL	0.00100	1	6/2/2010
Trichloroethene	BQL	0.00100	1	6/2/2010
1,1,1-Trichloroethane	BQL	0.00100	1	6/2/2010
1,1,2-Trichloroethane	BQL	0.00100	1	6/2/2010
Trichlorofluoromethane	BQL	0.00100	1	6/2/2010
1,2,3-Trichloropropane	BQL	0.00100	1	6/2/2010
1,2,4-Trimethylbenzene	BQL	0.00100	1	6/2/2010
1,3,5-Trimethylbenzene	BQL	0.00100	1	6/2/2010
Vinyl chloride	BQL	0.00100	1	6/2/2010
m-,p-Xylene	BQL	0.00200	1	6/2/2010
o-Xylene	BQL	0.00100	1	6/2/2010

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	0.03	0.0309	103
Toluene-d8	0.03	0.0289	96
4-Bromofluorobenzene	0.03	0.0291	97

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: DVO for CLP

Reviewed By: [illegible]

SGS North America, Inc.

Results for Volatiles
by GCMS 8260

Client Sample ID: Trip Blank
Client Project ID: UNC
Lab Sample ID: G1037-76-8A
Lab Project ID: G1037-76

Analyzed By: CLP
Date Collected:
Date Received: 5/26/2010
Matrix: Water
Sample Amount: 5 mL

Compound	Result MG/L	Quantitation Limit MG/L	Dilution Factor	Date Analyzed
Acetone	BQL	0.0250	1	6/2/2010
Benzene	BQL	0.00100	1	6/2/2010
Bromobenzene	BQL	0.00100	1	6/2/2010
Bromochloromethane	BQL	0.00100	1	6/2/2010
Bromodichloromethane	BQL	0.00100	1	6/2/2010
Bromoform	BQL	0.00100	1	6/2/2010
Bromomethane	BQL	0.00100	1	6/2/2010
2-Butanone	BQL	0.0250	1	6/2/2010
n-Butylbenzene	BQL	0.00100	1	6/2/2010
sec-Butylbenzene	BQL	0.00100	1	6/2/2010
tert-Butylbenzene	BQL	0.00100	1	6/2/2010
Carbon disulfide	BQL	0.00100	1	6/2/2010
Carbon tetrachloride	BQL	0.00100	1	6/2/2010
Chlorobenzene	BQL	0.00100	1	6/2/2010
Chloroethane	BQL	0.00100	1	6/2/2010
Chloroform	BQL	0.00100	1	6/2/2010
Chloromethane	BQL	0.00100	1	6/2/2010
2-Chlorotoluene	BQL	0.00100	1	6/2/2010
4-Chlorotoluene	BQL	0.00100	1	6/2/2010
Dibromochloromethane	BQL	0.00100	1	6/2/2010
1,2-Dibromo-3-chloropropane	BQL	0.00500	1	6/2/2010
Dibromomethane	BQL	0.00100	1	6/2/2010
1,2-Dibromoethane (EDB)	BQL	0.00100	1	6/2/2010
1,2-Dichlorobenzene	BQL	0.00100	1	6/2/2010
1,3-Dichlorobenzene	BQL	0.00100	1	6/2/2010
1,4-Dichlorobenzene	BQL	0.00100	1	6/2/2010
trans-1,4-Dichloro-2-butene	BQL	0.00500	1	6/2/2010
1,1-Dichloroethane	BQL	0.00100	1	6/2/2010
1,1-Dichloroethene	BQL	0.00100	1	6/2/2010
1,2-Dichloroethane	BQL	0.00100	1	6/2/2010
cis-1,2-Dichloroethene	BQL	0.00100	1	6/2/2010
trans-1,2-dichloroethene	BQL	0.00100	1	6/2/2010
1,2-Dichloropropane	BQL	0.00100	1	6/2/2010
1,3-Dichloropropane	BQL	0.00100	1	6/2/2010
2,2-Dichloropropane	BQL	0.00100	1	6/2/2010
1,1-Dichloropropene	BQL	0.00100	1	6/2/2010
cis-1,3-Dichloropropene	BQL	0.00100	1	6/2/2010
trans-1,3-Dichloropropene	BQL	0.00100	1	6/2/2010
Dichlorodifluoromethane	BQL	0.00500	1	6/2/2010
Diisopropyl ether (DIPE)	BQL	0.00100	1	6/2/2010
Ethylbenzene	BQL	0.00100	1	6/2/2010
Hexachlorobutadiene	BQL	0.00100	1	6/2/2010
2-Hexanone	BQL	0.00500	1	6/2/2010
Iodomethane	BQL	0.00100	1	6/2/2010
Isopropylbenzene	BQL	0.00100	1	6/2/2010

SGS North America, Inc.

Results for Volatiles
by GCMS 8260

Client Sample ID: Trip Blank
Client Project ID: UNC
Lab Sample ID: G1037-76-8A
Lab Project ID: G1037-76

Analyzed By: CLP
Date Collected:
Date Received: 5/26/2010
Matrix: Water
Sample Amount: 5 mL

Compound	Result MG/L	Quantitation Limit MG/L	Dilution Factor	Date Analyzed
4-Isopropyltoluene	BQL	0.00100	1	6/2/2010
Methylene chloride	BQL	0.00500	1	6/2/2010
4-Methyl-2-pentanone	BQL	0.00500	1	6/2/2010
Methyl-tert-butyl ether (MTBE)	BQL	0.00100	1	6/2/2010
Naphthalene	BQL	0.00100	1	6/2/2010
n-Propyl benzene	BQL	0.00100	1	6/2/2010
Styrene	BQL	0.00100	1	6/2/2010
1,1,1,2-Tetrachloroethane	BQL	0.00100	1	6/2/2010
1,1,2,2-Tetrachloroethane	BQL	0.00100	1	6/2/2010
Tetrachloroethene	BQL	0.00100	1	6/2/2010
Toluene	BQL	0.00100	1	6/2/2010
1,2,3-Trichlorobenzene	BQL	0.00100	1	6/2/2010
1,2,4-Trichlorobenzene	BQL	0.00100	1	6/2/2010
Trichloroethene	BQL	0.00100	1	6/2/2010
1,1,1-Trichloroethane	BQL	0.00100	1	6/2/2010
1,1,2-Trichloroethane	BQL	0.00100	1	6/2/2010
Trichlorofluoromethane	BQL	0.00100	1	6/2/2010
1,2,3-Trichloropropane	BQL	0.00100	1	6/2/2010
1,2,4-Trimethylbenzene	BQL	0.00100	1	6/2/2010
1,3,5-Trimethylbenzene	BQL	0.00100	1	6/2/2010
Vinyl chloride	BQL	0.00100	1	6/2/2010
m-,p-Xylene	BQL	0.00200	1	6/2/2010
o-Xylene	BQL	0.00100	1	6/2/2010

	Spike Added	Spike Result	Percent Recovered
1,2-Dichloroethane-d4	0.03	0.0307	102
Toluene-d8	0.03	0.0293	98
4-Bromofluorobenzene	0.03	0.0294	98

Comments:

Flags:
BQL = Below Quantitation Limits.

Analyst: DVO for CLP

Reviewed By: [illegible]

SGS Environmental Services

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SGS Environmental Lab Code: NC00919 Inst: MSD8

	EPA Sample No.:	Amt.	Filenames:	Analysis Dates:	Batch: 8060210
Sample	g1037-76-3a	5 mL	0602824.D	2010-06-02 19:32:00	Dilution: 1
MS	g1037-76-9a	5 mL	0602827.D	2010-06-02 20:45:00	Matrix: Water
MSD	g1037-76-10a	5 mL	0602828.D	2010-06-02 21:10:00	

COMPOUND	SAMPLE CONC (µg/L)	MS SPIKE (µg/L)	MS CONC (µg/L)	MS % REC #	MSD SPIKE (µg/L)	MSD CONC (µg/L)	MSD % REC #	% RPD	QC LIMITS RPD	QC LIMITS REC
acetone	BQL	25.0	29.2	106*	25.0	30.2	110*	3.69	30	17.7-85.2
acrolein	BQL	125	84.4	67.5	125	92.2	73.7	8.80	30	0.00-424
acrylonitrile	BQL	125	140	112	125	158	126	11.8	30	85.0-175
benzene	BQL	5.00	5.73	114	5.00	5.53	111	3.55	30	61.6-135
bromobenzene	BQL	5.00	5.29	106	5.00	5.10	102	3.66	30	65.1-125
bromochloromethane	BQL	5.00	5.63	113	5.00	5.41	108	3.96	30	75.5-126
bromodichloromethane	BQL	5.00	5.20	104	5.00	5.02	100	3.52	30	74.3-123
bromoform	BQL	5.00	4.41	88.2	5.00	4.46	89.2	1.13	30	52.3-122
bromomethane	BQL	5.00	5.87	117	5.00	6.68	134	12.9	30	10.0-284
2-butanone	BQL	25.0	26.1	104	25.0	28.7	115*	9.42	30	36.1-107
n-butylbenzene	BQL	5.00	4.25	85.0	5.00	4.15	83.0	2.38	30	70.2-124
sec-butylbenzene	BQL	5.00	4.43	88.6	5.00	4.29	85.8	3.21	30	62.0-133
tert-butylbenzene	BQL	5.00	4.42	88.4	5.00	4.21	84.2	4.87	30	73.5-121
Carbon disulfide	BQL	5.00	4.17	83.4	5.00	4.05	81.0	2.92	30	66.8-129
carbon tetrachloride	BQL	5.00	5.28	106	5.00	5.01	100	5.25	30	71.8-122
chlorobenzene	BQL	5.00	5.46	109	5.00	5.48	110	0.366	30	77.2-118
chloroethane	BQL	5.00	6.65	133	5.00	7.47	149	11.6	30	10.0-233
2-chloroethyl vinyl ether	BQL	12.5	0.00	0.00*	12.5	0.00	0.00*	--	30	16.7-283
chloroform	BQL	5.00	5.40	108	5.00	5.25	105	2.82	30	74.0-128
chloromethane	BQL	5.00	5.85	117	5.00	6.24	125	6.45	30	72.0-138
2-chlorotoluene	BQL	5.00	5.07	101	5.00	4.78	95.6	5.89	30	79.3-118
4-chlorotoluene	BQL	5.00	5.27	105	5.00	4.72	94.4	11.0	30	76.8-120
dibromochloromethane	BQL	5.00	4.62	92.4	5.00	4.36	87.2	5.79	30	69.0-117
1,2-dibromo-3-chloropropane	BQL	30.0	22.7	75.6	30.0	24.6	82.0	8.04	30	20.2-171
1,2-dibromoethane	BQL	5.00	5.07	101	5.00	5.04	101	0.593	30	78.5-123
dibromomethane	BQL	5.00	5.65	113	5.00	5.54	111	1.97	30	71.3-137
1,2-dichlorobenzene	BQL	5.00	4.85	97.0	5.00	4.78	95.6	1.45	30	75.1-120
1,3-dichlorobenzene	BQL	5.00	4.80	96.0	5.00	4.82	96.4	0.416	30	73.1-121
1,4-dichlorobenzene	BQL	5.00	4.87	97.4	5.00	4.82	96.4	1.03	30	74.8-118
trans-1,4-Dichloro-2-butene	BQL	25.0	26.1	104	25.0	26.4	105	0.876	30	25.7-149
dichlorodifluoromethane	BQL	5.00	6.12	122	5.00	6.07	121	0.820	30	41.7-166
1,1-dichloroethane	BQL	5.00	5.26	105	5.00	5.05	101	4.07	30	75.6-128
1,2-dichloroethane	BQL	5.00	5.77	115	5.00	5.69	114	1.40	30	71.1-127
1,1-dichloroethene	BQL	5.00	5.29	106	5.00	4.99	99.8	5.84	30	64.4-130
cis-1,2-dichloroethene	BQL	5.00	5.72	114	5.00	5.54	111	3.20	30	72.7-134
trans-1,2-dichloroethene	BQL	5.00	5.15	103	5.00	5.10	102	0.976	30	74.6-124
1,2-dichloropropane	BQL	5.00	5.28	106	5.00	5.26	105	0.380	30	76.5-129
1,3-dichloropropane	BQL	5.00	5.19	104	5.00	5.14	103	0.968	30	75.1-121
2,2-dichloropropane	BQL	5.00	4.56	91.2	5.00	4.45	89.0	2.44	30	31.5-157
1,1-dichloropropene	BQL	5.00	5.49	110	5.00	5.27	105	4.09	30	72.5-120
cis-1,3-dichloropropene	BQL	5.00	3.84	76.8	5.00	3.86	77.2	0.519	30	66.6-132

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

* Values outside of QC limits

COMMENTS: _____

SGS Environmental Services

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SGS Environmental — Inst: MSD8

Lab Code: NC00919 — Batch: 8060210

EPA Sample No.: g1037-76-3a, g1037-76-9a, g1037-76-10a — Dilution: 1

Filenames: 0602824.D, 0602827.D, 0602828.D — Matrix: Water

COMPOUND	SAMPLE CONC (µg/L)	MS SPIKE (µg/L)	MS CONC (µg/L)	MS % REC #	MSD SPIKE (µg/L)	MSD CONC (µg/L)	MSD % REC #	% RPD	QC LIMITS RPD	QC LIMITS REC
trans-1,3-dichloropropene	BQL	5.00	4.34	86.8	5.00	4.43	88.6	2.05	30	44.7-144
Diisopropyl ether	BQL	5.00	5.41	108	5.00	5.29	106	2.24	30	79.4-122
ethylbenzene	BQL	5.00	4.92	98.4	5.00	4.76	95.2	3.30	30	73.8-126
hexachlorobutadiene	BQL	5.00	4.20	84.0	5.00	4.23	84.6	0.712	30	51.8-134
2-hexanone	BQL	25.0	25.1	100	25.0	27.0	108	7.25	30	41.6-111
Iodomethane	BQL	5.00	4.25	85.0	5.00	4.36	87.2	2.56	30	40.6-126
isopropylbenzene	BQL	5.00	4.47	89.4	5.00	4.35	87.0	2.72	30	74.3-123
4-isopropyltoluene	BQL	5.00	4.36	87.2	5.00	4.26	85.2	2.32	30	74.6-122
Methyl-tert-butyl ether	BQL	5.00	4.78	95.6	5.00	4.93	98.6	3.09	30	66.5-136
methylene chloride	BQL	5.00	5.67	113	5.00	5.60	112	1.24	30	48.6-155
4-methyl-2-pentanone	BQL	25.0	27.6	110	25.0	30.0	120	8.47	30	6.88-166
naphthalene	BQL	5.00	4.70	94.0	5.00	4.92	98.4	4.57	30	55.1-140
n-propyl benzene	BQL	5.00	4.77	95.4	5.00	4.57	91.4	4.28	30	71.6-128
styrene	BQL	5.00	4.64	92.8	5.00	4.62	92.4	0.432	30	73.2-123
1,1,1,2-tetrachloroethane	BQL	5.00	4.76	95.2	5.00	4.73	94.6	0.632	30	69.4-120
1,1,2,2-tetrachloroethane	BQL	5.00	5.31	106	5.00	5.71	114	7.26	30	75.7-136
tetrachloroethene	BQL	5.00	5.20	104	5.00	4.99	99.8	4.12	30	45.8-153
toluene	BQL	5.00	5.47	109	5.00	5.33	107	2.59	30	66.4-128
1,2,3-trichlorobenzene	BQL	5.00	4.81	96.2	5.00	4.85	97.0	0.828	30	61.0-126
1,2,4-trichlorobenzene	BQL	5.00	4.74	94.8	5.00	4.68	93.6	1.27	30	60.6-125
1,1,1-trichloroethane	BQL	5.00	5.35	107	5.00	5.14	103	4.00	30	78.4-121
1,1,2-trichloroethane	BQL	5.00	5.32	106	5.00	5.27	105	0.944	30	64.8-128
trichloroethene	BQL	5.00	5.38	108	5.00	5.01	100	7.12	30	84.9-136
trichlorofluoromethane	BQL	5.00	5.63	113	5.00	5.59	112	0.713	30	76.8-132
1,2,3-trichloropropane	BQL	5.00	5.79	116	5.00	5.67	113	2.09	30	10.0-218
1,2,4-trimethylbenzene	BQL	5.00	4.54	90.8	5.00	4.45	89.0	2.00	30	31.0-172
1,3,5-trimethylbenzene	BQL	5.00	4.82	96.4	5.00	4.66	93.2	3.38	30	67.7-132
Vinyl acetate	BQL	12.5	15.1	121	12.5	15.3	123	1.64	30	0.00-355
vinyl chloride	BQL	5.00	5.42	108	5.00	5.81	116	6.94	30	68.1-137
m/p-xylene	BQL	10.0	10.1	101	10.0	9.63	96.3	4.96	30	79.8-118
o-xylene	BQL	5.00	4.50	90.0	5.00	4.44	88.8	1.34	30	80.0-121

System Monitoring Compound Results		MS SPIKE (µg/L)	MS CONC (µg/L)	MS % REC #	MSD SPIKE (µg/L)	MSD CONC (µg/L)	MSD % REC #	QC LIMITS REC
460-00-4	4-Bromofluorobenzene	30	31.42	105	30	31.22	104	84.7-115
17060-07-0	1,2-Dichloroethane-d4	30	29.61	98.7	30	30	100	63.5-140
2037-26-5	Toluene-d8	30	29.46	98.2	30	29.24	97.5	81.8-117

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

* Values outside of QC limits

MS Spike Recovery: 2 failure(s) out of 72. MSD Spike Recovery: 3 failure(s) out of 72.

RPD: 1 out of 72 outside of limits

COMMENTS: _____

Analyst: _____ Reviewed by: _____

Results for Semivolatiles
by GCMS 8270

Client Sample ID: MW-8
Client Project ID: UNC
Lab Sample ID: G1037-76-1G
Lab Project ID: G1037-76

Initial Volume: 911 mL

Analyzed By: DCS
Date Collected: 5/25/2010 10:48
Date Received: 5/26/2010
Date Extracted: 5/26/2010
Matrix: Water

Compound	Result mg/L	RL mg/L	Dilution Factor	Date Analyzed
Acenaphthene	BQL	0.005	1	5/28/2010
Acenaphthylene	BQL	0.005	1	5/28/2010
Anthracene	BQL	0.005	1	5/28/2010
Benzo[a]anthracene	BQL	0.005	1	5/28/2010
Benzo[a]pyrene	BQL	0.005	1	5/28/2010
Benzo[b]fluoranthene	BQL	0.005	1	5/28/2010
Benzo[g,h,i]perylene	BQL	0.005	1	5/28/2010
Benzo[k]fluoranthene	BQL	0.005	1	5/28/2010
Benzoic Acid	BQL	0.027	1	5/28/2010
Bis(2-chloroethoxy)methane	BQL	0.005	1	5/28/2010
Bis(2-chloroethyl)ether	BQL	0.005	1	5/28/2010
Bis(2-chloroisopropyl)ether	BQL	0.005	1	5/28/2010
Bis(2-ethylhexyl)phthalate	BQL	0.005	1	5/28/2010
4-bromophenyl phenyl ether	BQL	0.005	1	5/28/2010
Butylbenzylphthalate	BQL	0.005	1	5/28/2010
2-Chloronaphthalene	BQL	0.005	1	5/28/2010
2-Chlorophenol	BQL	0.005	1	5/28/2010
4-Chloro-3-methylphenol	BQL	0.005	1	5/28/2010
4-Chloroaniline	BQL	0.027	1	5/28/2010
4-Chlorophenyl phenyl ether	BQL	0.005	1	5/28/2010
Chrysene	BQL	0.005	1	5/28/2010
Dibenzo[a,h]anthracene	BQL	0.005	1	5/28/2010
Dibenzofuran	BQL	0.005	1	5/28/2010
Di-n-Butylphthalate	BQL	0.005	1	5/28/2010
1,2-Dichlorobenzene	BQL	0.005	1	5/28/2010
1,3-Dichlorobenzene	BQL	0.005	1	5/28/2010
1,4-Dichlorobenzene	BQL	0.005	1	5/28/2010
3,3'-Dichlorobenzidine	BQL	0.011	1	5/28/2010
2,4-Dichlorophenol	BQL	0.005	1	5/28/2010
Diethylphthalate	BQL	0.005	1	5/28/2010
Dimethylphthalate	BQL	0.005	1	5/28/2010
2,4-Dimethylphenol	BQL	0.005	1	5/28/2010
Di-n-octylphthalate	BQL	0.005	1	5/28/2010
4,6-Dinitro-2-methylphenol	BQL	0.027	1	5/28/2010
2,4-Dinitrophenol	BQL	0.027	1	5/28/2010
2,4-Dinitrotoluene	BQL	0.005	1	5/28/2010
2,6-Dinitrotoluene	BQL	0.005	1	5/28/2010
Diphenylamine *	BQL	0.005	1	5/28/2010
Fluoranthene	BQL	0.005	1	5/28/2010
Fluorene	BQL	0.005	1	5/28/2010
Hexachlorobenzene	BQL	0.005	1	5/28/2010
Hexachlorobutadiene	BQL	0.005	1	5/28/2010
Hexachlorocyclopentadiene	BQL	0.011	1	5/28/2010
Hexachloroethane	BQL	0.005	1	5/28/2010
Indeno(1,2,3-c,d)pyrene	BQL	0.005	1	5/28/2010
Isophorone	BQL	0.005	1	5/28/2010
2-Methylnaphthalene	BQL	0.005	1	5/28/2010

Results for Semivolatiles
by GCMS 8270

Client Sample ID: MW-8
Client Project ID: UNC
Lab Sample ID: G1037-76-1G
Lab Project ID: G1037-76

Initial Volume: 911 mL

Analyzed By: DCS
Date Collected: 5/25/2010 10:48
Date Received: 5/26/2010
Date Extracted: 5/26/2010
Matrix: Water

Compound	Result mg/L	RL mg/L	Dilution Factor	Date Analyzed
2-Methylphenol	BQL	0.005	1	5/28/2010
3- & 4-Methylphenol	BQL	0.005	1	5/28/2010
Naphthalene	BQL	0.005	1	5/28/2010
2-Nitroaniline	BQL	0.005	1	5/28/2010
3-Nitroaniline	BQL	0.027	1	5/28/2010
4-Nitroaniline	BQL	0.027	1	5/28/2010
Nitrobenzene	BQL	0.005	1	5/28/2010
2-Nitrophenol	BQL	0.005	1	5/28/2010
4-Nitrophenol	BQL	0.027	1	5/28/2010
N-Nitrosodi-n-propylamine	BQL	0.005	1	5/28/2010
Pentachlorophenol	BQL	0.027	1	5/28/2010
Phenanthrene	BQL	0.005	1	5/28/2010
Phenol	BQL	0.005	1	5/28/2010
Pyrene	BQL	0.005	1	5/28/2010
1,2,4-Trichlorobenzene	BQL	0.005	1	5/28/2010
2,4,5-Trichlorophenol	BQL	0.005	1	5/28/2010
2,4,6-Trichlorophenol	BQL	0.005	1	5/28/2010

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.5	75
2-Fluorophenol	10	6.9	69
Nitrobenzene-d5	10	7.1	71
Phenol-d6	10	7	70
2,4,6-Tribromophenol	10	8.7	87
4-Terphenyl-d14	10	9.3	93

Comments:
* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:
BQL = Below Quantitation Limits.

Reviewed By: _____

Results for Semivolatiles
by GCMS 8270

Client Sample ID: MW-7
Client Project ID: UNC
Lab Sample ID: G1037-76-2G
Lab Project ID: G1037-76

Initial Volume: 957 mL

Analyzed By: DCS
Date Collected: 5/25/2010 11:25
Date Received: 5/26/2010
Date Extracted: 5/26/2010
Matrix: Water

Compound	Result mg/L	RL mg/L	Dilution Factor	Date Analyzed
Acenaphthene	BQL	0.005	1	5/28/2010
Acenaphthylene	BQL	0.005	1	5/28/2010
Anthracene	BQL	0.005	1	5/28/2010
Benzo[a]anthracene	BQL	0.005	1	5/28/2010
Benzo[a]pyrene	BQL	0.005	1	5/28/2010
Benzo[b]fluoranthene	BQL	0.005	1	5/28/2010
Benzo[g,h,i]perylene	BQL	0.005	1	5/28/2010
Benzo[k]fluoranthene	BQL	0.005	1	5/28/2010
Benzoic Acid	BQL	0.026	1	5/28/2010
Bis(2-chloroethoxy)methane	BQL	0.005	1	5/28/2010
Bis(2-chloroethyl)ether	BQL	0.005	1	5/28/2010
Bis(2-chloroisopropyl)ether	BQL	0.005	1	5/28/2010
Bis(2-ethylhexyl)phthalate	BQL	0.005	1	5/28/2010
4-bromophenyl phenyl ether	BQL	0.005	1	5/28/2010
Butylbenzylphthalate	BQL	0.005	1	5/28/2010
2-Chloronaphthalene	BQL	0.005	1	5/28/2010
2-Chlorophenol	BQL	0.005	1	5/28/2010
4-Chloro-3-methylphenol	BQL	0.005	1	5/28/2010
4-Chloroaniline	BQL	0.026	1	5/28/2010
4-Chlorophenyl phenyl ether	BQL	0.005	1	5/28/2010
Chrysene	BQL	0.005	1	5/28/2010
Dibenzo[a,h]anthracene	BQL	0.005	1	5/28/2010
Dibenzofuran	BQL	0.005	1	5/28/2010
Di-n-Butylphthalate	BQL	0.005	1	5/28/2010
1,2-Dichlorobenzene	BQL	0.005	1	5/28/2010
1,3-Dichlorobenzene	BQL	0.005	1	5/28/2010
1,4-Dichlorobenzene	BQL	0.005	1	5/28/2010
3,3'-Dichlorobenzidine	BQL	0.010	1	5/28/2010
2,4-Dichlorophenol	BQL	0.005	1	5/28/2010
Diethylphthalate	BQL	0.005	1	5/28/2010
Dimethylphthalate	BQL	0.005	1	5/28/2010
2,4-Dimethylphenol	BQL	0.005	1	5/28/2010
Di-n-octylphthalate	BQL	0.005	1	5/28/2010
4,6-Dinitro-2-methylphenol	BQL	0.026	1	5/28/2010
2,4-Dinitrophenol	BQL	0.026	1	5/28/2010
2,4-Dinitrotoluene	BQL	0.005	1	5/28/2010
2,6-Dinitrotoluene	BQL	0.005	1	5/28/2010
Diphenylamine *	BQL	0.005	1	5/28/2010
Fluoranthene	BQL	0.005	1	5/28/2010
Fluorene	BQL	0.005	1	5/28/2010
Hexachlorobenzene	BQL	0.005	1	5/28/2010
Hexachlorobutadiene	BQL	0.005	1	5/28/2010
Hexachlorocyclopentadiene	BQL	0.010	1	5/28/2010
Hexachloroethane	BQL	0.005	1	5/28/2010
Indeno(1,2,3-c,d)pyrene	BQL	0.005	1	5/28/2010
Isophorone	BQL	0.005	1	5/28/2010
2-Methylnaphthalene	BQL	0.005	1	5/28/2010

Results for Semivolatiles
by GCMS 8270

Client Sample ID: MW-7
Client Project ID: UNC
Lab Sample ID: G1037-76-2G
Lab Project ID: G1037-76

Initial Volume: 957 mL

Analyzed By: DCS
Date Collected: 5/25/2010 11:25
Date Received: 5/26/2010
Date Extracted: 5/26/2010
Matrix: Water

Compound	Result mg/L	RL mg/L	Dilution Factor	Date Analyzed
2-Methylphenol	BQL	0.005	1	5/28/2010
3- & 4-Methylphenol	BQL	0.005	1	5/28/2010
Naphthalene	BQL	0.005	1	5/28/2010
2-Nitroaniline	BQL	0.005	1	5/28/2010
3-Nitroaniline	BQL	0.026	1	5/28/2010
4-Nitroaniline	BQL	0.026	1	5/28/2010
Nitrobenzene	BQL	0.005	1	5/28/2010
2-Nitrophenol	BQL	0.005	1	5/28/2010
4-Nitrophenol	BQL	0.026	1	5/28/2010
N-Nitrosodi-n-propylamine	BQL	0.005	1	5/28/2010
Pentachlorophenol	BQL	0.026	1	5/28/2010
Phenanthrene	BQL	0.005	1	5/28/2010
Phenol	BQL	0.005	1	5/28/2010
Pyrene	BQL	0.005	1	5/28/2010
1,2,4-Trichlorobenzene	BQL	0.005	1	5/28/2010
2,4,5-Trichlorophenol	BQL	0.005	1	5/28/2010
2,4,6-Trichlorophenol	BQL	0.005	1	5/28/2010

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.7	77
2-Fluorophenol	10	7	70
Nitrobenzene-d5	10	7.2	72
Phenol-d6	10	7.2	72
2,4,6-Tribromophenol	10	9	90
4-Terphenyl-d14	10	9.1	91

Comments:
* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:
BQL = Below Quantitation Limits.

Reviewed By: _____

Results for Semivolatiles
by GCMS 8270

Client Sample ID: MW-5
Client Project ID: UNC
Lab Sample ID: G1037-76-3G
Lab Project ID: G1037-76

Initial Volume: 972 mL

Analyzed By: DCS
Date Collected: 5/25/2010 12:05
Date Received: 5/26/2010
Date Extracted: 5/26/2010
Matrix: Water

Compound	Result mg/L	RL mg/L	Dilution Factor	Date Analyzed
Acenaphthene	BQL	0.005	1	5/28/2010
Acenaphthylene	BQL	0.005	1	5/28/2010
Anthracene	BQL	0.005	1	5/28/2010
Benzo[a]anthracene	BQL	0.005	1	5/28/2010
Benzo[a]pyrene	BQL	0.005	1	5/28/2010
Benzo[b]fluoranthene	BQL	0.005	1	5/28/2010
Benzo[g,h,i]perylene	BQL	0.005	1	5/28/2010
Benzo[k]fluoranthene	BQL	0.005	1	5/28/2010
Benzoic Acid	BQL	0.026	1	5/28/2010
Bis(2-chloroethoxy)methane	BQL	0.005	1	5/28/2010
Bis(2-chloroethyl)ether	BQL	0.005	1	5/28/2010
Bis(2-chloroisopropyl)ether	BQL	0.005	1	5/28/2010
Bis(2-ethylhexyl)phthalate	BQL	0.005	1	5/28/2010
4-bromophenyl phenyl ether	BQL	0.005	1	5/28/2010
Butylbenzylphthalate	BQL	0.005	1	5/28/2010
2-Chloronaphthalene	BQL	0.005	1	5/28/2010
2-Chlorophenol	BQL	0.005	1	5/28/2010
4-Chloro-3-methylphenol	BQL	0.005	1	5/28/2010
4-Chloroaniline	BQL	0.026	1	5/28/2010
4-Chlorophenyl phenyl ether	BQL	0.005	1	5/28/2010
Chrysene	BQL	0.005	1	5/28/2010
Dibenzo[a,h]anthracene	BQL	0.005	1	5/28/2010
Dibenzofuran	BQL	0.005	1	5/28/2010
Di-n-Butylphthalate	BQL	0.005	1	5/28/2010
1,2-Dichlorobenzene	BQL	0.005	1	5/28/2010
1,3-Dichlorobenzene	BQL	0.005	1	5/28/2010
1,4-Dichlorobenzene	BQL	0.005	1	5/28/2010
3,3'-Dichlorobenzidine	BQL	0.010	1	5/28/2010
2,4-Dichlorophenol	BQL	0.005	1	5/28/2010
Diethylphthalate	BQL	0.005	1	5/28/2010
Dimethylphthalate	BQL	0.005	1	5/28/2010
2,4-Dimethylphenol	BQL	0.005	1	5/28/2010
Di-n-octylphthalate	BQL	0.005	1	5/28/2010
4,6-Dinitro-2-methylphenol	BQL	0.026	1	5/28/2010
2,4-Dinitrophenol	BQL	0.026	1	5/28/2010
2,4-Dinitrotoluene	BQL	0.005	1	5/28/2010
2,6-Dinitrotoluene	BQL	0.005	1	5/28/2010
Diphenylamine *	BQL	0.005	1	5/28/2010
Fluoranthene	BQL	0.005	1	5/28/2010
Fluorene	BQL	0.005	1	5/28/2010
Hexachlorobenzene	BQL	0.005	1	5/28/2010
Hexachlorobutadiene	BQL	0.005	1	5/28/2010
Hexachlorocyclopentadiene	BQL	0.010	1	5/28/2010
Hexachloroethane	BQL	0.005	1	5/28/2010
Indeno(1,2,3-c,d)pyrene	BQL	0.005	1	5/28/2010
Isophorone	BQL	0.005	1	5/28/2010
2-Methylnaphthalene	BQL	0.005	1	5/28/2010

Results for Semivolatiles
by GCMS 8270

Client Sample ID: MW-5
Client Project ID: UNC
Lab Sample ID: G1037-76-3G
Lab Project ID: G1037-76

Initial Volume: 972 mL

Analyzed By: DCS
Date Collected: 5/25/2010 12:05
Date Received: 5/26/2010
Date Extracted: 5/26/2010
Matrix: Water

Compound	Result mg/L	RL mg/L	Dilution Factor	Date Analyzed
2-Methylphenol	BQL	0.005	1	5/28/2010
3- & 4-Methylphenol	BQL	0.005	1	5/28/2010
Naphthalene	BQL	0.005	1	5/28/2010
2-Nitroaniline	BQL	0.005	1	5/28/2010
3-Nitroaniline	BQL	0.026	1	5/28/2010
4-Nitroaniline	BQL	0.026	1	5/28/2010
Nitrobenzene	BQL	0.005	1	5/28/2010
2-Nitrophenol	BQL	0.005	1	5/28/2010
4-Nitrophenol	BQL	0.026	1	5/28/2010
N-Nitrosodi-n-propylamine	BQL	0.005	1	5/28/2010
Pentachlorophenol	BQL	0.026	1	5/28/2010
Phenanthrene	BQL	0.005	1	5/28/2010
Phenol	BQL	0.005	1	5/28/2010
Pyrene	BQL	0.005	1	5/28/2010
1,2,4-Trichlorobenzene	BQL	0.005	1	5/28/2010
2,4,5-Trichlorophenol	BQL	0.005	1	5/28/2010
2,4,6-Trichlorophenol	BQL	0.005	1	5/28/2010

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.3	73
2-Fluorophenol	10	6.4	64
Nitrobenzene-d5	10	7	70
Phenol-d6	10	7	70
2,4,6-Tribromophenol	10	10.1	101
4-Terphenyl-d14	10	9.1	91

Comments:
* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:
BQL = Below Quantitation Limits.

Reviewed By: _____

Results for Semivolatiles
by GCMS 8270

Client Sample ID: MW-5a
Client Project ID: UNC
Lab Sample ID: G1037-76-4G
Lab Project ID: G1037-76

Initial Volume: 962 mL

Analyzed By: DCS
Date Collected: 5/25/2010 12:05
Date Received: 5/26/2010
Date Extracted: 5/26/2010
Matrix: Water

Compound	Result mg/L	RL mg/L	Dilution Factor	Date Analyzed
Acenaphthene	BQL	0.005	1	5/28/2010
Acenaphthylene	BQL	0.005	1	5/28/2010
Anthracene	BQL	0.005	1	5/28/2010
Benzo[a]anthracene	BQL	0.005	1	5/28/2010
Benzo[a]pyrene	BQL	0.005	1	5/28/2010
Benzo[b]fluoranthene	BQL	0.005	1	5/28/2010
Benzo[g,h,i]perylene	BQL	0.005	1	5/28/2010
Benzo[k]fluoranthene	BQL	0.005	1	5/28/2010
Benzoic Acid	BQL	0.026	1	5/28/2010
Bis(2-chloroethoxy)methane	BQL	0.005	1	5/28/2010
Bis(2-chloroethyl)ether	BQL	0.005	1	5/28/2010
Bis(2-chloroisopropyl)ether	BQL	0.005	1	5/28/2010
Bis(2-ethylhexyl)phthalate	BQL	0.005	1	5/28/2010
4-bromophenyl phenyl ether	BQL	0.005	1	5/28/2010
Butylbenzylphthalate	BQL	0.005	1	5/28/2010
2-Chloronaphthalene	BQL	0.005	1	5/28/2010
2-Chlorophenol	BQL	0.005	1	5/28/2010
4-Chloro-3-methylphenol	BQL	0.005	1	5/28/2010
4-Chloroaniline	BQL	0.026	1	5/28/2010
4-Chlorophenyl phenyl ether	BQL	0.005	1	5/28/2010
Chrysene	BQL	0.005	1	5/28/2010
Dibenzo[a,h]anthracene	BQL	0.005	1	5/28/2010
Dibenzofuran	BQL	0.005	1	5/28/2010
Di-n-Butylphthalate	BQL	0.005	1	5/28/2010
1,2-Dichlorobenzene	BQL	0.005	1	5/28/2010
1,3-Dichlorobenzene	BQL	0.005	1	5/28/2010
1,4-Dichlorobenzene	BQL	0.005	1	5/28/2010
3,3'-Dichlorobenzidine	BQL	0.010	1	5/28/2010
2,4-Dichlorophenol	BQL	0.005	1	5/28/2010
Diethylphthalate	BQL	0.005	1	5/28/2010
Dimethylphthalate	BQL	0.005	1	5/28/2010
2,4-Dimethylphenol	BQL	0.005	1	5/28/2010
Di-n-octylphthalate	BQL	0.005	1	5/28/2010
4,6-Dinitro-2-methylphenol	BQL	0.026	1	5/28/2010
2,4-Dinitrophenol	BQL	0.026	1	5/28/2010
2,4-Dinitrotoluene	BQL	0.005	1	5/28/2010
2,6-Dinitrotoluene	BQL	0.005	1	5/28/2010
Diphenylamine *	BQL	0.005	1	5/28/2010
Fluoranthene	BQL	0.005	1	5/28/2010
Fluorene	BQL	0.005	1	5/28/2010
Hexachlorobenzene	BQL	0.005	1	5/28/2010
Hexachlorobutadiene	BQL	0.005	1	5/28/2010
Hexachlorocyclopentadiene	BQL	0.010	1	5/28/2010
Hexachloroethane	BQL	0.005	1	5/28/2010
Indeno(1,2,3-c,d)pyrene	BQL	0.005	1	5/28/2010
Isophorone	BQL	0.005	1	5/28/2010
2-Methylnaphthalene	BQL	0.005	1	5/28/2010

Results for Semivolatiles
by GCMS 8270

Client Sample ID: MW-5a
Client Project ID: UNC
Lab Sample ID: G1037-76-4G
Lab Project ID: G1037-76

Initial Volume: 962 mL

Analyzed By: DCS
Date Collected: 5/25/2010 12:05
Date Received: 5/26/2010
Date Extracted: 5/26/2010
Matrix: Water

Compound	Result mg/L	RL mg/L	Dilution Factor	Date Analyzed
2-Methylphenol	BQL	0.005	1	5/28/2010
3- & 4-Methylphenol	BQL	0.005	1	5/28/2010
Naphthalene	BQL	0.005	1	5/28/2010
2-Nitroaniline	BQL	0.005	1	5/28/2010
3-Nitroaniline	BQL	0.026	1	5/28/2010
4-Nitroaniline	BQL	0.026	1	5/28/2010
Nitrobenzene	BQL	0.005	1	5/28/2010
2-Nitrophenol	BQL	0.005	1	5/28/2010
4-Nitrophenol	BQL	0.026	1	5/28/2010
N-Nitrosodi-n-propylamine	BQL	0.005	1	5/28/2010
Pentachlorophenol	BQL	0.026	1	5/28/2010
Phenanthrene	BQL	0.005	1	5/28/2010
Phenol	BQL	0.005	1	5/28/2010
Pyrene	BQL	0.005	1	5/28/2010
1,2,4-Trichlorobenzene	BQL	0.005	1	5/28/2010
2,4,5-Trichlorophenol	BQL	0.005	1	5/28/2010
2,4,6-Trichlorophenol	BQL	0.005	1	5/28/2010

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.2	72
2-Fluorophenol	10	6.2	62
Nitrobenzene-d5	10	7	70
Phenol-d6	10	7	70
2,4,6-Tribromophenol	10	9.7	97
4-Terphenyl-d14	10	8.2	82

Comments:
* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:
BQL = Below Quantitation Limits.

Reviewed By: CW

Results for Semivolatiles
by GCMS 8270

Client Sample ID: EB
Client Project ID: UNC
Lab Sample ID: G1037-76-5G
Lab Project ID: G1037-76

Initial Volume: 951 mL

Analyzed By: DCS
Date Collected: 5/25/2010 12:35
Date Received: 5/26/2010
Date Extracted: 5/26/2010
Matrix: Water

Compound	Result mg/L	RL mg/L	Dilution Factor	Date Analyzed
Acenaphthene	BQL	0.005	1	5/28/2010
Acenaphthylene	BQL	0.005	1	5/28/2010
Anthracene	BQL	0.005	1	5/28/2010
Benzo[a]anthracene	BQL	0.005	1	5/28/2010
Benzo[a]pyrene	BQL	0.005	1	5/28/2010
Benzo[b]fluoranthene	BQL	0.005	1	5/28/2010
Benzo[g,h,i]perylene	BQL	0.005	1	5/28/2010
Benzo[k]fluoranthene	BQL	0.005	1	5/28/2010
Benzoic Acid	BQL	0.026	1	5/28/2010
Bis(2-chloroethoxy)methane	BQL	0.005	1	5/28/2010
Bis(2-chloroethyl)ether	BQL	0.005	1	5/28/2010
Bis(2-chloroisopropyl)ether	BQL	0.005	1	5/28/2010
Bis(2-ethylhexyl)phthalate	BQL	0.005	1	5/28/2010
4-bromophenyl phenyl ether	BQL	0.005	1	5/28/2010
Butylbenzylphthalate	BQL	0.005	1	5/28/2010
2-Chloronaphthalene	BQL	0.005	1	5/28/2010
2-Chlorophenol	BQL	0.005	1	5/28/2010
4-Chloro-3-methylphenol	BQL	0.005	1	5/28/2010
4-Chloroaniline	BQL	0.026	1	5/28/2010
4-Chlorophenyl phenyl ether	BQL	0.005	1	5/28/2010
Chrysene	BQL	0.005	1	5/28/2010
Dibenzo[a,h]anthracene	BQL	0.005	1	5/28/2010
Dibenzofuran	BQL	0.005	1	5/28/2010
Di-n-Butylphthalate	BQL	0.005	1	5/28/2010
1,2-Dichlorobenzene	BQL	0.005	1	5/28/2010
1,3-Dichlorobenzene	BQL	0.005	1	5/28/2010
1,4-Dichlorobenzene	BQL	0.005	1	5/28/2010
3,3'-Dichlorobenzidine	BQL	0.011	1	5/28/2010
2,4-Dichlorophenol	BQL	0.005	1	5/28/2010
Diethylphthalate	BQL	0.005	1	5/28/2010
Dimethylphthalate	BQL	0.005	1	5/28/2010
2,4-Dimethylphenol	BQL	0.005	1	5/28/2010
Di-n-octylphthalate	BQL	0.005	1	5/28/2010
4,6-Dinitro-2-methylphenol	BQL	0.026	1	5/28/2010
2,4-Dinitrophenol	BQL	0.026	1	5/28/2010
2,4-Dinitrotoluene	BQL	0.005	1	5/28/2010
2,6-Dinitrotoluene	BQL	0.005	1	5/28/2010
Diphenylamine *	BQL	0.005	1	5/28/2010
Fluoranthene	BQL	0.005	1	5/28/2010
Fluorene	BQL	0.005	1	5/28/2010
Hexachlorobenzene	BQL	0.005	1	5/28/2010
Hexachlorobutadiene	BQL	0.005	1	5/28/2010
Hexachlorocyclopentadiene	BQL	0.011	1	5/28/2010
Hexachloroethane	BQL	0.005	1	5/28/2010
Indeno(1,2,3-c,d)pyrene	BQL	0.005	1	5/28/2010
Isophorone	BQL	0.005	1	5/28/2010
2-Methylnaphthalene	BQL	0.005	1	5/28/2010

Results for Semivolatiles
by GCMS 8270

Client Sample ID: EB
Client Project ID: UNC
Lab Sample ID: G1037-76-5G
Lab Project ID: G1037-76

Initial Volume: 951 mL

Analyzed By: DCS
Date Collected: 5/25/2010 12:35
Date Received: 5/26/2010
Date Extracted: 5/26/2010
Matrix: Water

Compound	Result mg/L	RL mg/L	Dilution Factor	Date Analyzed
2-Methylphenol	BQL	0.005	1	5/28/2010
3- & 4-Methylphenol	BQL	0.005	1	5/28/2010
Naphthalene	BQL	0.005	1	5/28/2010
2-Nitroaniline	BQL	0.005	1	5/28/2010
3-Nitroaniline	BQL	0.026	1	5/28/2010
4-Nitroaniline	BQL	0.026	1	5/28/2010
Nitrobenzene	BQL	0.005	1	5/28/2010
2-Nitrophenol	BQL	0.005	1	5/28/2010
4-Nitrophenol	BQL	0.026	1	5/28/2010
N-Nitrosodi-n-propylamine	BQL	0.005	1	5/28/2010
Pentachlorophenol	BQL	0.026	1	5/28/2010
Phenanthrene	BQL	0.005	1	5/28/2010
Phenol	BQL	0.005	1	5/28/2010
Pyrene	BQL	0.005	1	5/28/2010
1,2,4-Trichlorobenzene	BQL	0.005	1	5/28/2010
2,4,5-Trichlorophenol	BQL	0.005	1	5/28/2010
2,4,6-Trichlorophenol	BQL	0.005	1	5/28/2010

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.4	74
2-Fluorophenol	10	7	70
Nitrobenzene-d5	10	7.1	71
Phenol-d6	10	7.3	73
2,4,6-Tribromophenol	10	8.5	85
4-Terphenyl-d14	10	8.7	87

Comments:
* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:
BQL = Below Quantitation Limits.

Reviewed By: CWD

Results for Semivolatiles
by GCMS 8270

Client Sample ID: FB
Client Project ID: UNC
Lab Sample ID: G1037-76-6G
Lab Project ID: G1037-76

Initial Volume: 954 mL

Analyzed By: DCS
Date Collected: 5/25/2010 12:45
Date Received: 5/26/2010
Date Extracted: 5/26/2010
Matrix: Water

Compound	Result mg/L	RL mg/L	Dilution Factor	Date Analyzed
Acenaphthene	BQL	0.005	1	5/28/2010
Acenaphthylene	BQL	0.005	1	5/28/2010
Anthracene	BQL	0.005	1	5/28/2010
Benzo[a]anthracene	BQL	0.005	1	5/28/2010
Benzo[a]pyrene	BQL	0.005	1	5/28/2010
Benzo[b]fluoranthene	BQL	0.005	1	5/28/2010
Benzo[g,h,i]perylene	BQL	0.005	1	5/28/2010
Benzo[k]fluoranthene	BQL	0.005	1	5/28/2010
Benzoic Acid	BQL	0.026	1	5/28/2010
Bis(2-chloroethoxy)methane	BQL	0.005	1	5/28/2010
Bis(2-chloroethyl)ether	BQL	0.005	1	5/28/2010
Bis(2-chloroisopropyl)ether	BQL	0.005	1	5/28/2010
Bis(2-ethylhexyl)phthalate	BQL	0.005	1	5/28/2010
4-bromophenyl phenyl ether	BQL	0.005	1	5/28/2010
Butylbenzylphthalate	BQL	0.005	1	5/28/2010
2-Chloronaphthalene	BQL	0.005	1	5/28/2010
2-Chlorophenol	BQL	0.005	1	5/28/2010
4-Chloro-3-methylphenol	BQL	0.005	1	5/28/2010
4-Chloroaniline	BQL	0.026	1	5/28/2010
4-Chlorophenyl phenyl ether	BQL	0.005	1	5/28/2010
Chrysene	BQL	0.005	1	5/28/2010
Dibenzo[a,h]anthracene	BQL	0.005	1	5/28/2010
Dibenzofuran	BQL	0.005	1	5/28/2010
Di-n-Butylphthalate	BQL	0.005	1	5/28/2010
1,2-Dichlorobenzene	BQL	0.005	1	5/28/2010
1,3-Dichlorobenzene	BQL	0.005	1	5/28/2010
1,4-Dichlorobenzene	BQL	0.005	1	5/28/2010
3,3'-Dichlorobenzidine	BQL	0.011	1	5/28/2010
2,4-Dichlorophenol	BQL	0.005	1	5/28/2010
Diethylphthalate	BQL	0.005	1	5/28/2010
Dimethylphthalate	BQL	0.005	1	5/28/2010
2,4-Dimethylphenol	BQL	0.005	1	5/28/2010
Di-n-octylphthalate	BQL	0.005	1	5/28/2010
4,6-Dinitro-2-methylphenol	BQL	0.026	1	5/28/2010
2,4-Dinitrophenol	BQL	0.026	1	5/28/2010
2,4-Dinitrotoluene	BQL	0.005	1	5/28/2010
2,6-Dinitrotoluene	BQL	0.005	1	5/28/2010
Diphenylamine *	BQL	0.005	1	5/28/2010
Fluoranthene	BQL	0.005	1	5/28/2010
Fluorene	BQL	0.005	1	5/28/2010
Hexachlorobenzene	BQL	0.005	1	5/28/2010
Hexachlorobutadiene	BQL	0.005	1	5/28/2010
Hexachlorocyclopentadiene	BQL	0.011	1	5/28/2010
Hexachloroethane	BQL	0.005	1	5/28/2010
Indeno(1,2,3-c,d)pyrene	BQL	0.005	1	5/28/2010
Isophorone	BQL	0.005	1	5/28/2010
2-Methylnaphthalene	BQL	0.005	1	5/28/2010

Results for Semivolatiles
by GCMS 8270

Client Sample ID: FB
Client Project ID: UNC
Lab Sample ID: G1037-76-6G
Lab Project ID: G1037-76

Initial Volume: 954 mL

Analyzed By: DCS
Date Collected: 5/25/2010 12:45
Date Received: 5/26/2010
Date Extracted: 5/26/2010
Matrix: Water

Compound	Result mg/L	RL mg/L	Dilution Factor	Date Analyzed
2-Methylphenol	BQL	0.005	1	5/28/2010
3- & 4-Methylphenol	BQL	0.005	1	5/28/2010
Naphthalene	BQL	0.005	1	5/28/2010
2-Nitroaniline	BQL	0.005	1	5/28/2010
3-Nitroaniline	BQL	0.026	1	5/28/2010
4-Nitroaniline	BQL	0.026	1	5/28/2010
Nitrobenzene	BQL	0.005	1	5/28/2010
2-Nitrophenol	BQL	0.005	1	5/28/2010
4-Nitrophenol	BQL	0.026	1	5/28/2010
N-Nitrosodi-n-propylamine	BQL	0.005	1	5/28/2010
Pentachlorophenol	BQL	0.026	1	5/28/2010
Phenanthrene	BQL	0.005	1	5/28/2010
Phenol	BQL	0.005	1	5/28/2010
Pyrene	BQL	0.005	1	5/28/2010
1,2,4-Trichlorobenzene	BQL	0.005	1	5/28/2010
2,4,5-Trichlorophenol	BQL	0.005	1	5/28/2010
2,4,6-Trichlorophenol	BQL	0.005	1	5/28/2010

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.3	73
2-Fluorophenol	10	6.3	63
Nitrobenzene-d5	10	7	70
Phenol-d6	10	7.1	71
2,4,6-Tribromophenol	10	8.3	83
4-Terphenyl-d14	10	9.3	93

Comments:
* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:
BQL = Below Quantitation Limits.

Reviewed By: _____

Results for Semivolatiles
by GCMS 8270

Client Sample ID: MW-1
Client Project ID: UNC
Lab Sample ID: G1037-76-7G
Lab Project ID: G1037-76

Initial Volume: 960 mL

Analyzed By: DCS
Date Collected: 5/25/2010 13:20
Date Received: 5/26/2010
Date Extracted: 5/26/2010
Matrix: Water

Compound	Result mg/L	RL mg/L	Dilution Factor	Date Analyzed
Acenaphthene	BQL	0.005	1	5/28/2010
Acenaphthylene	BQL	0.005	1	5/28/2010
Anthracene	BQL	0.005	1	5/28/2010
Benzo[a]anthracene	BQL	0.005	1	5/28/2010
Benzo[a]pyrene	BQL	0.005	1	5/28/2010
Benzo[b]fluoranthene	BQL	0.005	1	5/28/2010
Benzo[g,h,i]perylene	BQL	0.005	1	5/28/2010
Benzo[k]fluoranthene	BQL	0.005	1	5/28/2010
Benzoic Acid	BQL	0.026	1	5/28/2010
Bis(2-chloroethoxy)methane	BQL	0.005	1	5/28/2010
Bis(2-chloroethyl)ether	BQL	0.005	1	5/28/2010
Bis(2-chloroisopropyl)ether	BQL	0.005	1	5/28/2010
Bis(2-ethylhexyl)phthalate	BQL	0.005	1	5/28/2010
4-bromophenyl phenyl ether	BQL	0.005	1	5/28/2010
Butylbenzylphthalate	BQL	0.005	1	5/28/2010
2-Chloronaphthalene	BQL	0.005	1	5/28/2010
2-Chlorophenol	BQL	0.005	1	5/28/2010
4-Chloro-3-methylphenol	BQL	0.005	1	5/28/2010
4-Chloroaniline	BQL	0.026	1	5/28/2010
4-Chlorophenyl phenyl ether	BQL	0.005	1	5/28/2010
Chrysene	BQL	0.005	1	5/28/2010
Dibenzo[a,h]anthracene	BQL	0.005	1	5/28/2010
Dibenzofuran	BQL	0.005	1	5/28/2010
Di-n-Butylphthalate	BQL	0.005	1	5/28/2010
1,2-Dichlorobenzene	BQL	0.005	1	5/28/2010
1,3-Dichlorobenzene	BQL	0.005	1	5/28/2010
1,4-Dichlorobenzene	BQL	0.005	1	5/28/2010
3,3'-Dichlorobenzidine	BQL	0.010	1	5/28/2010
2,4-Dichlorophenol	BQL	0.005	1	5/28/2010
Diethylphthalate	BQL	0.005	1	5/28/2010
Dimethylphthalate	BQL	0.005	1	5/28/2010
2,4-Dimethylphenol	BQL	0.005	1	5/28/2010
Di-n-octylphthalate	BQL	0.005	1	5/28/2010
4,6-Dinitro-2-methylphenol	BQL	0.026	1	5/28/2010
2,4-Dinitrophenol	BQL	0.026	1	5/28/2010
2,4-Dinitrotoluene	BQL	0.005	1	5/28/2010
2,6-Dinitrotoluene	BQL	0.005	1	5/28/2010
Diphenylamine *	BQL	0.005	1	5/28/2010
Fluoranthene	BQL	0.005	1	5/28/2010
Fluorene	BQL	0.005	1	5/28/2010
Hexachlorobenzene	BQL	0.005	1	5/28/2010
Hexachlorobutadiene	BQL	0.005	1	5/28/2010
Hexachlorocyclopentadiene	BQL	0.010	1	5/28/2010
Hexachloroethane	BQL	0.005	1	5/28/2010
Indeno(1,2,3-c,d)pyrene	BQL	0.005	1	5/28/2010
Isophorone	BQL	0.005	1	5/28/2010
2-Methylnaphthalene	BQL	0.005	1	5/28/2010

Results for Semivolatiles
by GCMS 8270

Client Sample ID: MW-1
Client Project ID: UNC
Lab Sample ID: G1037-76-7G
Lab Project ID: G1037-76

Initial Volume: 960 mL

Analyzed By: DCS
Date Collected: 5/25/2010 13:20
Date Received: 5/26/2010
Date Extracted: 5/26/2010
Matrix: Water

Compound	Result mg/L	RL mg/L	Dilution Factor	Date Analyzed
2-Methylphenol	BQL	0.005	1	5/28/2010
3- & 4-Methylphenol	BQL	0.005	1	5/28/2010
Naphthalene	BQL	0.005	1	5/28/2010
2-Nitroaniline	BQL	0.005	1	5/28/2010
3-Nitroaniline	BQL	0.026	1	5/28/2010
4-Nitroaniline	BQL	0.026	1	5/28/2010
Nitrobenzene	BQL	0.005	1	5/28/2010
2-Nitrophenol	BQL	0.005	1	5/28/2010
4-Nitrophenol	BQL	0.026	1	5/28/2010
N-Nitrosodi-n-propylamine	BQL	0.005	1	5/28/2010
Pentachlorophenol	BQL	0.026	1	5/28/2010
Phenanthrene	BQL	0.005	1	5/28/2010
Phenol	BQL	0.005	1	5/28/2010
Pyrene	BQL	0.005	1	5/28/2010
1,2,4-Trichlorobenzene	BQL	0.005	1	5/28/2010
2,4,5-Trichlorophenol	BQL	0.005	1	5/28/2010
2,4,6-Trichlorophenol	BQL	0.005	1	5/28/2010

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.3	73
2-Fluorophenol	10	6.7	67
Nitrobenzene-d5	10	7	70
Phenol-d6	10	7.2	72
2,4,6-Tribromophenol	10	8.6	86
4-Terphenyl-d14	10	9.2	92

Comments:
* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:
BQL = Below Quantitation Limits.

Reviewed By: DJA

SGS Environmental Services, Inc.

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SGS Environmental Services, Inc Lab Code: NC00919

	EPA Sample No.:	Filenames:	Date Analyzed	Inst: MSD6
Sample:	G1037-76-3G	0528631.D	2010-05-28 19:08:00	Batch: 6052810
MS:	G1037-76-9G	0528636.D	2010-05-28 21:08:00	Dilution: 1
MSD:	G1037-76-10G	0528637.D	2010-05-28 21:31:00	

COMPOUND	SAMPLE CONC (µg/L)	MS SPIKE (µg/L)	MS CONC (µg/L)	MS % REC #	MSD SPIKE (µg/L)	MSD CONC (µg/L)	MSD % REC #	% RPD	QC LIMITS RPD	QC LIMITS REC
Acenaphthene	BQL	51.1	35.6	69.6	51.0	38.8	76.1	8.92	30	55.0-106
Acenaphthylene	BQL	51.1	37.5	73.4	51.0	41.0	80.4	9.10	30	62.0-119
Anthracene	BQL	51.1	33.5	65.6	51.0	37.7	73.9	11.9	30	44.0-96.0
Benzo[a]anthracene	BQL	51.1	37.2	72.8	51.0	42.4	83.2	13.3	30	50.0-109
Benzo[a]pyrene	BQL	51.1	37.2	72.8	51.0	42.8	83.9	14.2	30	39.0-100
Benzo[b]fluoranthene	BQL	51.1	35.8	70.0	51.0	40.4	79.2	12.3	30	34.0-105
Benzo[g,h,i]perylene	BQL	51.1	41.3	80.7	51.0	46.7	91.6	12.7	30	36.0-116
Benzo[k]fluoranthene	BQL	51.1	36.0	70.5	51.0	41.2	80.8	13.6	30	26.0-120
Benzoic Acid	BQL	51.1	49.3	96.5	51.0	56.5	111*	13.7	30	44.0-107
Benzyl Alcohol	BQL	51.1	35.0	68.4	51.0	37.9	74.2	8.13	30	62.0-104
Bis(2-chloroethoxy)methane	BQL	51.1	36.9	72.1	51.0	40.8	80.0	10.4	30	58.0-101
Bis(2-chloroethyl)ether	BQL	51.1	36.2	70.9	51.0	39.4	77.3	8.64	30	47.0-93.0
Bis(2-chloroisopropyl)ether	BQL	51.1	26.6	52.0*	51.0	28.7	56.2*	7.76	30	58.0-100
Bis(2-ethylhexyl)phthalate	BQL	51.1	37.7	73.8	51.0	41.7	81.8	10.3	30	46.0-131
4-bromophenyl phenyl ether	BQL	51.1	37.5	73.3	51.0	42.6	83.5	13.0	30	36.0-112
Butylbenzylphthalate	BQL	51.1	38.0	74.3	51.0	41.6	81.6	9.36	30	54.0-117
4-Chloroaniline	BQL	51.1	25.9	50.7	51.0	27.6	54.1	6.49	30	12.0-198
4-Chloro-3-methylphenol	BQL	51.1	38.2	74.7	51.0	42.7	83.7	11.4	30	67.0-109
2-Chloronaphthalene	BQL	51.1	29.0	56.7	51.0	31.9	62.6	9.89	30	54.0-105
2-Chlorophenol	BQL	51.1	35.1	68.7	51.0	38.3	75.0	8.77	30	59.0-95.0
4-Chlorophenyl phenyl ether	BQL	51.1	36.6	71.5	51.0	39.8	78.0	8.70	30	51.0-114
Chrysene	BQL	51.1	35.7	69.9	51.0	39.8	78.1	11.1	30	52.0-114
Di-n-Butylphthalate	BQL	51.1	37.2	72.7	51.0	42.6	83.5	13.8	30	53.0-111
Di-n-octylphthalate	BQL	51.1	39.4	77.1	51.0	44.0	86.2	11.1	30	22.0-113
Dibenzo[a,h]anthracene	BQL	51.1	40.3	78.8	51.0	45.2	88.5	11.6	30	33.0-117
Dibenzofuran	BQL	51.1	36.6	71.5	51.0	40.3	78.9	9.84	30	62.0-108
1,2-Dichlorobenzene	BQL	51.1	26.6	52.0	51.0	29.0	56.8	8.82	30	31.0-93.0
1,3-Dichlorobenzene	BQL	51.1	24.2	47.3	51.0	26.8	52.6	10.6	30	25.0-87.0
1,4-Dichlorobenzene	BQL	51.1	25.2	49.2	51.0	27.4	53.8	8.93	30	29.0-86.0
3,3'-Dichlorobenzidine	BQL	51.1	0.00	0.00*	51.0	0.867	1.70*	200*	30	10.0-383
2,4-Dichlorophenol	BQL	51.1	39.2	76.7	51.0	43.6	85.5	10.9	30	61.0-97.0
Diethylphthalate	BQL	51.1	37.7	73.8	51.0	41.1	80.5	8.68	30	65.0-102
2,4-Dimethylphenol	BQL	51.1	37.1	72.5	51.0	41.6	81.6	11.8	30	29.0-110
Dimethylphthalate	BQL	51.1	38.6	75.5	51.0	41.8	82.0	8.25	30	61.0-100
4,6-Dinitro-2-methylphenol	BQL	51.1	38.8	75.9	51.0	43.4	85.0	11.3	30	46.0-104
2,4-Dinitrophenol	BQL	51.1	39.8	77.8	51.0	45.9	90.0	14.5	30	47.0-109
2,4-Dinitrotoluene	BQL	51.1	39.1	76.4	51.0	42.9	84.0	9.48	30	63.0-103
2,6-Dinitrotoluene	BQL	51.1	40.2	78.6	51.0	44.1	86.4	9.45	30	61.0-101
Fluoranthene	BQL	51.1	38.0	74.3	51.0	42.2	82.8	10.8	30	49.0-109
Fluorene	BQL	51.1	36.1	70.6	51.0	39.2	76.9	8.54	30	58.0-108
Hexachlorobenzene	BQL	51.1	33.0	64.5	51.0	36.1	70.7	9.17	30	38.0-114

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

* Values outside of QC limits

COMMENTS: _____

SGS Environmental Services, Inc.

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SGS Environmental Services, Inc.

Lab Code: NC00919 Inst: MSD6

EPA Sample No.: G1037-76-3G, G1037-76-9G, G1037-76-10G Batch: 6052810

Filenames: 0528631.D, 0528636.D, 0528637.D Dilution: 1

COMPOUND	SAMPLE CONC (µg/L)	MS SPIKE (µg/L)	MS CONC (µg/L)	MS % REC #	MSD SPIKE (µg/L)	MSD CONC (µg/L)	MSD % REC #	% RPD	QC LIMITS RPD	QC LIMITS REC
Hexachlorobutadiene	BQL	51.1	28.3	55.4	51.0	32.2	63.1	13.0	30	26.0-95.0
Hexachlorocyclopentadiene	BQL	51.1	19.7	38.6	51.0	25.7	50.3	26.3	30	10.0-113
Hexachloroethane	BQL	51.1	20.2	39.6	51.0	22.9	44.9	12.5	30	15.0-96.0
Indeno(1,2,3-c,d)pyrene	BQL	51.1	40.1	78.5	51.0	45.1	88.4	11.9	30	34.0-111
Isophorone	BQL	51.1	35.1	68.7	51.0	38.4	75.3	9.17	30	65.0-112
1-Methylnaphthalene	BQL	51.1	33.4	65.4	51.0	36.8	72.2	9.88	30	48.0-121
2-Methylnaphthalene	BQL	51.1	35.7	69.8	51.0	39.6	77.6	10.6	30	45.0-121
2-Methylphenol	BQL	51.1	34.5	67.5	51.0	37.8	74.1	9.32	30	62.0-99.0
4-Methylphenol	BQL	102	69.9	68.3	102	75.4	73.9	7.80	30	51.0-102
N-Nitrosodi-n-propylamine	BQL	51.1	28.7	56.1*	51.0	31.3	61.4*	9.02	30	67.0-107
Diphenylamine	BQL	51.1	34.5	67.4	51.0	38.6	75.6	11.5	30	24.0-114
Naphthalene	BQL	51.1	34.2	66.8	51.0	37.3	73.2	9.14	30	25.0-131
2-Nitroaniline	BQL	51.1	29.3	57.3	51.0	32.4	63.6	10.4	30	54.0-135
3-Nitroaniline	BQL	51.1	29.2	57.2	51.0	32.3	63.4	10.3	30	10.0-594
4-Nitroaniline	BQL	51.1	36.8	71.9	51.0	39.9	78.2	8.39	30	30.0-153
Nitrobenzene	BQL	51.1	34.3	67.0	51.0	38.1	74.6	10.7	30	57.0-98.0
2-Nitrophenol	BQL	51.1	38.3	74.9	51.0	41.9	82.2	9.29	30	50.0-97.0
4-Nitrophenol	BQL	51.1	33.4	65.3	51.0	38.8	76.0	15.1	30	49.0-146
Pentachlorophenol	BQL	51.1	43.9	85.8	51.0	48.9	95.8	11.0	30	43.0-106
Phenanthrene	BQL	51.1	37.5	73.4	51.0	41.3	81.0	9.84	30	53.0-108
Phenol	BQL	51.1	34.5	67.5	51.0	37.1	72.8	7.56	30	61.0-100
Pyrene	BQL	51.1	39.1	76.5	51.0	43.3	84.9	10.4	30	41.0-123
Pyridine	BQL	51.1	25.1	49.1*	51.0	24.8	48.6*	1.02	30	50.0-150
1,2,4-Trichlorobenzene	BQL	51.1	31.3	61.2	51.0	35.2	69.0	12.0	30	41.0-96.0
2,4,5-Trichlorophenol	BQL	51.1	39.1	76.4	51.0	43.6	85.5	11.2	30	62.0-100
2,4,6-Trichlorophenol	BQL	51.1	41.3	80.7	51.0	44.6	87.4	7.97	30	61.0-96.0

System Monitoring Compound Results		Spike Added (µg/kg)	MS Result (µg/kg)	MS Rec. (%)	Spike Added (µg/kg)	MSD Result (µg/kg)	MSD Rec. (%)	Percent Recovery (%)
118-79-6	2,4,6-Tribromophenol	10	96.5	96.5	10	97.8	97.8	29.3-152
321-60-8	2-Fluorobiphenyl	10	73.1	73.1	10	74.6	74.6	61.0-112
367-12-4	2-Fluorophenol	10	66.3	66.3	10	66.4	66.4	33.1-118
1718-51-0	4-Terphenyl-d14	10	80.7	80.7	10	95.2	95.2	22.1-142
4165-60-0	Nitrobenzene-d5	10	69.7	69.7	10	72	72.0	46.0-118
13127-88-3	Phenol-d6	10	70.6	70.6	10	71.1	71.1	49.0-120

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

* Values outside of QC limits

MS Spike Recovery: 4 out of 67 outside of limits. MSD Spike Recovery: 5 out of 67 outside of limits

RPD: 1 out of 67 outside of limits

COMMENTS: _____

_____

Analyst: _____

Results for Metals

Client Sample ID:	MW-8			Analyzed By:	PSW
Client Project ID:	UNC			Date Collected:	5/25/2010 10:48
Lab Sample ID:	G1037-76-1			Date Received:	5/26/2010
Lab Project ID:	G1037-76			Matrix:	WATER
ICP InitWt/Vol:	50 mL	Final Vol:	50 mL		
Hg InitWt/Vol:	40 mL	Final Vol:	57 mL		
Prep Batch:	16717 16723				

Metals	Result	RL	DF	Units	Method	Date Analyzed
Arsenic	BQL	0.0100	1	MG/L	6010C	6/4/2010
Barium	BQL	0.100	1	MG/L	6010C	6/4/2010
Cadmium	BQL	0.0100	1	MG/L	6010C	6/4/2010
Chromium	BQL	0.0100	1	MG/L	6010C	6/4/2010
Lead	BQL	0.0100	1	MG/L	6010C	6/4/2010
Mercury	BQL	0.000285	1	MG/L	7470	6/2/2010
Selenium	BQL	0.0200	1	MG/L	6010C	6/4/2010
Silver	BQL	0.0100	1	MG/L	6010C	6/4/2010

Comments
BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: _____
METALS.XLS

Results for Metals

Client Sample ID:	MW-7	Analyzed By:	PSW
Client Project ID:	UNC	Date Collected:	5/25/2010 11:25
Lab Sample ID:	G1037-76-2	Date Received:	5/26/2010
Lab Project ID:	G1037-76	Matrix:	WATER
ICP InitWt/Vol:	50 mL Final Vol: 50 mL		
Hg InitWt/Vol:	40 mL Final Vol: 57 mL		
Prep Batch:	16717 16723		

Metals	Result	RL	DF	Units	Method	Date Analyzed
Arsenic	BQL	0.0100	1	MG/L	6010C	6/4/2010
Barium	BQL	0.100	1	MG/L	6010C	6/4/2010
Cadmium	BQL	0.0100	1	MG/L	6010C	6/4/2010
Chromium	BQL	0.0100	1	MG/L	6010C	6/4/2010
Lead	BQL	0.0100	1	MG/L	6010C	6/4/2010
Mercury	BQL	0.000285	1	MG/L	7470	6/2/2010
Selenium	BQL	0.0200	1	MG/L	6010C	6/4/2010
Silver	BQL	0.0100	1	MG/L	6010C	6/4/2010

Comments
BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: _____
METALS.XLS

Results for Metals

Client Sample ID:	MW-5	Analyzed By:	PSW
Client Project ID:	UNC	Date Collected:	5/25/2010 12:05
Lab Sample ID:	G1037-76-3	Date Received:	5/26/2010
Lab Project ID:	G1037-76	Matrix:	WATER
ICP InitWt/Vol:	50 mL Final Vol: 50 mL		
Hg InitWt/Vol:	40 mL Final Vol: 57 mL		
Prep Batch:	16717 16723		

Metals	Result	RL	DF	Units	Method	Date Analyzed
Arsenic	BQL	0.0100	1	MG/L	6010C	6/4/2010
Barium	BQL	0.100	1	MG/L	6010C	6/4/2010
Cadmium	BQL	0.0100	1	MG/L	6010C	6/4/2010
Chromium	**0.0420**	0.0100	1	MG/L	6010C	6/4/2010
Lead	**0.0104**	0.0100	1	MG/L	6010C	6/4/2010
Mercury	**0.00119**	0.000285	1	MG/L	7470	6/2/2010
Selenium	BQL	0.0200	1	MG/L	6010C	6/4/2010
Silver	BQL	0.0100	1	MG/L	6010C	6/4/2010

Comments
BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: _____
METALS.XLS

Results for Metals

Client Sample ID:	MW-5a	Analyzed By:	PSW
Client Project ID:	UNC	Date Collected:	5/25/2010 12:05
Lab Sample ID:	G1037-76-4	Date Received:	5/26/2010
Lab Project ID:	G1037-76	Matrix:	WATER
ICP InitWt/Vol:	50 mL Final Vol: 50 mL		
Hg InitWt/Vol:	40 mL Final Vol: 57 mL		
Prep Batch:	16717 16723		

Metals	Result	RL	DF	Units	Method	Date Analyzed
Arsenic	BQL	0.0100	1	MG/L	6010C	6/4/2010
Barium	BQL	0.100	1	MG/L	6010C	6/4/2010
Cadmium	BQL	0.0100	1	MG/L	6010C	6/4/2010
Chromium	**0.0146**	0.0100	1	MG/L	6010C	6/4/2010
Lead	BQL	0.0100	1	MG/L	6010C	6/4/2010
Mercury	**0.000445**	0.000285	1	MG/L	7470	6/2/2010
Selenium	BQL	0.0200	1	MG/L	6010C	6/4/2010
Silver	BQL	0.0100	1	MG/L	6010C	6/4/2010

Comments
BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: CW
METALS.XLS

Results for Metals

Client Sample ID:	EB	Analyzed By:	PSW
Client Project ID:	UNC	Date Collected:	5/25/2010 12:35
Lab Sample ID:	G1037-76-5	Date Received:	5/26/2010
Lab Project ID:	G1037-76	Matrix:	WATER
ICP InitWt/Vol:	50 mL Final Vol: 50 mL		
Hg InitWt/Vol:	40 mL Final Vol: 57 mL		
Prep Batch:	16717 16723		

Metals	Result	RL	DF	Units	Method	Date Analyzed
Arsenic	BQL	0.0100	1	MG/L	6010C	6/4/2010
Barium	BQL	0.100	1	MG/L	6010C	6/4/2010
Cadmium	BQL	0.0100	1	MG/L	6010C	6/4/2010
Chromium	BQL	0.0100	1	MG/L	6010C	6/4/2010
Lead	BQL	0.0100	1	MG/L	6010C	6/4/2010
Mercury	BQL	0.000285	1	MG/L	7470	6/2/2010
Selenium	BQL	0.0200	1	MG/L	6010C	6/4/2010
Silver	BQL	0.0100	1	MG/L	6010C	6/4/2010

Comments
BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: _____
METALS.XLS

Results for Metals

Client Sample ID:	FB	Analyzed By:	PSW
Client Project ID:	UNC	Date Collected:	5/25/2010 12:45
Lab Sample ID:	G1037-76-6	Date Received:	5/26/2010
Lab Project ID:	G1037-76	Matrix:	WATER
ICP InitWt/Vol:	50 mL Final Vol: 50 mL		
Hg InitWt/Vol:	40 mL Final Vol: 57 mL		
Prep Batch:	16717 16723		

Metals	Result	RL	DF	Units	Method	Date Analyzed
Arsenic	BQL	0.0100	1	MG/L	6010C	6/4/2010
Barium	BQL	0.100	1	MG/L	6010C	6/4/2010
Cadmium	BQL	0.0100	1	MG/L	6010C	6/4/2010
Chromium	BQL	0.0100	1	MG/L	6010C	6/4/2010
Lead	BQL	0.0100	1	MG/L	6010C	6/4/2010
Mercury	BQL	0.000285	1	MG/L	7470	6/2/2010
Selenium	BQL	0.0200	1	MG/L	6010C	6/4/2010
Silver	BQL	0.0100	1	MG/L	6010C	6/4/2010

Comments
BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By:
METALS.XLS

Results for Metals

Client Sample ID:	MW-1	Analyzed By:	PSW
Client Project ID:	UNC	Date Collected:	5/25/2010 13:20
Lab Sample ID:	G1037-76-7	Date Received:	5/26/2010
Lab Project ID:	G1037-76	Matrix:	WATER
ICP InitWt/Vol:	50 mL Final Vol: 50 mL		
Hg InitWt/Vol:	40 mL Final Vol: 57 mL		
Prep Batch:	16717 16723		

Metals	Result	RL	DF	Units	Method	Date Analyzed
Arsenic	BQL	0.0100	1	MG/L	6010C	6/4/2010
Barium	BQL	0.100	1	MG/L	6010C	6/4/2010
Cadmium	BQL	0.0100	1	MG/L	6010C	6/4/2010
Chromium	**0.0150**	0.0100	1	MG/L	6010C	6/4/2010
Lead	BQL	0.0100	1	MG/L	6010C	6/4/2010
Mercury	BQL	0.000285	1	MG/L	7470	6/2/2010
Selenium	BQL	0.0200	1	MG/L	6010C	6/4/2010
Silver	BQL	0.0100	1	MG/L	6010C	6/4/2010

Comments
BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: METALS.XLS

METALS Results for LCS/LCD

ICP Batch: 16723
HG Batch: 16717
Other:

Matrix: WATER
Units: MG/L

Analyte	TRUE Value	LCS	LCS %REC	LCD	LCD %REC	Limit Lower	Limit Upper	RPD	RPD Limit
Arsenic	0.400	0.417	104	0.419	105	80	120	0.478	20
Barium	2.00	2.05	103	2.08	104	80	120	1.45	20
Cadmium	0.400	0.409	102	0.409	102	80	120	0	20
Chromium	0.400	0.414	104	0.410	103	80	120	0.971	20
Lead	0.400	0.404	101	0.408	102	80	120	0.985	20
Mercury	0.00712	0.00686	96	0.00715	100	80	120	4.14	20
Selenium	0.400	0.395	98.7	0.401	100	80	120	1.51	20
Silver	0.400	0.416	104	0.413	103	80	120	0.724	20

Comments

*=Out of Limits
NA = Not applicable, due to sample concentration greater than three times spike concentration

Reviewed By: _____

SGS North America, Inc.

MS/MSD Results for METALS

Lab ID: G1037-76-3
MS Lab ID: G1037-76-9
MSD Lab ID: G1037-76-10
ICP Batch: 16723
HG Batch: 16717
Other:

Analyzed By: PSW
Matrix: Water
Units: MG/L

Analyte	Sample Result	SA MS	MS Result	MS %REC		SA MSD	MSD Result	MSD %REC		Limit Lower	Limit Upper	RPD		RPD Limit
Arsenic	BQL	0.400	0.405	101		0.400	0.400	100		75	125	1.24		20
Barium	BQL	2.00	1.94	97.0		2.00	1.92	96.0		75	125	1.04		20
Cadmium	BQL	0.400	0.371	92.8		0.400	0.367	91.8		75	125	1.08		20
Chromium	0.042	0.400	0.392	87.5		0.400	0.399	89.3		75	125	1.77		20
Lead	0.0104	0.400	0.366	88.9		0.400	0.369	89.6		75	125	0.816		20
Mercury	0.00119	0.00712	0.00257	19.4	*	0.00712	0.00252	18.7	*	85	115	1.96		20
Selenium	BQL	0.400	0.398	99.5		0.400	0.390	97.5		75	125	2.03		20
Silver	BQL	0.400	0.406	102		0.400	0.406	102		75	125	0		20

Comments

*=Out of Limits
NA = Not applicable, due to sample concentration greater than three times spike concentration

Reviewed By:

SGS

SGS Environmental Services Inc.
CHAIN OF CUSTODY RECORD

Locations Nationwide
- Alaska
- Maryland
- New Jersey
- New York
- North Carolina
- Ohio
- West Virginia

www.us.sgs.com

(1)

CLIENT: AECOM

CONTACT: Rob Holland PHONE NO: 919 854 6241

PROJECT: UNC SITE/PWSID#:

REPORTS TO: Rob Holland EMAIL: rob.holland@aecom.com

INVOICE TO: Same QUOTE #:

P.O. #:

SGS Reference #: G1037-76

page 1 of 1

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX/ MATRIX CODE	# CONTAINERS	SAMPLE TYPE C= COMP G= GRAB MI= Multi Incremental Samples	8260	8270BNA	RCRA metals							REMARKS/ LOC ID
						Preservatives Used	HCL		HNO3							
						Analysis Required (3)										
	MW-8	5/25/10	1048	GW	6	G	3	2	1							
	MW-7	5/25/10	1125	GW	6	G	3	2	1							
	MW-5	5/25/10	1205	GW	6	G	3	2	1							
	MW-5a	5/25/10	1205	GW	6	G	3	2	1							
	MW-5 MS	5/25/10	1205	GW	6	G	3	2	1							
	MW-5 MSD	5/25/10	1205	GW	6	G	3	2	1							
	EB	5/25/10	1235	GW	6	G	3	2	1							
	FB	5/25/10	1245	GW	6	G	3	2	1							
	MW-1	5/25/10	1320	GW	6	G	3	2	1							
	Trip Blank				2		2									

(5)

Collected/Relinquished By:(1)	Date	Time	Received By:
[signature]	5/25/10	1555	[signature]
Relinquished By: (2) [signature]	Date 5/25/10	Time 1700	Received By:
Relinquished By: (3)	Date 5/26/10	Time 1015	Received By: [signature]
Relinquished By: (4)	Date	Time	Received For Laboratory By:

(4)

DOD Project? YES NO

Cooler ID _____

Special Deliverable Requirements:

Requested Turnaround Time and-or Special Instructions:
Temp. Cooler 3 5.0
Temp. Cooler 2 3.7

Samples Received Cold? (YES) NO

Temperature°C: Cooler 4.0 TB

Chain of Custody Seal: (Circle)
INTACT BROKEN (ABSENT)

N.C. Certification #481

SGS North America, Inc.

200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
550 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

http://www.sgs.com/terms and conditions.htm

White - Retained by Lab
Pink - Retained by Client