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~~September~~
October
September 30, 2011

Ms. Lori Landmeyer, Hydrogeologist
AST Petroleum Restoration & Site Environmental Investigations Section
Land Revitalization Division
Bureau of Land and Waste Management
South Carolina Department of Health & Environmental Control
2600 Bull Street
Columbia, SC 29201

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SITE ASSESSMENT,
REMEDICATION &
REVITALIZATION

Subject: Groundwater Monitoring & Response Plan
4210 Azalea Drive, Charleston, SC
Response to Your Letter Dated July 27, 2011
September 2011 Monitoring Report

Dear Ms. Landmeyer:

Enclosed is a copy of a Groundwater Monitoring & Response Plan. This report is intended to meet the reporting requirements of the Administrative Content Agreement between DHEC and Burris Environmental Services. In addition, this report provides information and a response plan to address DHEC comments provided in the July 27, 2011 review of the prior groundwater monitoring report.

Please feel free to call me if you have any questions or comments regarding analytical results. I can be reached by phone at 803-414-2905 or email at mgmuthig@gmail.com.

Sincerely,

Michael G. Muthig

cc: Steve Burris, Burris Environmental Services

BESChas\b\2011 10 31 GMRRP Transmittal

IPGX, Inc.

(ASO)

**GROUNDWATER MONITORING REPORT & RESPONSE PLAN
4210 AZALEA DRIVE
CHARLESTON, SC**

Submitted to:

**AST Petroleum Restoration & Site Environmental Investigations Section
Land Revitalization Division
Bureau of Land and Waste Management**

**S.C. Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201**

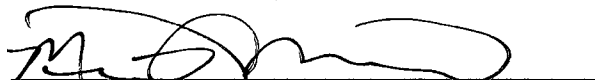
Prepared for:

**Burris Environmental Services
4310 Amsterdam Street
N. Charleston, SC 29418**

Prepared By:

**Michael G. Muthig, Ph.D., P.G.
SC Professional Geologist No. 803
IPGX, Inc.**

October 2011



Signature

10/30/2011

Date

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**SITE ASSESSMENT,
REMEDICATION &
REVITALIZATION**

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Groundwater Monitoring Report & Response Plan
4210 Azalea Drive
Charleston, SC

1.0 INTRODUCTION

Groundwater monitoring is performed semiannually from monitoring wells MW-4, 9, 10, 11, and 12. Because MW-12 contained a layer of light, non-aqueous phase liquid (lnapl), fluid levels were measured in MW-12, but samples for chemical analysis were not collected. Groundwater samples are analyzed for volatile organic compounds, and results are submitted to the SC Department of Health & Environmental Control (DHEC). This report is intended to meet the reporting requirements of the Administrative Content Agreement between DHEC and Burris Environmental Services. In addition, this report provides additional information and a response plan to address DHEC comments provided in the July 27, 2011 review of the prior groundwater monitoring report.

1.1 Site History

The 4210 Azalea Drive property is located on a 1.97 tract of land in the Stark Industrial Park in North Charleston, SC (Figure 1). The Headquarters site was previously part of a larger 10.86 acre tract that was operated as a chemical distribution facility by Burris Chemical. A chemical warehouse and distribution facility was operated on the east and north portion of the original tract of land (4200 Azalea Drive) and the Corporate Headquarters (4210 Azalea Drive) was on the southwest portion of the property. In response to a March 26, 1990 request from the South Carolina Department of Health and Environmental Control (SCDHEC), a multi-phased assessment was performed to identify the distribution of inorganic and organic compounds in soil, groundwater, and surface water in the vicinity of and below the former Burris Chemical operations. Assessment activity included a portion of the headquarters site. In 1997, the Headquarters site was separated from the larger tract and was subsequently sold to the W.M. Bird Company.

Assessment activity identified two areas with volatile organic compounds (VOCs) in soil. One area is located on adjacent operations property to the north of the Headquarters Site and is being

addressed by Southchem (the current chemical distribution operator). The other area with VOCs in soil is located east of the Headquarters building. In 1993, a corrective action plan was prepared by Burris Chemical that included two phases. Phase 1 focused on an area in the northwest portion of the operations property. Phase 2 was focused on the area between the current warehouse and the former Corporate Headquarters. Original remediation plans called for utilizing a single remediation system that would be moved from Area 1 upon completion of remediation to Area 2. As a result of revised plans for Area I remediation and changes in property ownership, a decision was made to collect additional data to develop a better understanding of site conditions and to identify potential alternatives for remediation. Additional assessment activity was performed in April 1998. The purpose of this document is to provide an updated description of site hydrogeologic conditions and to propose action for soil remediation in the eastern portion of the former Headquarters Site.

1.2 Site Layout and Historical Operations

Operation at the former Burris Chemical Site consisted of warehousing and distribution of chemicals. Historical operations included handling of drummed liquids and bagged solids; and bulk handling and repackaging of flammable and corrosive liquids. A number of facility improvements were made during the Burris operation of the site. In 1996, operations in Charleston were taken over by Southchem. The tract of land occupied by facility operations and the former headquarters was subdivided into two parcels. A brief description of the site layout (current and past facilities) is provided in the following paragraphs, and a site map showing historical site use is provided in Figure 2.

Map

Designation	Description
A	Flammable tank farm consisting of a concrete floored and walled containment area with above-ground tanks and piping. Facility constructed in 1982-1983.
E	Former rail loading and unloading platform.
G	Division office building for the Charleston operations. The front portion of this building has been in place since early operation of the facility.
H	Corporate Headquarters constructed in 1986. This portion of the site was not included in the transfer of site operations.

- L Former solvent storage area included several above-ground tanks. Little information is available regarding this area; however, its position is clearly visible on a 1967 aerial photo. Use of this area was discontinued after construction of the flammable tank farm in 1982-83.
- Unlabeled Cement truck unloading took place in the westernmost portion of the Headquarters site. Concrete thickness in this area reportedly ranges from several inches to several feet.
- Unlabeled A ditch and an earthen catch basin where rainwater collected was reportedly located in the area below the Corporate Headquarters.

1.3 Summary of Assessment and Corrective Action Activity

Assessment activity was initiated with submittal of the May 16, 1990 Hydrogeologic Investigation Plan (GEL, 1990). Assessment activity was focused on the adjacent property but included activity on the Headquarters site. Assessment included installation and sampling of monitoring wells. Four wells were installed and sampled and a Hydrogeologic Investigation Report dated March 11, 1991 (GEL, 1991A) was prepared. This report indicated organic and inorganic compounds were present in groundwater and additional investigation was needed. A June 8, 1991 Phase II Hydrogeologic Investigation Plan (GEL, 1991B) proposed installation of three additional wells, hydrologic (slug) testing, collection of groundwater samples, and determination of groundwater elevations (and flow). The October 31, 1991 Phase II Hydrogeologic Investigation Report (GEL, 1991C) indicated the following: 1) organics were present in groundwater below the site, 2) organics in groundwater were not resulting in detectable concentrations in Brickyard Creek, 3) additional investigation was needed to define site conditions, and 3) a feasibility study of remedial options could be developed concurrently with assessment.

A May 12, 1992 Phase III Hydrogeologic Investigation Plan (GEL, 1992) proposed additional sampling of surface water, soils, groundwater, and potable water. Plans for additional groundwater sampling called for using a drive-point sampling device to collect groundwater samples. After completing a portion of the drive-point sampling, it was decided to limit the number of groundwater samples collected by drive point; and, to implement an alternate effort to delineate potential source areas. Revised plans were outlined in a letter to SCDHEC dated October 27, 1992. An interim report of source delineation efforts was submitted in a letter dated January 27, 1993. That report included a discussion of results and a proposal for two source-delineation wells. Subsequent to

installation and testing of the two additional wells, a Corrective Action Plan (dated June 18, 1993) was submitted.

Implementation of the Corrective Action Plan for the adjacent property began in August 1994. The first phase of remediation included an air-injection and vacuum-extraction program in the northwest portion of the operations portion of the site. Installation of the system was completed on November 28, 1994; and a permit to operate the injection points was issued by SCDHEC in letter dated November 29, 1994. The system was placed into operation on November 29, 1994.

As part of the property transaction, an environmental assessment was performed General Engineering Labs for the perspective buyers of the site (GEL 1997). Assessment activity included installation of three monitoring wells (MW-10, 11, and 12), nine soil borings and four sediment borings. Assessment results essentially affirm results from previous site assessment and routine monitoring activity.

Additional assessment was performed in 1998 in the area near the boundary between 4200 and 4210 Azalea Drive. Activity included collecting soil and groundwater samples using a direct push technique (e.g., Geoprobe). Geologic testing included collecting continuous soil cores at 17 locations. Field activity was performed in April 1998, and a report summarizing activity performed was submitted in June 1998 (Groundwater Solutions 1998).

Free-phase light non-aqueous phase liquid (LNAPL) was found in MW-12. A plan to assess the distribution of lnapl in the vicinity of MW-12 was implemented in October 2004 and results were provided to DHEC in a report dated November 19, 2004. Assessment data did not show the presence of a significant free-phase layer on the water table beyond the immediate vicinity of MW-12. Results of initial LNAPL recovery efforts were provided in reports to DHEC dated October 10, 2006 and December 26, 2006.

1.4 Review of Selected Activity

1.4.1 Geologic borings/well installations

Twelve power auger borings have been drilled on the former Burriss properties during various phases of assessment. The first borings were drilled during Phase I (1/91) and Phase II (8/91)

assessment. Borings for MW-8 and MW-9 were drilled in March 1993 to help characterize potential source areas. Borings for MW-10, 11, and 12 were drilled during the property transaction assessment in 1997. Boreholes were typically converted to monitoring wells using 2-inch, flush-threaded, PVC casing and screen. Well locations are shown on Figure 3. Monitoring well MW-2 was abandoned to allow for site construction activity and was replaced with monitoring well MW-2r in October 1994. MW-2 was 20.5 feet deep and screened from 2.5 to 20.5 feet deep. MW-2r is 20.5 feet deep and screened from 5.5 to 20.5 feet. MW-3 was abandoned during construction performed by the W.M. Bird Company.

1.4.2 Groundwater monitoring

Groundwater monitoring at 4200 Azalea Drive is performed semiannually from monitoring wells MW-4, 9, 10, 11, and 12. Because MW-12 has periodically contained a layer of light, non-aqueous phase liquid (lnapl), fluid levels are measured in MW-12, but samples for chemical analysis are no longer collected. Groundwater samples are analyzed for volatile organic compounds, and results are submitted to the SC DHEC. Water-level elevation data are summarized in Table 1, and a water-level elevation map is shown in Figure 6. Groundwater analytical results are summarized in Tables 2 and 3. Water-quality maps are provided in Figures 8 and 10, and time-concentrations plots are provided in Figures 9 and 11. For illustration purposes, water quality data are summarized for selected total chlorinated and total non-chlorinated volatile organic compounds.

1.4.3 Soil assessment

The purpose of assessment activity was to better characterize soil and groundwater in the eastern portion of the site. The primary goal for the additional assessment was to characterize the distribution of volatile organic compounds (VOCs) in the unsaturated zone and provide data regarding the vertical distribution of volatile organic compounds in the saturated zone. Soil samples were collected from 15 locations (SCGP 7 thru 16 and BESGP-1 thru 6). Continuous soil samples were collected at each locations from the ground surface to approximately 12-24 feet below ground surface (bgs) using a direct push sampling device (Geoprobe). Soil samples were field screened with a photoionization detector (PID), and selected samples were identified for field analysis using a portable gas chromatograph (GC).

1.4.3 LNAPL Assessment and Response

Data from assessment activity did not indicate the presence of a significant free-phase layer on the water table beyond the immediate vicinity of MW-12. In an effort to address the LNAPL in

MW-12, a free-phase removal program was implemented in May 2006. The program included periodic removal of free-phase material from MW-12. Initially, removal was performed on a weekly or more frequent basis. The frequency of removal activity was decreased to every two weeks, and then to every three weeks to allow a sufficient volume of free-phase material to collect in the well. In October, LNAPL recovery was decreased to monthly. LANPL recovery was discontinued in December 2006. Results of LNAPL recovery were provided in reports to DHEC dated October 10, 2006 and December 26, 2006. Periodic monitoring is performed to check for the presence of free-phase material in MW-12.

2.0 HYDROGEOLOGY

2.1 *Regional/Local Hydrogeology*

Park (1985) provides a description of the geology and groundwater resources in Charleston, Berkeley, and Dorchester Counties. The following sections on regional/local geology and hydrology are primary taken from Park (1985).

2.1.1 Geology

Geologic units from the ground surface to a depth of 2500 feet in Charleston County consist of unconsolidated to partially indurated sedimentary deposits ranging in age from Quaternary (recent) to late Cretaceous. A general description of deposits in the first 300 feet below ground surface is provided below.

Surficial deposits are generally described as light colored, fine-to medium-grain sand, shelly sand, shell beds, and varicolored clays. Deposition of shallow sediment is generally thought to have occurred during a period of glacially controlled rises and falls of sea level. The Pamlico formation reportedly occurs at elevations between 0 and 25 feet above mean sea level (msl). This formation is described as consisting (from the top down) of green, glauconitic sand, undifferentiated sand, and up to several feet of a basal Pleistocene shell unit. Surficial deposits are underlain by the Cooper Formation, which occurs at approximately 0 to -20 feet below msl in the vicinity of the site.

The Cooper Formation is generally described as a pale-green or yellow-gray, clayey to sandy, fine-grain phosphatic, limestone. The Ashley member is the upper unit of the Cooper Formation and is generally described as phosphatic, muddy, calcareous sand. The upper surface of the Cooper Formation has a relief of 15 to more than 50 feet. Overall thickness of the Cooper Formation ranges from 260-280 feet in the vicinity of the site. The Cooper is underlain by the Santee Limestone, which occurs at approximately 250 to 300 feet below mean sea level in the vicinity of the site.

The Santee Limestone is generally described as gray, fossiliferous, locally phosphatic, limestone. Two stratigraphic Members are recognized within the Santee Limestone: the Cross and Moultrie Members. The Cross Member is the upper unit and is described as a brachiopod-bivalve, muddy limestone. The underlying Moultrie Member is described as a mold and cast limestone (biosparite)

and a bryozoan shell hash. The Santee limestone is approximately 40 to 60 feet thick in the vicinity of the site with the base occurring at an elevation between 300 and 350 feet below msl.

2.1.2 Hydrogeology

Shallow water-bearing units in Charleston County typically consist of discontinuous layers of sand, clay, and localized shell beds and limestone. Groundwater typically occurs under water-table conditions with recharge primarily supplied by rainfall. Water movement is generally controlled by gravity drainage from topographically high to topographically low areas. Depth to groundwater ranges from 0 - 15 feet below land surface and generally corresponds to variations in topography. Fluctuations in the water table may range from 1 - 6 feet annually and are primarily attributed to rainfall. Transmissivities are typically low due to limited thickness and presence of fine-grain sediment. Specific capacities are low with values commonly less than 4 gpm/ft. Yield from shallow wells may range from less than 1 gallon per minute (gpm) to 200 gpm. Shallow water-bearing units are underlain by the Cooper Formation, which inhibits the downward movement of groundwater. Natural seepage to surface water and evapotranspiration are the principal means of shallow groundwater discharge. Water extracted by wells accounts for only a small portion of water loss.

A broad range of water quality is found in shallow groundwater. Predominant cation-anion pairs are sodium chloride or calcium bicarbonate. Sodium-chloride type water occurs in nearly all of Charleston County and is most commonly encountered in wells less than 25 feet deep. Higher concentrations of sodium and chloride occur in groundwater in proximity to saline surface water. Calcium bicarbonate water is commonly found in shallow wells in Charleston County, particularly those screened in shelly beds of the Pamlico Formation. Alkalinities less than 150 milligrams per liter (mg/l) and neutral pH values are common for shallow groundwater. Hardness varies greatly with sodium-chloride water less than 60 mg/l and calcium-bicarbonate water exceeding 120 mg/l. Total iron concentrations commonly exceed 300 mg/l and locally exceed 30,000 mg/l.

The Cooper Formation is fine, granular, sandy, limestone that produces little or no water and acts as a confining unit that creates artesian conditions in the underlying Santee Limestone. Only a few feet of the material are needed to effectively retard vertical movement of groundwater. The Cooper Formation occurs at approximately 0 to 20 feet msl and is approximately 250 to 300 feet thick in the vicinity of the site.

Water-quality data for the Cooper Formation is limited due to the impermeable nature of the unit. Wells having casings less than 100 feet are generally thought to be open, in part, to the Cooper.

Waters from those wells have chloride concentrations ranging from 0.4 - 7 mg/l and alkalinities of 80 to 120 mg/l. Total hardness (as calcium carbonate) is greater than 60 mg/l and total dissolved solids are less than 200 mg/l. Total iron concentrations range from 28 to 3,000 mg/l.

2.2 Topography and Drainage

The facility is located in the southern part of North Charleston approximately 1 mile southwest of I-26 and 1 mile northwest of the Ashley River (Figure 1). The topography of the site generally slopes from east to west (or northwest) from approximately 15 feet above mean sea level (msl) along Industrial Avenue to 5 feet above msl along Brickyard Creek. The property is bound to the west by Brickyard Creek, which drains southward into the Ashley River. The Ashley River and Cooper River join at the southern tip of Charleston. Brickyard Creek is tidally influenced and water level in the creek can fluctuate several feet.

2.3 Surface-Water and Groundwater Use

Sediment above the Cooper Formation in the vicinity of the site is relatively thin and has a limited capacity to product water. Inventories of groundwater use indicate that shallow groundwater in sediment above the Cooper in the vicinity of the site has not been used as a source of drinking water. Records show some limited past use, of groundwater from below the Cooper Formation within 1 mile of the site. However, publicly supplied water is now available in the area; and, there are no known groundwater users within 1 mile of the site. No withdrawals from Brickyard Creek were identified. Given the saltwater influence, the potential is low for future use of Brickyard Creek as drinking water.

2.4 Site Geology

2.4.1 General site geology

Literature on local/regional geology indicate that near-surface geologic material in the area of the site consist of fine-to medium-grain sand, shelly sand, and varicolored clays. The surficial deposits are underlain by the Cooper Formation, which reportedly occurs at approximately 0 to 20 feet below mean sea level (Park, 1985). Previous descriptions for the site identify three geologic units in the shallow subsurface. General descriptions of these units were initially developed by General Engineering Labs (GEL) and are summarized below.

GEL Unit 1: The first geologic unit encountered below the site typically consists of a fine-to medium-grain, moderately sorted clayey, quartz sand. Sand content reportedly ranges from approximately 60% to 80%. Clay is present as interstitial material and as distinct clay laminations and beds. In MW-8 and MW-9, a fossil-rich bed (coquina), with variable amounts of silt and clay, was encountered at the base of Unit 1. The depth to the base of Unit 1 ranges from 8 feet in MW-5 to 17.5 feet in MW-2. In the area immediately west of the Headquarters site up to 8 feet of fill materials is present at or near the surface. Fill material in this area reportedly includes concrete and construction debris.

GEL Unit 2: A blue to gray, fossiliferous, silty clay was encountered below the relatively sandy deposits of Unit 1. Clay content of this unit reportedly reaches 80%. In MW-9, the first 6 inches of Unit 2 consisted of a massive, dense, dark gray, clay (the boring was terminated in this clay). In monitoring wells MW-5 and 6 which fully penetrated this unit, Unit 2 ranged in thickness from 3.5 to 8.5 feet.

GEL Unit 3: The Cooper Formation (Unit 3) underlies Unit 2 below the site. Samples from Unit 3 are described as consisting of 70% olive gray clay and 30% very fine-grain sand. Unit 3 was encountered at depths ranging from 15.5 to 23 feet in MW-5 and 6. This corresponds to elevations of approximately 11 to 15 feet below sea level.

2.4.3 Detailed geologic cross sections

Detailed cross sections illustrating hydro-geologic conditions are provided in Figures 4, 5, and 6. The shallow geology below the 4200 Azalea Drive property includes a highly complex suite of interlayered sediments ranging in grain size from clay to medium sand (generally corresponding to GEL Unit 1) that is underlain by a green or blue unit rich unit that typically contains shells (GEL Unit 2). The most prominent coarse grain unit is the medium sand found in SCGP-9 from 3 to 12 feet bgs. This sand attains its maximum in SCGP-9, SCGP-12, and BESGP-1, suggesting a northwest southeast trend for this unit. This sand is typically underlain by a unit consisting of fine sand interbedded with clay. A medium-grained sand underlain by a coarse shell layer was encountered from approximately 11-15 feet bgs in MW-9. It does not appear that the relatively coarse sediment in MW-9 and SCGP-9 are the same unit.

The complex suite of sand and clay are underlain by dark colored (blue or green) sediment that general consists of fossiliferous clay and silt with some sand. These deposits appear generally

correspond to GEL Unit 2. Most of the continuous cores were terminated near the top of this unit, so limited detailed descriptions are available for this unit. The top of the blue/green clay and silt was generally encountered at or near sea level. The fine grained nature of the blue/green clays and silts generally make them a good confining unit.

It is not clear whether deposits from the GEL Unit 3 were encountered in any of the borings taken at the 4210 Azalea Drive property. It is possible that this unit was encountered at or near the base of the borings for MW-11 and/or MW-12.

2.5 Site Hydrogeology

Brickyard Creek is located just west of the property and is a discharge point for shallow groundwater. Overall topography and surface water drainage is towards the west and is captured in a retention pond located between the office building and the creek. The office building sits on a local ridge or topographic high, and groundwater elevations (and general flow) appear to have a similar trend to surface topography (Figure 7). In general, groundwater movement is from east to west towards Brickyard Creek. On a smaller scale, groundwater movement appears to be controlled by the distribution of fine-medium sand units.

Depth to groundwater in site wells typically ranges from approximately 3 to 8 feet below ground surface. Groundwater elevations measured in the recent event were the lowest water levels recorded to date. The last notable high groundwater level event was recorded in the Spring of 2003. The last extreme low groundwater levels were recorded in Fall 2005 and Spring 2000 (see hydrograph, Figure 8).

3.0 ASSESSMENT RESULTS

3.1 Soil Quality

Three maps are provided to show the distribution of VOCs in soil as indicated from the continuous cores take during the soil assessment near the former above ground storage facility. The highest concentration of total VOCs in soil was found in the vicinity of SCGP-9. Figure 13 (a map summarizing soil PID readings from 1-3 feet bgs) shows that elevated VOCs (PID >2,000 ppm) in shallow soil appears to be limited to a small area surrounding SCGP-9. PID readings for shallow soil samples collected from cores east of SCGP-9 (e.g., SCGP-7, 8, and 12) generally ranged from 6 to 146 ppm. PID readings for shallow soil samples collected from cores west of SCGP-9 (e.g., BESGP-1, 3, 4, and 6) ranged from 8 to 395 ppm.

Figures 14 and 15 illustrate PID readings for soil samples collected from 3-5 feet bgs and 7-10 feet bgs. These maps show that the highest concentrations of VOCs at both depths are centered around SCGP-9. The lateral distribution of total VOCs increases with depth (compare Figures 13, 14, and 15). Samples collected from 7-10 feet bgs were from samples taken at or below the water table and may show migration related to movement with groundwater.

3.2 Groundwater Quality

Groundwater analytical results are summarized in Tables 2 and 3. Water-quality maps are provided in Figures 9 and 11, and time-concentrations plots are provided in Figures 10 and 12. For illustration purposes, water quality data are summarized for selected total chlorinated and total non-chlorinated volatile organic compounds.

Distribution of non-chlorinated volatile organics is shown in Figure 9. The highest concentration of non-chlorinated volatile organics for the recent event is found in MW-4 and MW-10. Overall, the concentrations of non-chlorinated volatiles have been decreasing and most compounds are below detection limits (Table 2 and Figure 10).

Distribution of chlorinated volatile organics (CVOCs) is shown in Figure 11. The highest concentrations of CVOCs for the recent event were found in MW-11. The first sampling from MW-11 took place in September 1997. The concentration of CVOCs were relatively low (200 ug/l) in the first sampling. MW-11 was not sampled again until the fall 2000, when the

concentration was 4008 ug/l. The total concentration of total CVOCs was relatively stable for the next 6 events, then increased sharply in the March 2005. Since April 2008, the total concentration of CVOCs in MW-11 returned to levels detected in the earlier events (Figure 12). Similar trends can also be seen in other sites wells (Table 3).

In MW-4, the total concentration of CVOCs has shown an overall decrease since monitoring was initiated in 1991. The concentration of CVOCs was relatively low and stable between September 1997 and March 2001. There was an increased concentration in MW-4 in 2002. Since February 2002, the total concentration of chlorinated volatile compounds in MW-4 has fluctuated, but shows an overall decreasing trend (Figure 12).

Figures 4 and 5 are hydrogeologic sections through the area with elevated VOCs. The highest concentration of total VOCs in groundwater was found in SCGP-9 from the 8-12 foot interval. The geologic unit at this depth is a fine- to medium-grain sand. At SCGP-9, this unit is underlain by fine sand interbedded with clay. The groundwater sample taken from 12-16 feet was from medium sand positioned below the interbedded clay unit. Based on the difference in concentration between the 8-12 and 12-16 foot samples, it appears that the vertical migration of VOCs is partly limited by the clay-rich unit.

The highest concentrations of total VOCs in groundwater in this area were found in SCGP-9 and MW-12. Elevated concentrations of VOCs in groundwater appear to correspond with the location of elevated VOCs in soil. As with soil samples, there appears to be a northwest-southeast alignment of sampling points showing elevated levels of VOCs in groundwater. The lateral and vertical migration of groundwater and VOCs appears to be controlled in part by geologic conditions.

Total VOCs in groundwater in MW-9 are typically below detection limits or much less than the concentration in SCGP-9. Geologic correlation suggests that the medium sand in SCGP-9 does not extend to MW-9. Given this relationship, it appears that geologic conditions control to the lateral migration of VOCs in this area.

VOCs in MW-11 are different than VOCs found in other site wells. The VOCs in MW-11 are primarily chlorinated VOCs and include little or no non-chlorinated VOCs. In addition, MW-4 and 10 have chlorobenzene and dichlorobenzene compounds, and MW-11 has shown limited detection of these compounds. MW-11 consists primarily of cis-1, 2 dichloroethene, and MW-4 and 10 show

limited detections of this compound.

3.3 Light Non-Aqueous Phase Liquid (LNAPL)

Free-phase material was identified in MW-12. The thickness of lnapl measured in the well has ranged from non-detect to five feet. In 2004, an investigation was performed to characterize the extent of LNAPL floating on the water table near MW-12. The scope of work included installing temporary monitoring wells to allow the direct measurement of LNAPL and a product baildown test. Data from assessment activity did not show evidence that the free-phase layer did not extend beyond the immediate vicinity of MW-12. Results of a product baildown test indicated the actual thickness of free-phase material floating on the water table at the time of the test was no more than two inches thick.

To address the LNAPL in MW-12, a free-phase removal program was implemented in May 2006. Free-phase recovery included periodic removal of free-phase material from MW-12. Initially, removal was performed on a weekly or more frequent basis. The frequency of removal activity was decreased to every two weeks, and then to every three weeks to allow a sufficient volume of free-phase material to collect in the well. In October 2006, LNAPL recovery was decreased to monthly. LNAPL recovery was discontinued in December 2006. Periodic monitoring was subsequently performed to check for the presence of free-phase material in MW-12. In April 2011, LNAPL was identified in MW-12, and the LNAPL removal program was reinstated.

4.0 ASSESSMENT & RESPONSE PLANNING

4.1 LNAPL Removal

In an effort to address LNAPL in MW-12, a free-phase removal program has been implemented. The program includes periodic removal of free-phase material from MW-12. The frequency of removal activity will be increased or decreased as needed with time to allow free-phase material to collect in the well. It is anticipated that removal frequency will decrease from weekly to twice monthly, to monthly. Periodically, data will be reviewed to determine if removal can be discontinued or if a more aggressive approach is possible.

4.2 Collaboration with Brenntag

Given the distribution of VOCs in soil and groundwater, collaboration with Brenntag will likely be needed to implement effective assessment and remediation program. Brenntag has been contacted, and efforts are being made to determine if a coordinated effort can be made. A copy of this plan will be shared with Brenntag and efforts will be made to schedule a meeting to discuss a path forward.

4.3 Additional Assessment

As follow up to the meeting with DHEC to discuss site conditions and to identify a path forward, additional groundwater assessment will be performed. Proposed assessment activity will include installing and collecting groundwater samples from three additional monitoring wells, MW-11s, MW-15, and MW-16. Proposed locations for the additional wells are shown in Figure 16. These wells will be installed in the shallow subsurface and designed to monitor the uppermost water table targeting the zone above the blue/green silt and clay. MW-11s and MW-15 will be installed with 5-foot screens and MW-16 will be installed with a 10-foot screen. A summary of well design goals is provided in Table 4.

After being installed and developed, monitoring wells will be allowed to equilibrate for approximately one month. Samples will then be collected from all site wells using passive-diffuse samplers set at the mid-point of screened intervals. Samples will be analyzed for volatile organic compounds using US EPA Method 8260 or equivalent. Once assessment activity is complete, a report will be prepared summarizing assessment activity and proposing a path forward.

4.4 Alternatives Analysis

Once assessment is complete, an analysis of remediation alternatives will be performed. A variety of approaches are applicable to remediation of volatile organic compounds in soil and groundwater.

Remediation planning will include an analysis of viable alternatives. One or more approaches may be used to create an overall approach to address material in soil and groundwater. The process for alternatives analysis will include the following steps:

1. Identifying remedial action objectives;
2. Creating a list of potential treatment, resource recovery, and containment technologies that will satisfy these objectives;
3. Evaluating technologies based on their effectiveness, implementation considerations, and potential to achieve goals in a timely and cost effective manner.

Below are examples of technologies with potential application for site remediation:

Remediation Technology	Technology Overview
Anaerobic Degradation	Stimulating microbial growth and development, creating an anaerobic environment in which rates of anaerobic degradation are increased.
Bioaugmentation	Introduction of microorganisms into contaminated media to promote the degradation of contaminants
Bioventing	Enhancing natural aerobic degradation processes by blowing air into the subsurface. This may be combined with soil vapor extraction.
Chemical Oxidation	Destruction of organic compounds by chemical oxidation with a strong oxidizing compound (e.g., peroxide).
Enhanced Natural Degradation	Stimulate natural degradation by enhancing conditions to maximize degradation by naturally occurring processes.
Emulsified Oils for Enhanced Anaerobic Bioremediation	Use of emulsified edible oils for enhanced in situ anaerobic bioremediation
Monitored Natural Attenuation	Allowing natural processes to attenuate contaminants to acceptable levels.
Soil Vapor Extraction (SVE)	Removal of volatile organic compounds by placing a vacuum on soil.
Soil Vapor Extraction (SVE)/Air Sparging	Combining SVE with injection of air below the water table.

4.5 Corrective Action Plan

After completing the alternatives analysis, one or more approaches will be selected for remediation. A plan will be prepared and submitted for review and approval by DHEC. The corrective action plan will identify actions to be taken, a monitoring and evaluation plan, and a schedule for implementation.

REFERENCES

Burris Chemical, Inc., 1993, Corrective Action Plan - Soil and Groundwater, June 18, 1993, 24 p.

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General Engineering Labs, 1991 A, Hydrogeologic Investigation Report, March 11, 1991, 8 p.

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General Engineering Labs, 1991 C, Phase II Hydrogeologic Investigation Report, Oct. 31, 1991, 13 p.

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Groundwater Solutions, Inc., 1998, Plans for Additional Assessment Activity, February 8, 1998, 3 p.

Groundwater Solutions, Inc., 1998, Additional Assessment Activity Report, June 9, 1998, 2 p.

Groundwater Solutions, Inc., 2004, LNAPL Assessment Report, November 19, 2004.

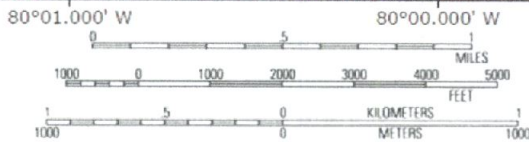
Park, A.D., 1985, The Ground-Water Resources of Charleston, Berkeley, and Dorchester Counties, S.C., SC Water Resources Commission Report No. 139, 146 p.

FIGURES

- Figure 1. Site Location Map
- Figure 2. Site Map (Historical Use)
- Figure 3. Site Layout (Cross Section Locations)
- Figure 4. Cross Section A-A'
- Figure 5. Cross-Section B-B'
- Figure 6. Cross-Section C-C'
- Figure 7. Water-Level Elevation Map
- Figure 8. Water-Level Hydrograph
- Figure 9. Total Nonchlorinated Volatile Organics Map
- Figure 10. Time-Concentration Graphs - Total Nonchlorinated Volatile Organics
- Figure 11. Total Chlorinated Volatile Organics Map
- Figure 12. Time-Concentration Graphs - Total Chlorinated Volatile Organics
- Figure 13. Soil Screening - 1 to 3 Feet
- Figure 14. Soil Screening - 3 to 5 Feet
- Figure 15. Soil Screening - 7 to 10 Feet
- Figure 16. Proposed Groundwater Monitoring Wells



NATIONAL GEOGRAPHIC



MIN. TN
7 1/2°
09/22/11

Reference: Charleston and John's Island 7.5 Minute Topographic Maps

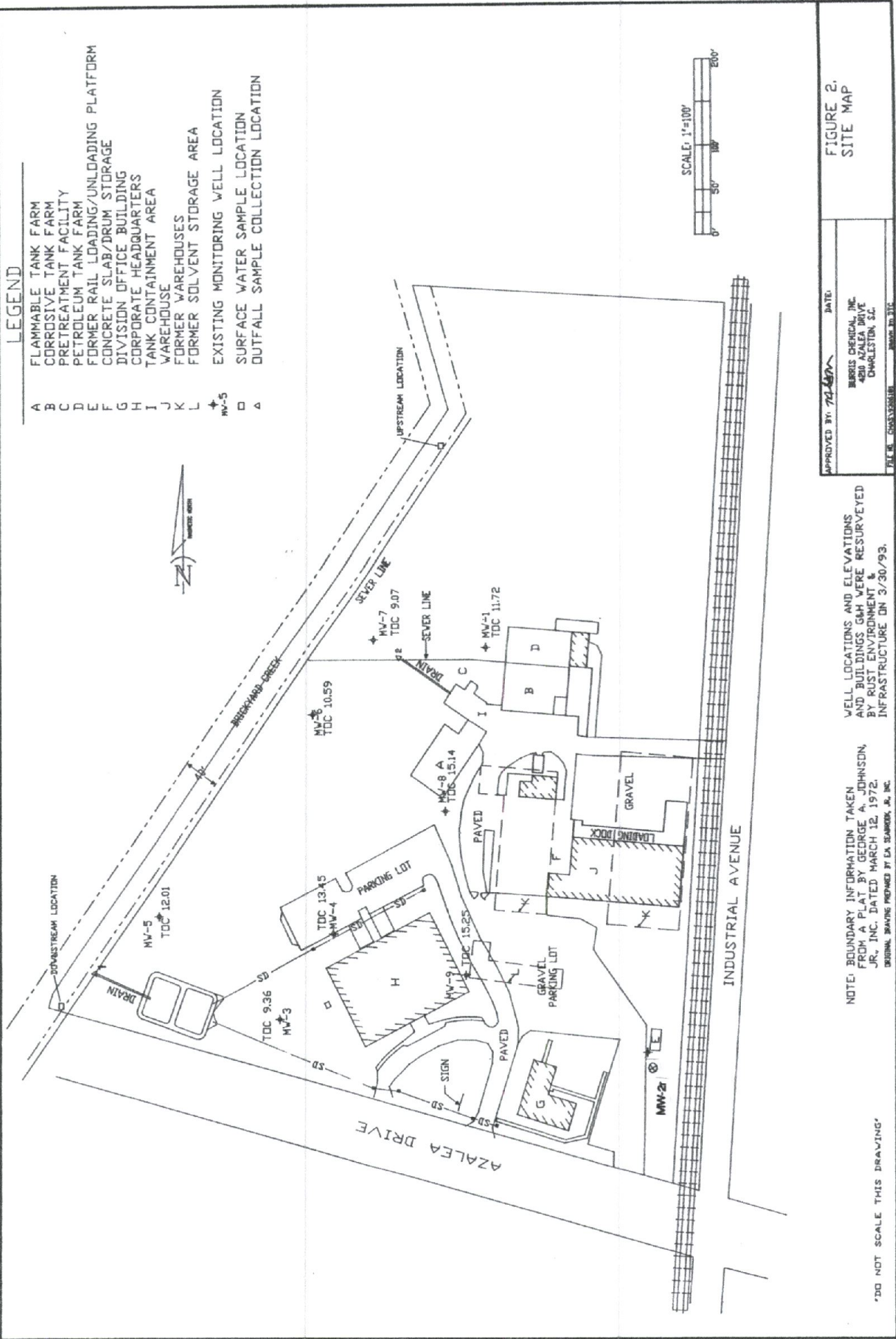
Figure 1. Site Location
4200 Azalea Drive
Charleston, SC

Date: 9/22/2011

Checked by: *naqsh*

LEGEND

- A FLAMMABLE TANK FARM
- B CORROSIVE TANK FARM
- C PRETREATMENT FACILITY
- D FORMER TANK FARM
- E FORMER RAIL LOADING/UNLOADING PLATFORM
- F CONCRETE SLAB/DRUM STORAGE
- G DIVISION OFFICE BUILDING
- H CORPORATE HEADQUARTERS
- I TANK CONTAINMENT AREA
- J WAREHOUSE
- K FORMER WAREHOUSES
- L FORMER SOLVENT STORAGE AREA
- MV-5 EXISTING MONITORING WELL LOCATION
- SURFACE WATER SAMPLE LOCATION
- △ OUTFALL SAMPLE COLLECTION LOCATION



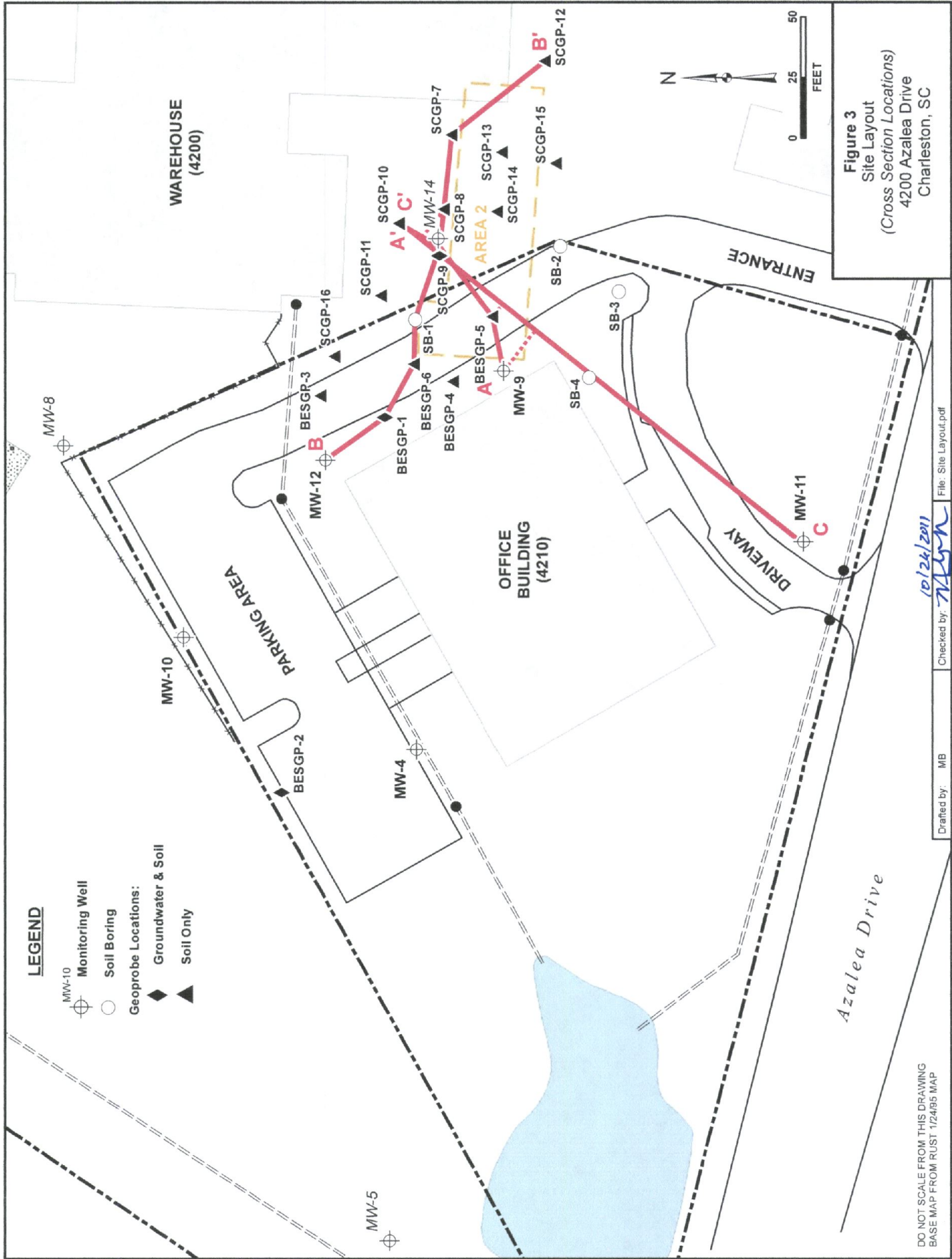
APPROVED BY: *[Signature]* DATE: _____
 BURRIS CHEMICAL, INC.
 4800 AZALEA DRIVE
 CHARLESTON, SC
 FILE NO. CHAS33888888 DRAWING NO. 310

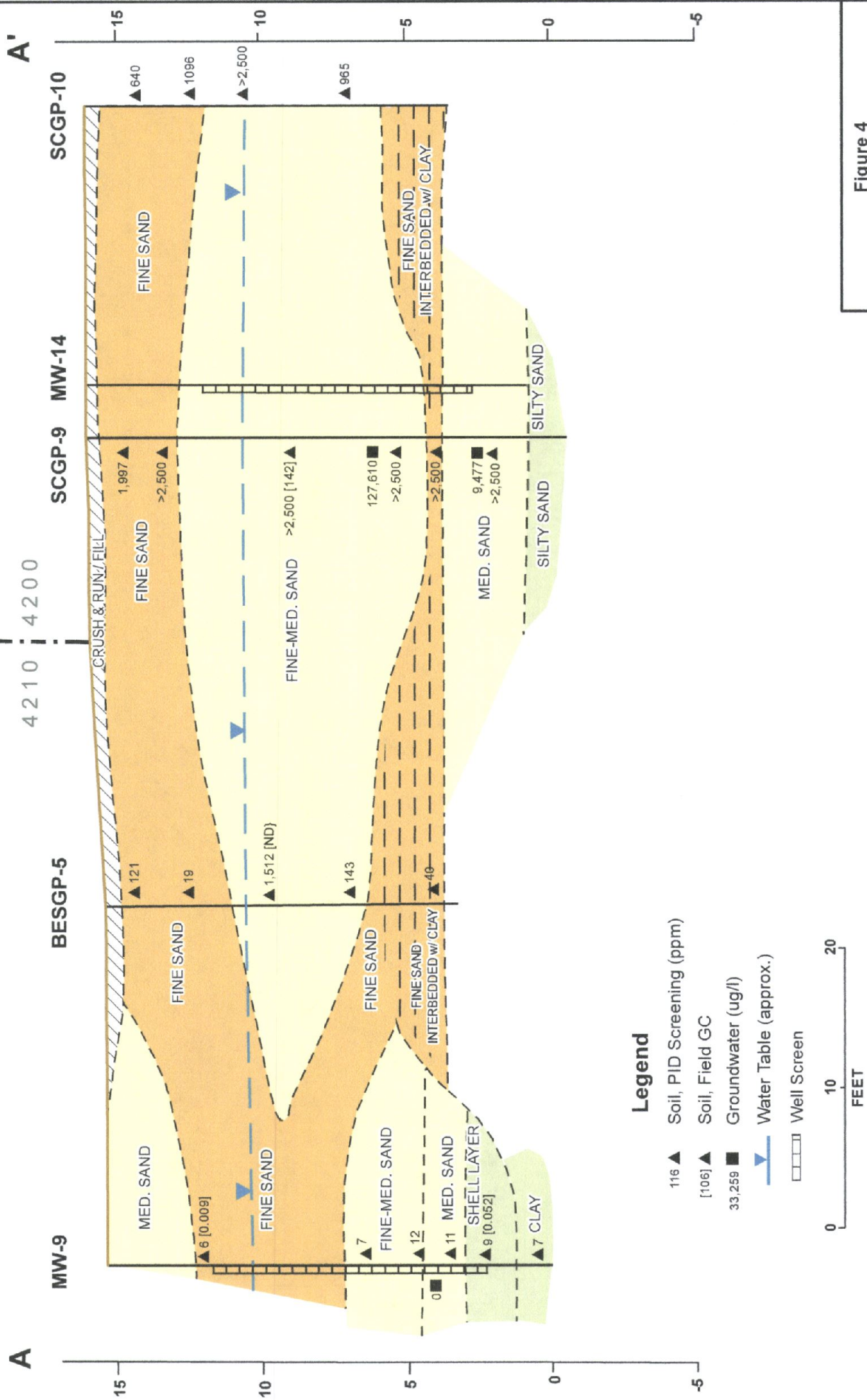
WELL LOCATIONS AND ELEVATIONS
 AND BUILDINGS GAN WERE RESURVEYED
 BY RUST ENVIRONMENT &
 INFRASTRUCTURE ON 3/30/93.

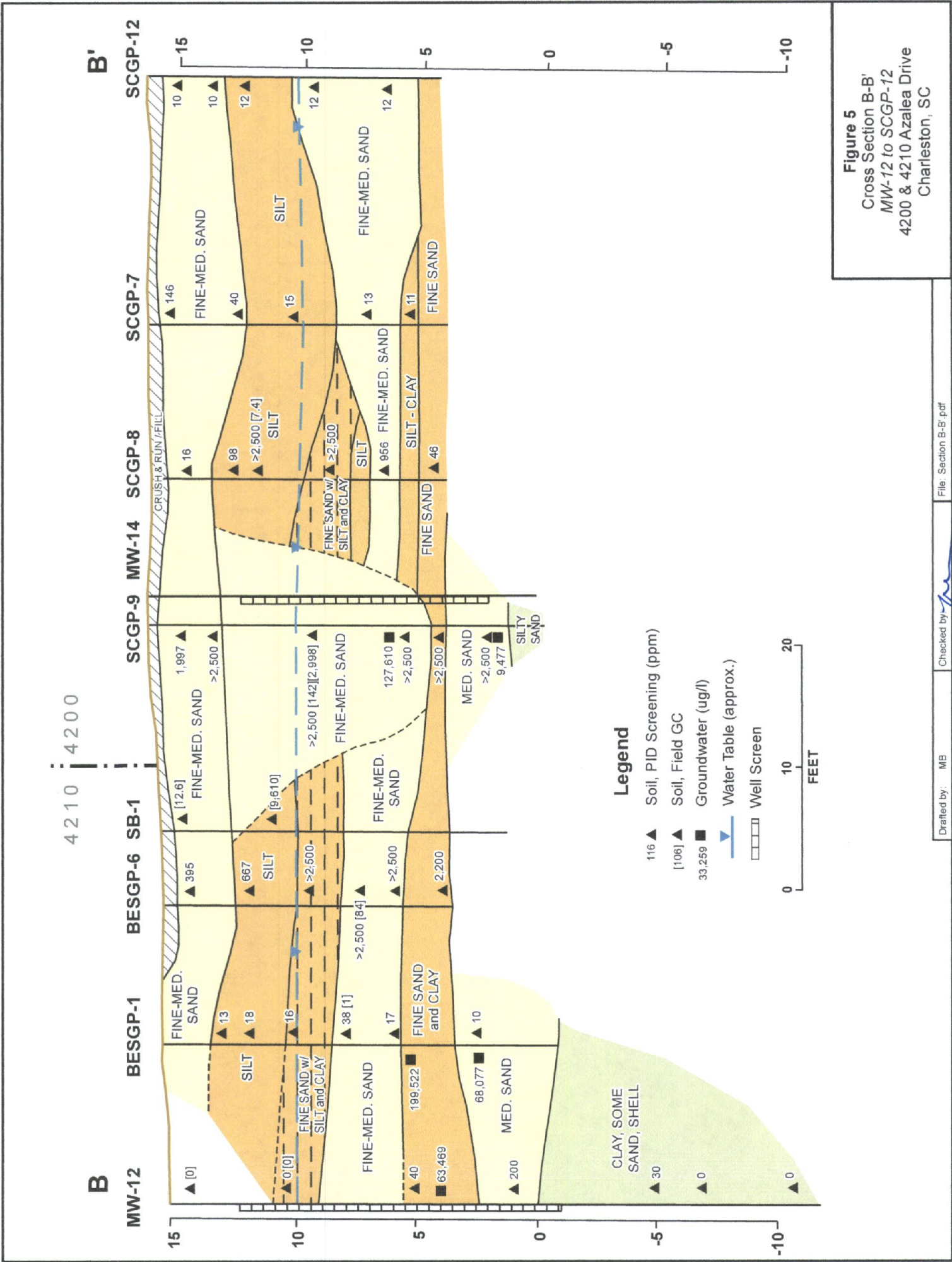
NOTE: BOUNDARY INFORMATION TAKEN
 FROM A PLAT BY GEORGE A. JOHNSON,
 JR., INC. DATED MARCH 12, 1972.
 ORIGINAL DRAWING PREPARED BY DA SEAROCK, JR., INC.

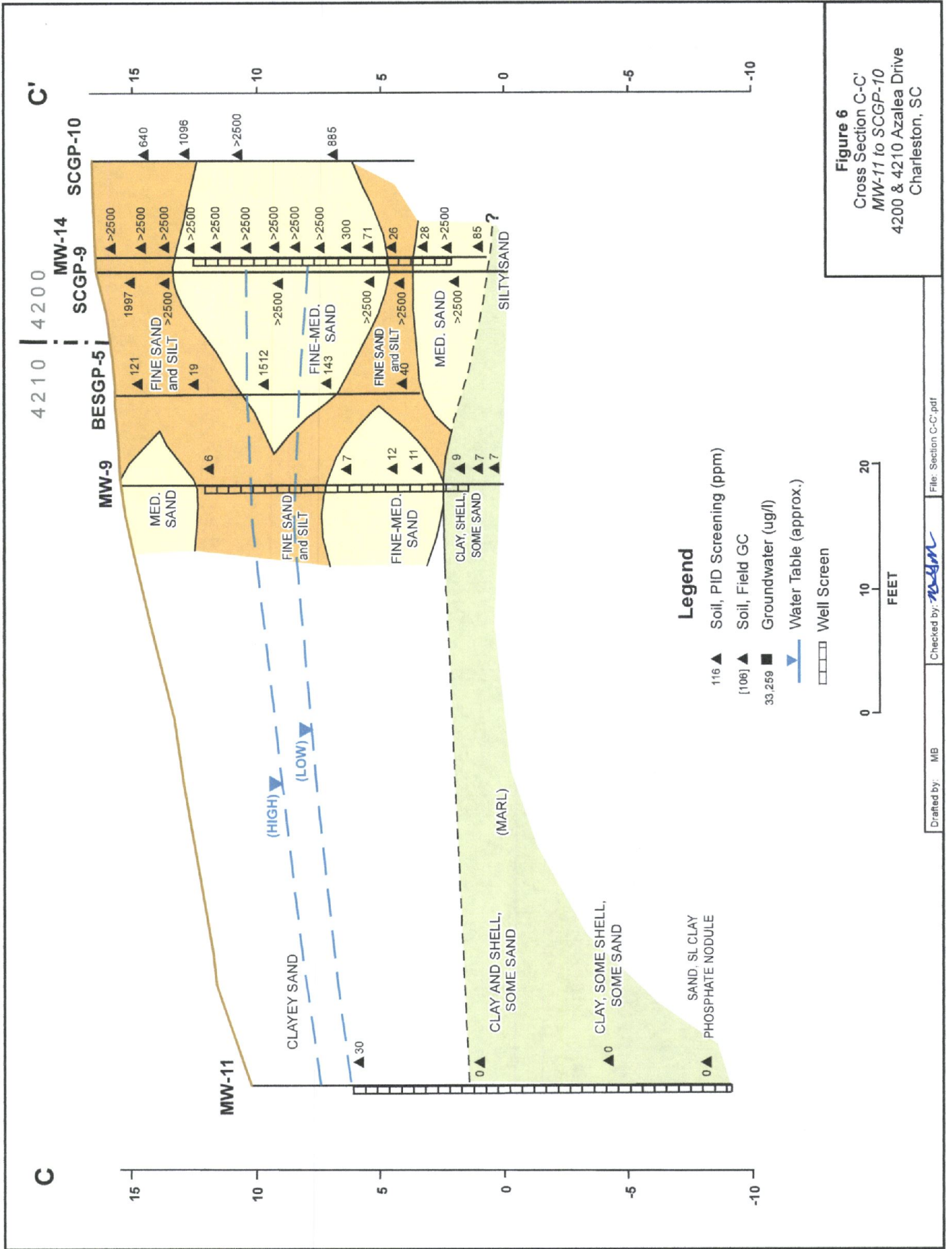
DO NOT SCALE THIS DRAWING

**FIGURE 2.
 SITE MAP**









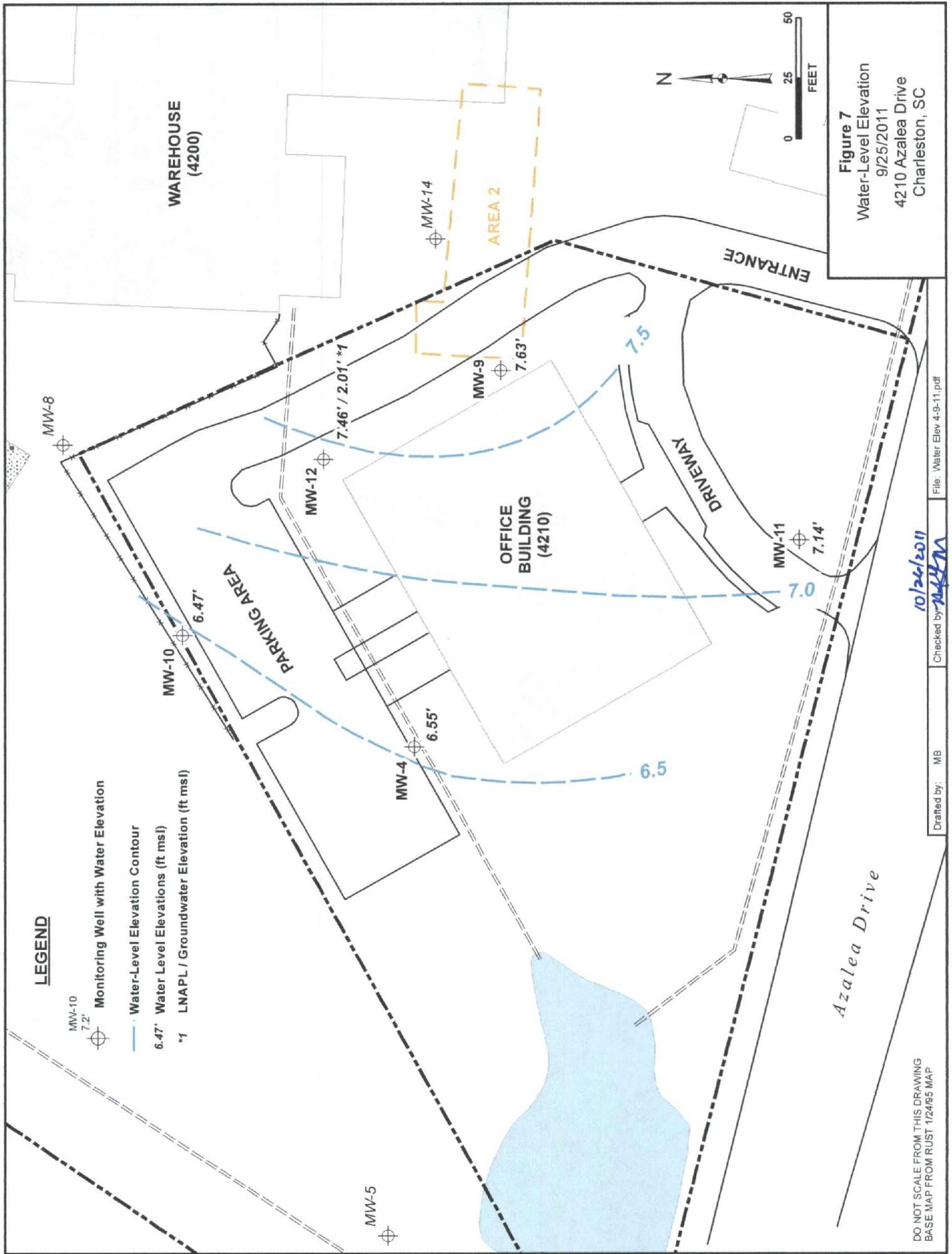
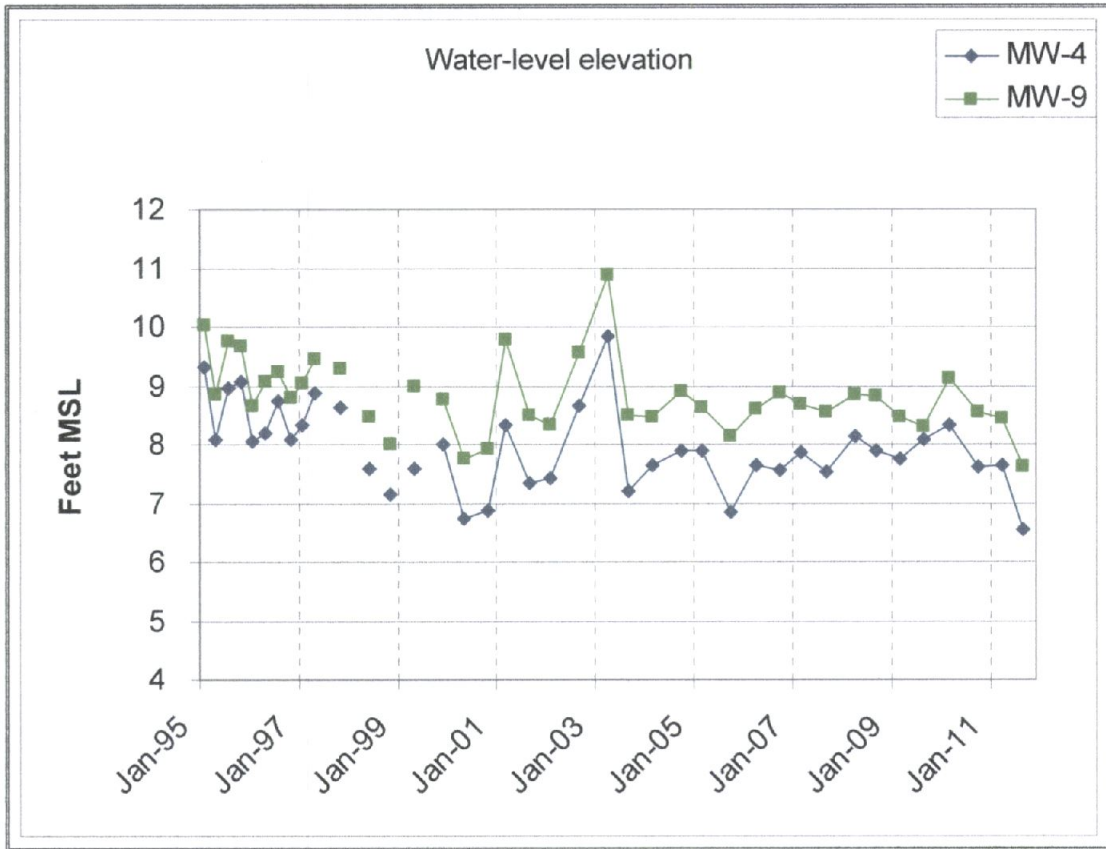
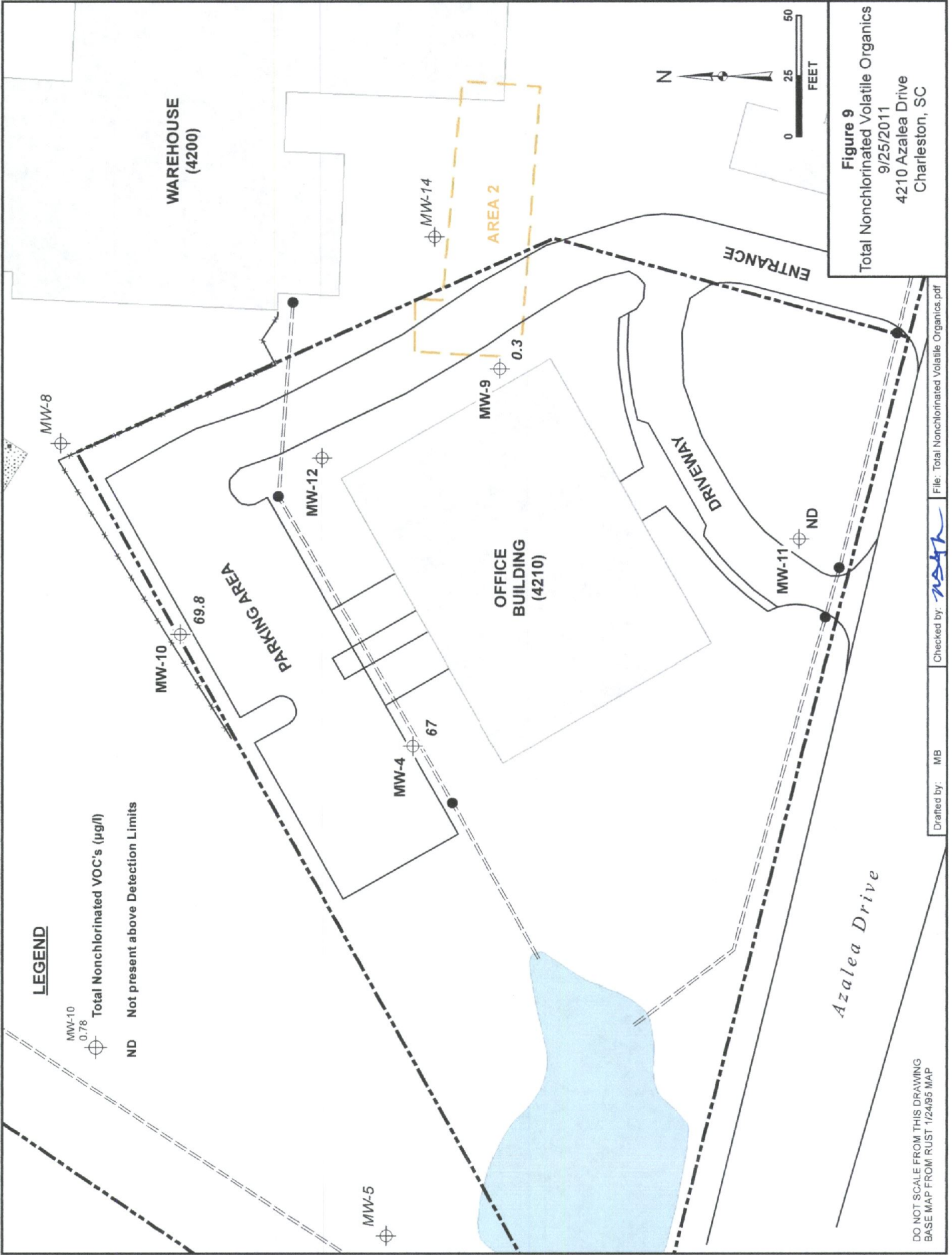


Figure 8. Water-Level Hydrograph





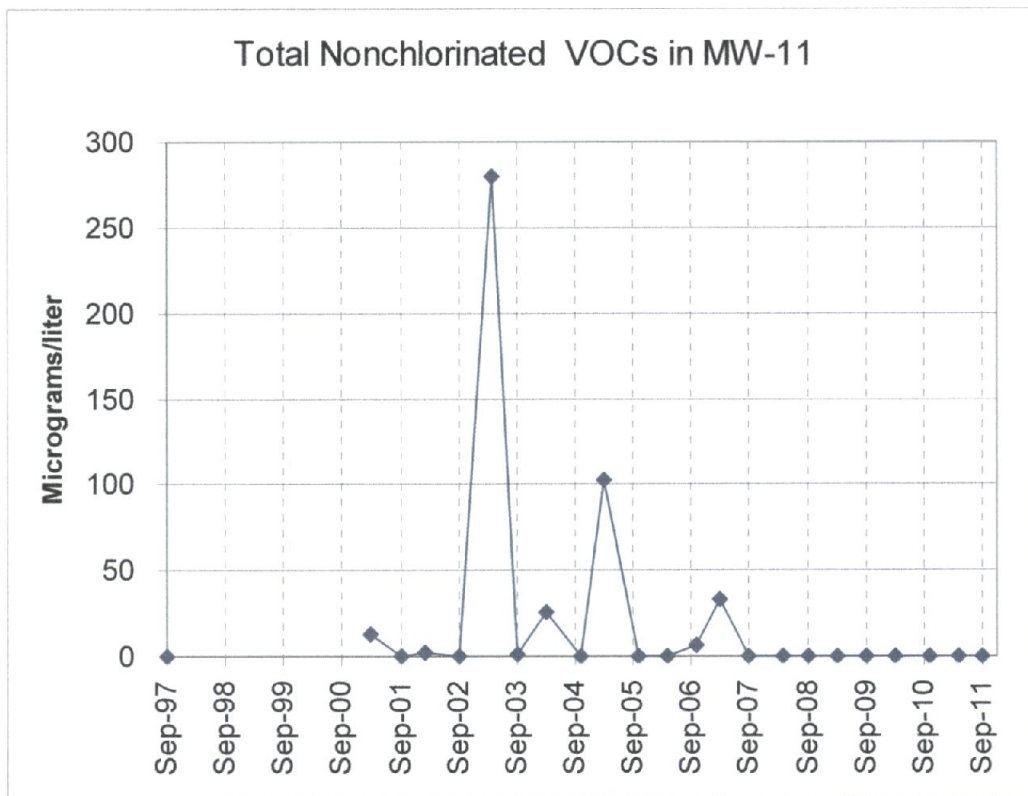
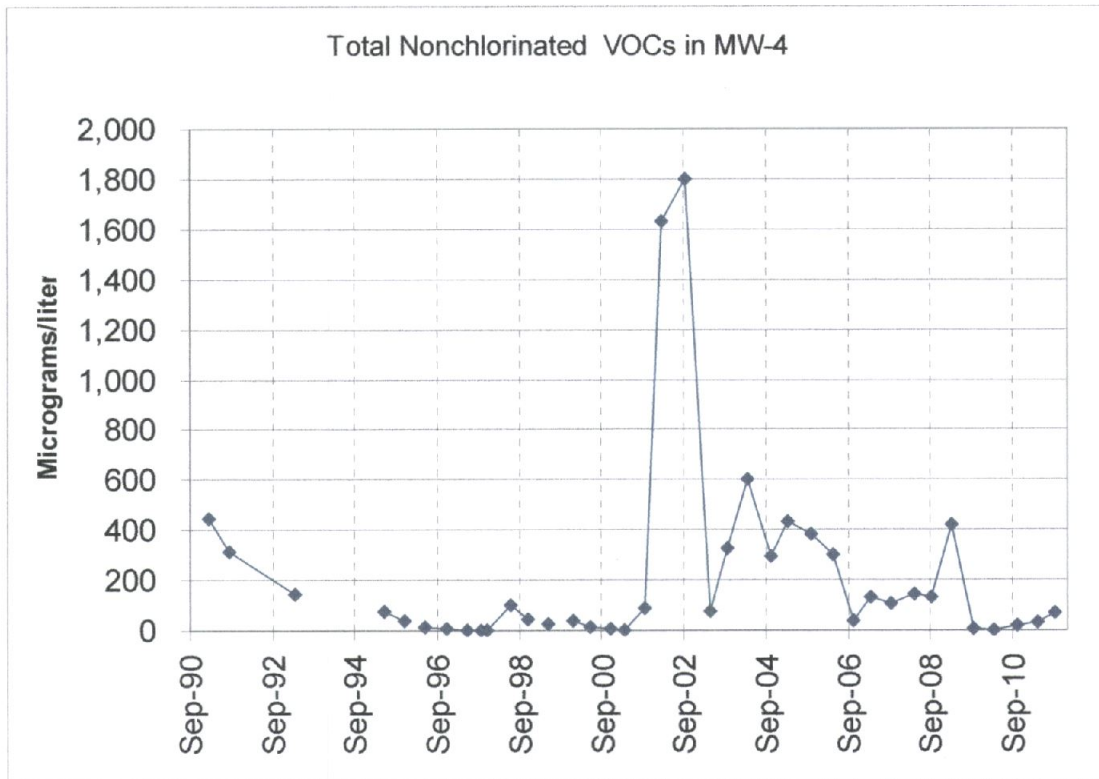
DO NOT SCALE FROM THIS DRAWING
 BASE MAP FROM RUST 1/24/95 MAP

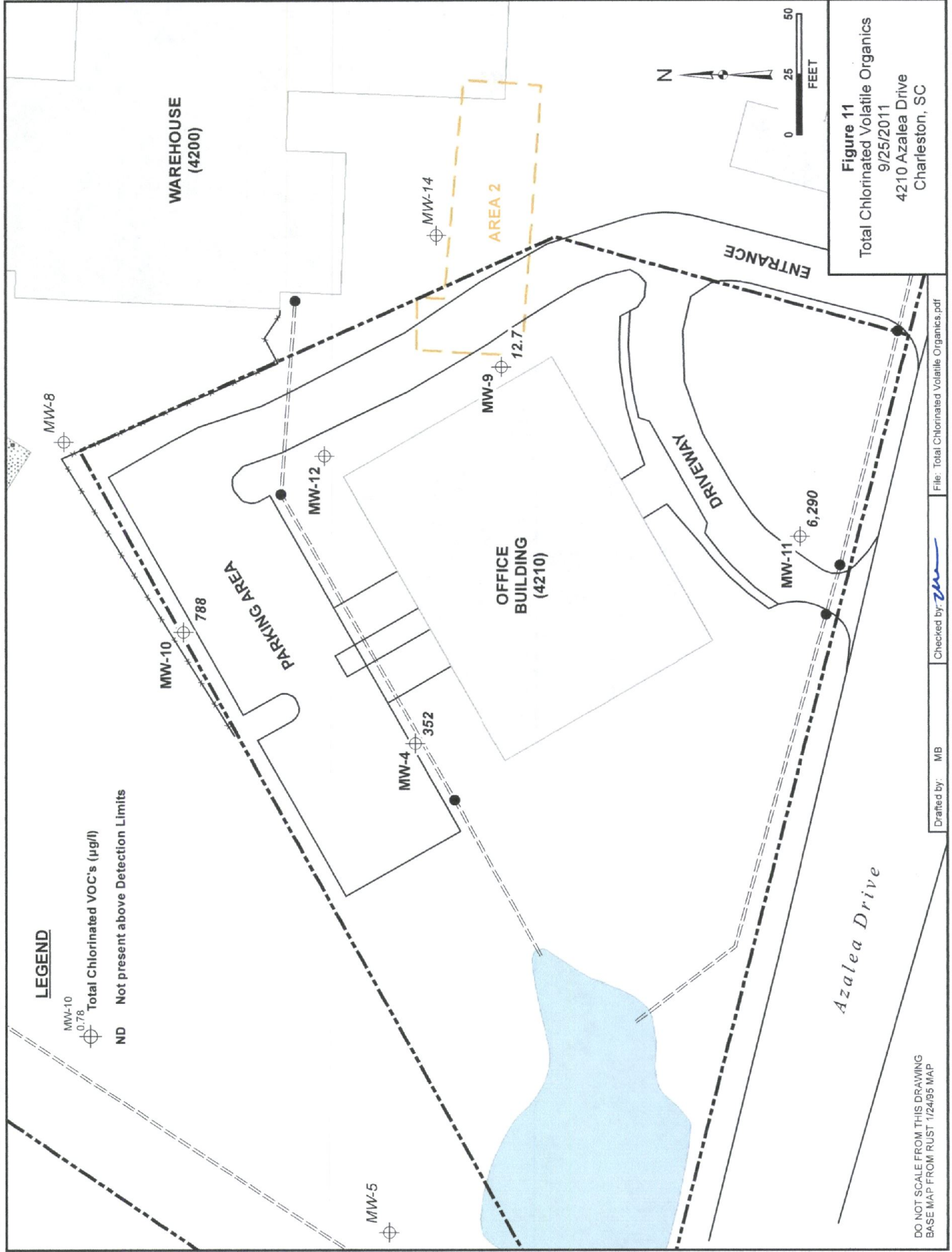
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File: Total Nonchlorinated Volatile Organics.pdf

Figure 10. Time-Concentration Graphs - Total Nonchlorinated Volatiles





LEGEND

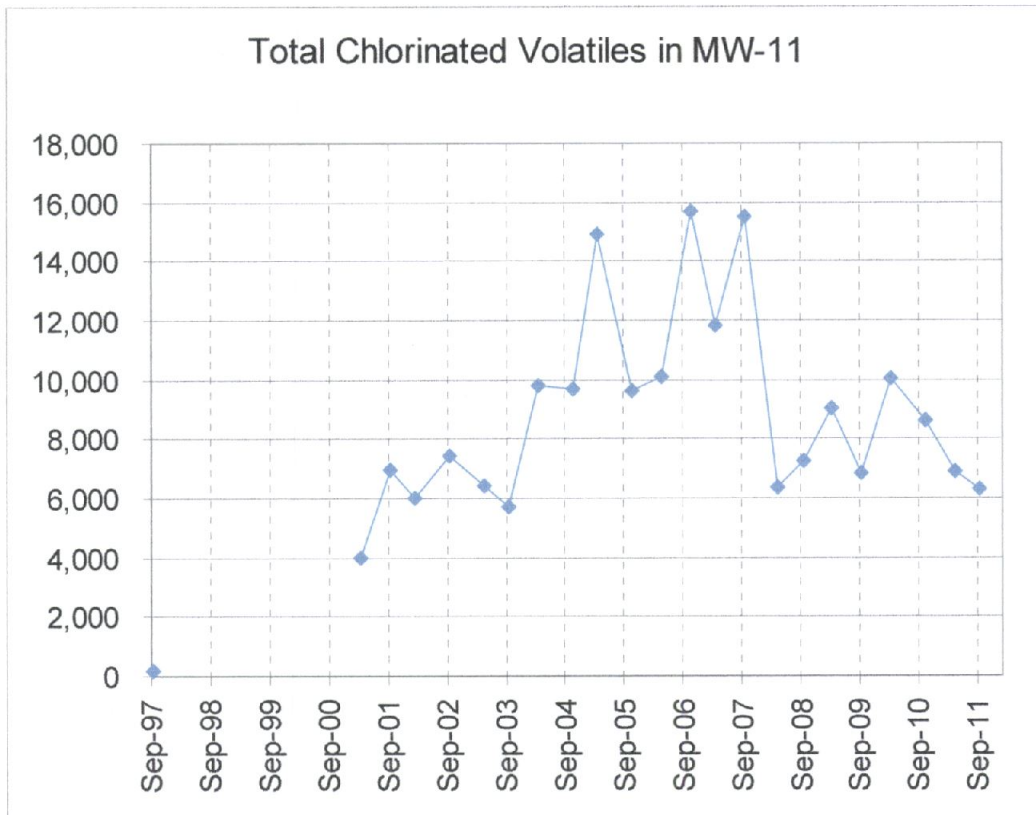
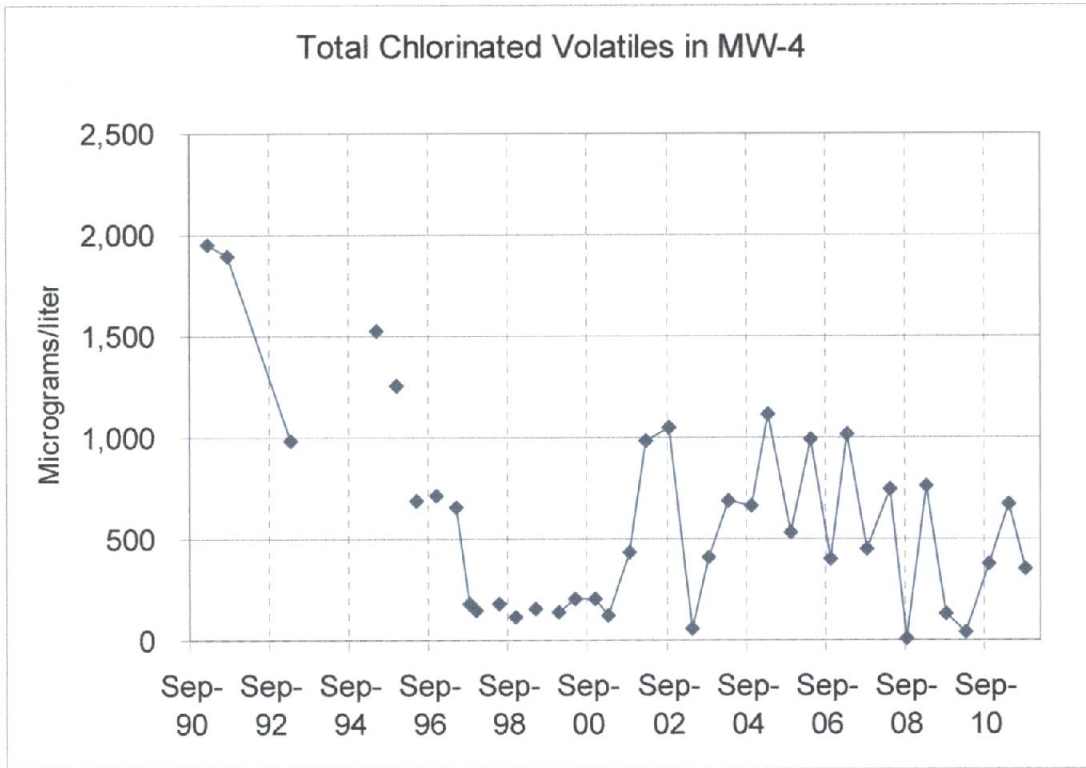
- MW-10
0.78
Total Chlorinated VOC's (µg/l)
- ND Not present above Detection Limits

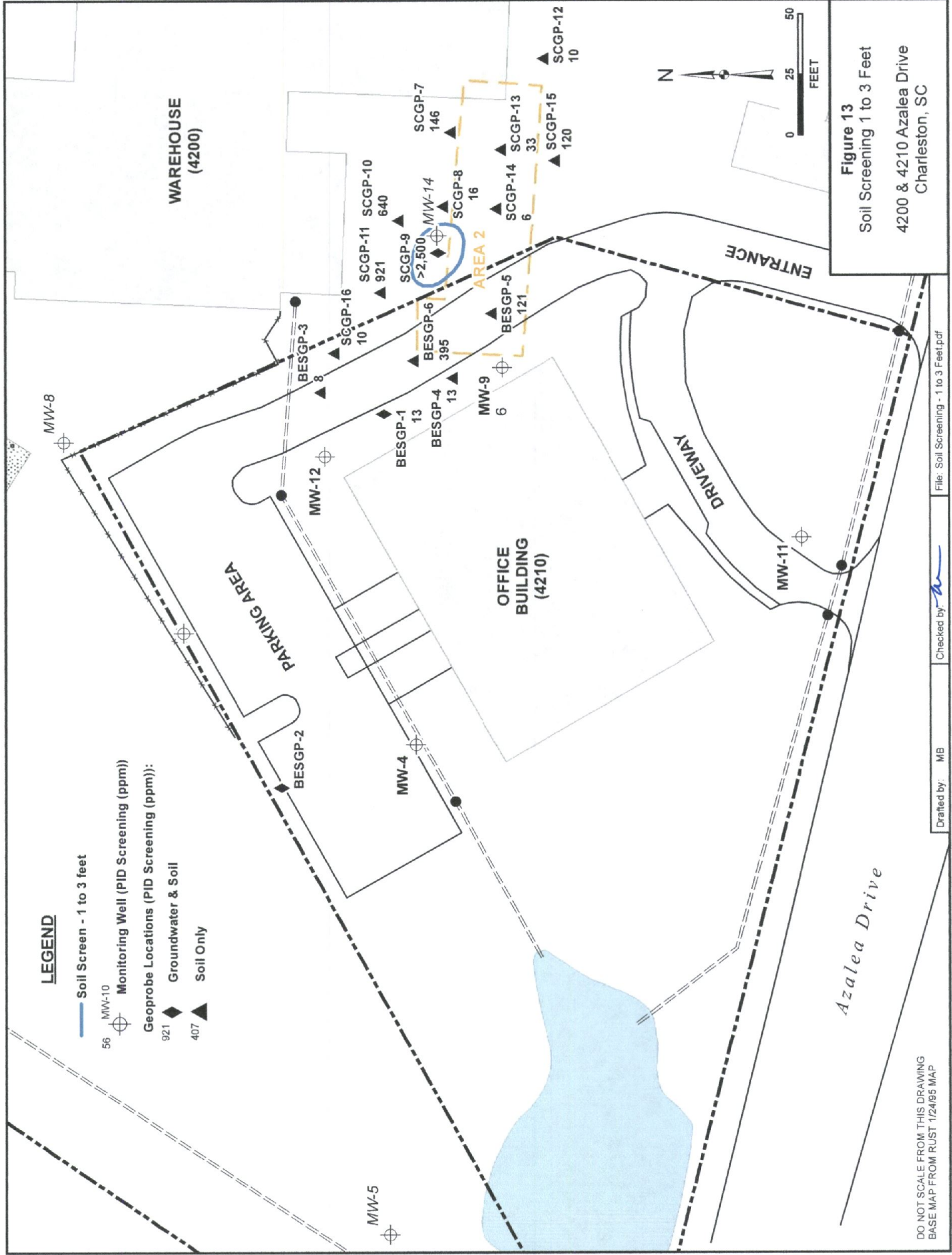
Figure 11
 Total Chlorinated Volatile Organics
 9/25/2011
 4210 Azalea Drive
 Charleston, SC

DO NOT SCALE FROM THIS DRAWING
 BASE MAP FROM RUST 1/24/95 MAP

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Figure 12. Time-Concentration Graphs - Total Chlorinated Volatiles





WAREHOUSE
(4200)

OFFICE
BUILDING
(4210)

PARKING AREA

DRIVEWAY

ENTRANCE

AREA 2

MW-14
>2,500

MW-8

BESGP-3
8

SCGP-16
10

SCGP-11
921

SCGP-9
640

SCGP-7
146

BESGP-5
121

SCGP-14
6

SCGP-13
33

SCGP-15
120

SCGP-12
10

BESGP-1
13

BESGP-4
13

MW-9
6

BESGP-2
8

MW-4

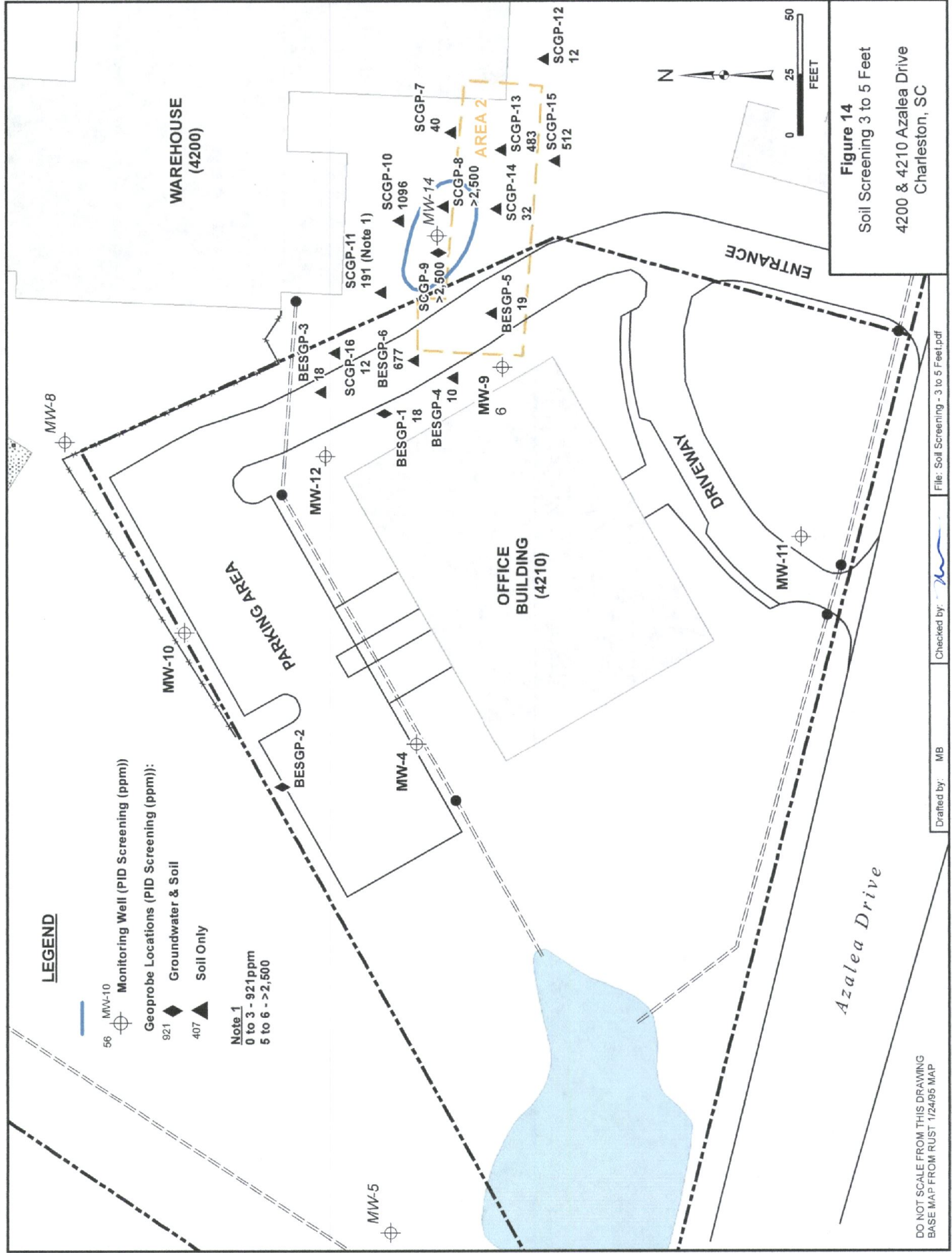
MW-5

MW-11

MW-12

Azalea Drive





LEGEND

- 56 MW-10 Monitoring Well (PID Screening (ppm))
- 921 Geoprobe Locations (PID Screening (ppm)):
- 407 Groundwater & Soil
- 407 Soil Only

Note 1
 0 to 3 - 921 ppm
 5 to 6 - >2,500

Figure 14
 Soil Screening 3 to 5 Feet
 4200 & 4210 Azalea Drive
 Charleston, SC

DO NOT SCALE FROM THIS DRAWING
 BASE MAP FROM RUST 1/24/95 MAP

Drafted by: MB Checked by: [Signature] File: Soil Screening - 3 to 5 Feet.pdf

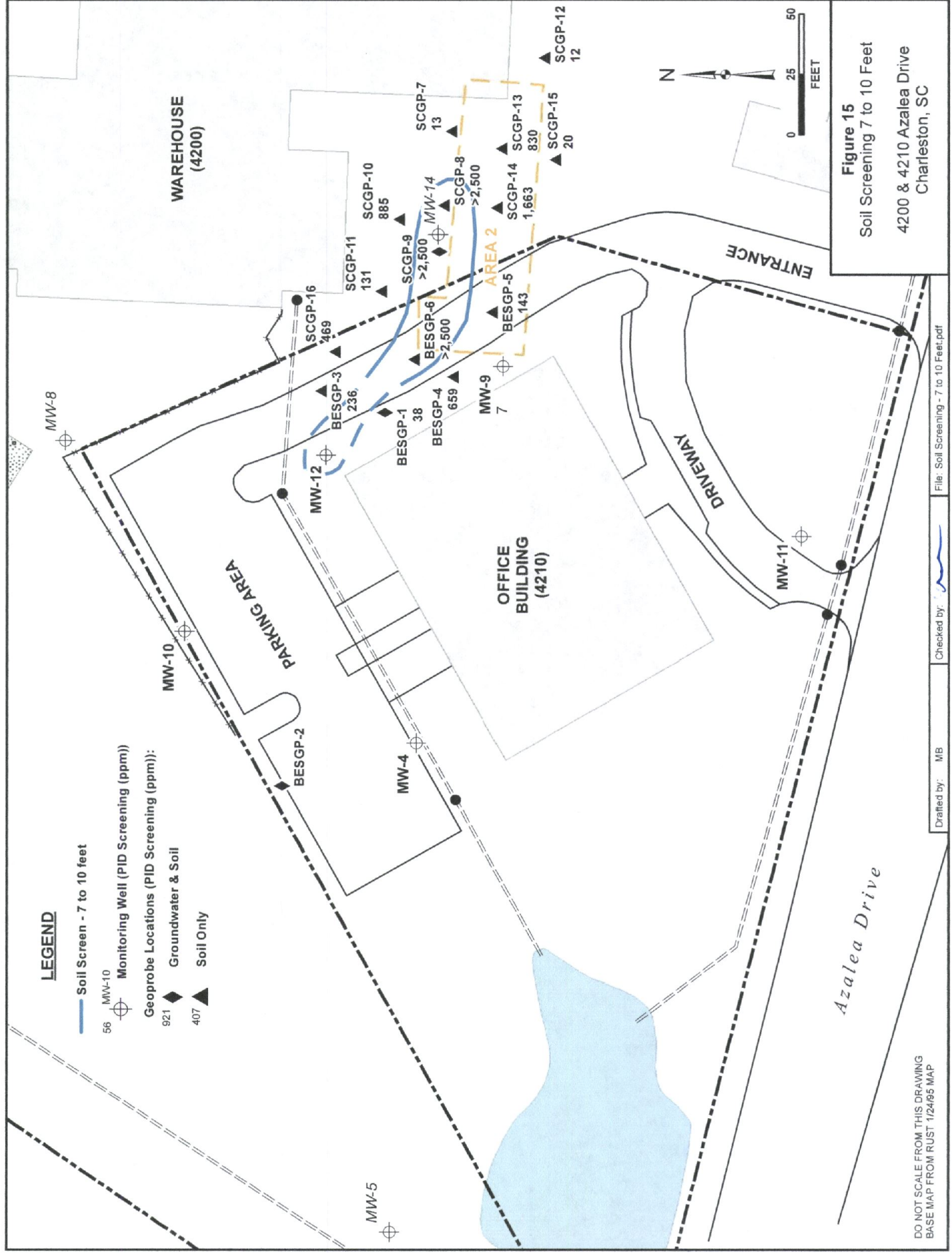
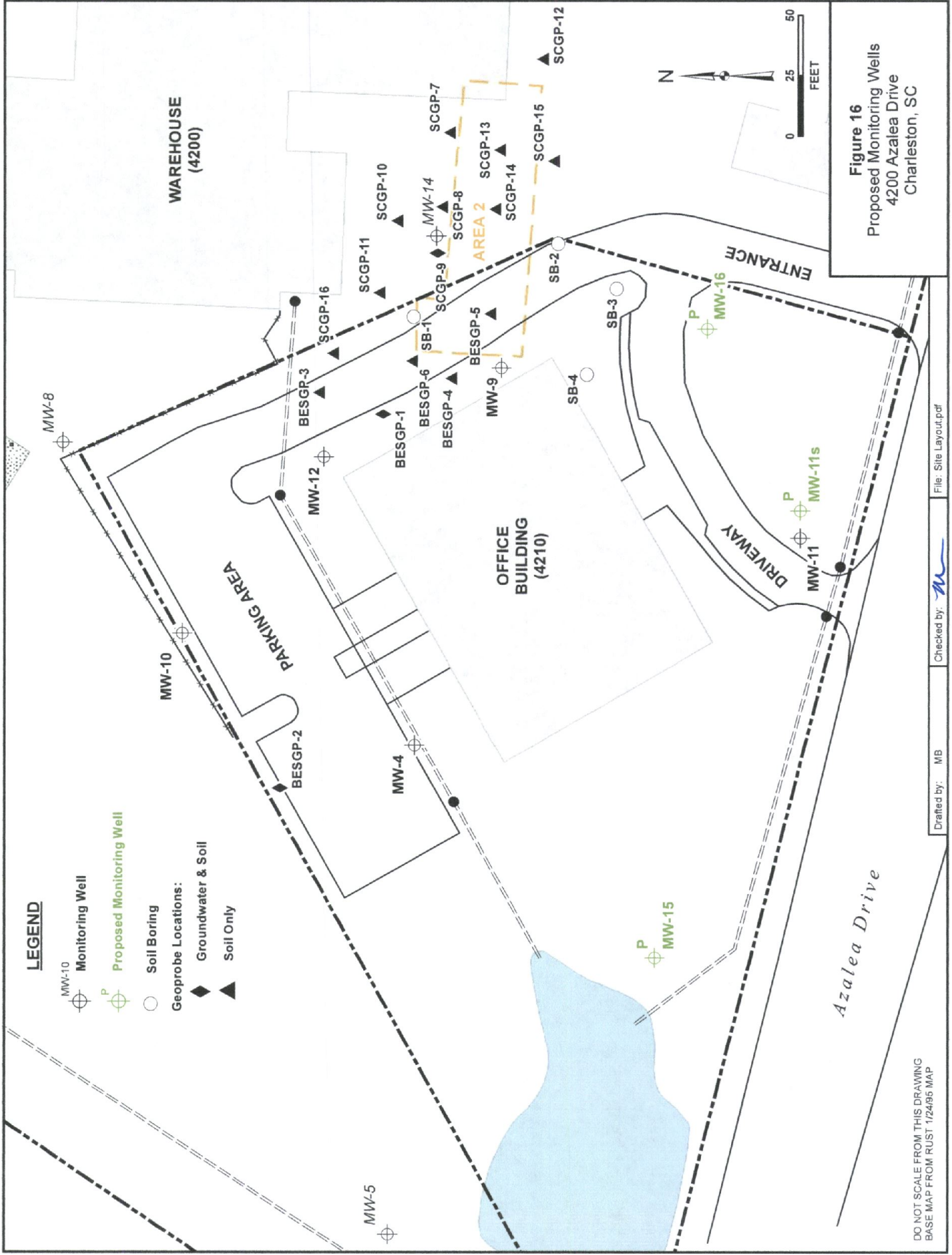


Figure 15
Soil Screening 7 to 10 Feet
4200 & 4210 Azalea Drive
Charleston, SC



DO NOT SCALE FROM THIS DRAWING
BASE MAP FROM RUST 1/24/95 MAP

Drafted by: MB

Checked by:

File: Site Layout.pdf

TABLES

- Table 1. Water-Level Elevations**
- Table 2. Groundwater Quality, Nonchlorinated Volatile Organic Parameters**
- Table 3. Groundwater Quality, Chlorinated Volatile Organic Parameters**
- Table 4. Design Goals for Proposed Monitoring Wells**

**Table 1. Water-Level Elevation
4210 Azalea Drive
Charleston, SC**

DATE	Meas. Point Elev.	Depth To Water	Water Level Elev.	Meas. Point Elev.	Depth To Water	Water Level Elev.	Meas. Point Elev.	Depth To Water	Water Level Elev.	Meas. Point Elev.	Depth To Water	Water Level Elev.	Meas. Point Elev.	Depth to Inapl	Water To Level	Inapl Elev.	Water Elev.
	MW-4			MW-9			MW-10			MW-11			MW-12				
08/15/91	13.79	4.27	9.52														
03/29/93	13.45	3.82	9.63	15.25	4.71	10.54											
07/15/93		5.04	8.41		5.95	9.3											
11/07/94		4.7	8.75		5.72	9.53											
12/20/94	13.50			15.28													
02/22/95		4.18	9.32		5.26	10.02											
05/17/95		5.41	8.09		6.42	8.86											
08/15/95		4.55	8.95		5.54	9.74											
11/13/95		4.43	9.07		5.61	9.67											
02/20/96		5.44	8.06		6.61	8.67											
05/20/96		5.31	8.19		6.20	9.08											
08/30/96		4.76	8.74		6.04	9.24											
11/14/96		5.42	8.08		6.48	8.80											
02/28/97		5.18	8.32		6.25	9.03											
05/08/97		4.62	8.88		5.82	9.46											
11/26/97		4.86	8.64		6.00	9.28											
02/14/98							14.45			10.43			14.91				
06/19/98		5.92	7.58	6.82	8.46		6.90	7.55						6.67		8.24	
11/30/98		6.35	7.15	7.28	8.00		8.15	6.30		3.90	6.53			7.28		7.63	
05/14/99		5.9	7.6	6.29	8.99		7.51	6.94		3.62	6.81			6.75		8.16	
12/27/99		5.49	8.01	6.52	8.76												
05/31/00		6.76	6.74	7.54	7.74												
11/10/00		6.62	6.88	7.37	7.91												
03/16/01		5.18	8.32	5.50	9.78		6.63	7.82		3.15	7.28						
09/20/01		6.15	7.35	6.78	8.50		7.15	7.30		3.45	6.98			7.14		7.77	
02/25/02		6.08	7.42	6.94	8.34		7.20	7.25		3.65	6.78			11.26		3.65	
09/30/02		4.83	8.67	5.73	9.55		5.70	8.75		2.92	7.51			9.28		5.63	
04/11/03		3.66	9.84	4.41	10.87		4.53	9.92		2.67	7.76		4.72	8.23	10.19	6.68	
09/29/03		6.29	7.21	6.78	8.50		7.20	7.25		3.54	6.89		6.48	10.94	8.43	3.97	
03/26/04		5.85	7.65	6.82	8.46		6.75	7.70		3.78	6.65		6.36	10.34	8.55	4.57	
10/02/04		5.6	7.9	6.38	8.90		6.42	8.03		3.29	7.14		6.01	9.85	8.90	5.06	
03/12/05		5.61	7.89	6.65	8.63		6.41	8.04		3.21	7.22		6.10	9.75	8.81	5.16	
10/01/05		6.64	6.86	7.14	8.14		7.45	7.00		3.60	6.83		6.81	10.65	8.10	4.26	
04/02/06		5.85	7.65	6.68	8.60		6.56	7.89		3.35	7.08		6.22	9.75	8.69	5.16	
10/01/06		5.95	7.55	6.39	8.89		6.60	7.85		3.32	7.11		6.40	6.74	8.51	8.17	
03/25/07		5.65	7.85	6.59	8.69		6.42	8.03		3.04	7.39		6.60	6.61	8.31	8.31	
09/22/07		5.96	7.54	6.74	8.54		6.85	7.60		3.10	7.33		NA	6.91		8.00	
04/06/08		5.35	8.15	6.42	8.86		6.14	8.31		3.03	7.40		NA	6.50		8.41	
09/27/08		5.62	7.88	6.45	8.83		6.41	8.04		2.68	7.75		NA	6.61		8.30	
03/30/09		5.74	7.76	6.82	8.46		6.49	7.96		3.23	7.20		NA	6.85		8.06	
09/19/09		5.41	8.09	6.99	8.29		7.01	7.44		3.48	6.95		NA	7.01		7.90	
03/27/10		5.16	8.34	6.15	9.13		5.92	8.53		3.03	7.40		NA	6.09		8.82	
10/09/10		5.89	7.61	6.74	8.54		6.79	7.66		3.16	7.27		*	6.83		8.08	
04/09/11		5.85	7.65	6.83	8.45		6.71	7.74		3.32	7.11		6.36	9.05	8.55	5.86	
09/25/11		6.95	6.55	7.65	7.63		7.98	6.47		3.29	7.14		7.45	12.90	7.46	2.01	

Depth to groundwater in feet below measuring point.

Measuring point elevations for 8/15/91 are reportedly relative to mean sea level. This data is from the 10/31/91 Assessment Report by GEL.

Measuring point elevations were resurveyed on 3/30/93 and again on 1/24/95. Elevations were then calculated from those surveys assuming the elevation for MW-5 was correctly given as 12.01 feet above mean sea level. MW-10 & 12 from 4/98 Trico map.

Free phase material was discovered in MW-12 on 3/16/01.

2/25/02 - Depth to water in MW-12 may be inaccurate due to equipment problem.

10/9/10 - Interface probe was not operational, depth taken with water level meter.

**Table 2. Groundwater Quality Summary - Nonchlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

	DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14	
Benzene	02/06/91		52	<50									
	08/15/91	<10.0	140.0	<50.0	4.36	22.70							
	03/30/93		42	8 J	2 J	32	<50	402					
	11/07/94	<5											
	05/18/95	<5	38	<5	<5		22	<5					
	11/13/95	<5	29	38	<5		<5	<5					
	02/20/96						9.4						
	05/20/96	<10	19.1	6.8	1.2		14.2	7.5					
	11/14/96	<1	25.1	4	17.6		11.8	10.1					
	05/08/97	<1	18.4	2.2	<1		19.1	1.5					
	09/08/97		23.2	<2					54.1	254	<2	1410	
	11/26/97	<5	27.8	<5	<5		<5	<5					
	06/19/98	<5		103	<5		11.9	248					
	11/30/98	<5		32	<5		77.1	321				490	
	02/15/99						<5						
	05/15/99	<5		7.9	<5		61	<5					
	09/03/99						130						
	12/27/99			37		41	41						
	05/31/00			15		30	166	86					
	11/10/00			8		33	19	16					
	03/16/01			3		7		<2	8	13		<2000	
	09/20/01	<2 A		72	<2 A	7 A	5 A	<2	5	<100		1200	
	02/25/02	< A		1200	< A	12 A	< A	<2	4	2		4100	
	09/30/02	< A		1700	< A	20 A	< A	<5	<5	<25		1800	
	04/11/03	< A		51	< A	17 A	< A	<0.5	0.5	<210		2900	
	09/30/03	< A		300 D	< A	26 A	25 A	0.73	52 D	<0.5		670	
	03/26/04	< A		440	< A	< A	< A	<0.5	34	23		<1300	630 a
	10/02/04			260				<5	14	<100			
	03/12/05			420				<5	6	<250			
	10/01/05			380				<5	11	<250			
	04/02/06			300				1.2 J	0.51 J	<250			
	10/01/06			35				46	18	5.9			
	03/25/07			120				260	32	10 J			
09/22/07			100				<5	45	<250				
04/06/08			140				<1	89	<20				
09/27/08			110				<1	39	<2				
03/30/09			420				<1	36	<100		74 J		
09/19/09			7.9				0.77 J	39	<25				
03/27/10			0.87 J				<1	0.79 J	<10				
10/09/10			20				<1	58	<20				
04/09/11			25				<1	9.6	<50				
09/25/11			67				0.3 J	67	<20				
Benzene													

**Table 2. Groundwater Quality Summary - Nonchlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

	DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14	
Ethylbenzene	02/06/91		<10	448									
	08/15/91	<10.0	15.0	300.0	<2.00	2.37							
	03/30/93		5	133	<5	3 J	<50	867					
	11/07/94	119											
	05/18/95	31	2 J	75	<5		<5	<5					
	11/13/95	39	<5	<5	<5		<5	<5					
	02/20/96						<1						
	05/20/96	57	2.1	5	<1		<1	8.8					
	11/14/96	11.1	<1	<1	3.6		<1	<1					
	05/08/97	5.2	<1	<1	<1		<1	<1					
	09/08/97		<2	<2					13.9	5.3	<2	5770	
	11/26/97	34.7	<5	<5	<5		<5	<5					
	06/19/98	41.8		<5	<5		<5	116					
	11/30/98	8.2		10.4	<5		<5	386			9350		
	02/15/99						<5						
	05/15/99	18.7		<5	<5		<5	<5					
	09/03/99						<5						
	12/27/99					2.9							
	05/31/00	3.7							18				
	11/10/00					2							
	03/16/01	2		<2					<2	<2	<2	53,000,000	
	09/20/01	<2		<2	<2	<2	<2	<2	<2	<2	<100	8700	
	02/25/02	4 a		<10	< a	< a	< a	<2	<2	<2	<2	21000	
	09/30/02	< a		5.3	< a	< a	< a	<5	<5	<5	<25	5200	
	04/11/03	6 a		<1	< a	< a	< a	<0.5	<0.5	<210	<210	8100	
	09/30/03	< a		3.8	< a	2 a	< a	<0.5	<0.5	<0.5	<0.5	3800	
	03/26/04	< a		<18	< a	< a	< a	<0.5	<3.1	<0.5	<0.5	5700	6100 a
	10/02/04			<5				<5	<5	<100			
	03/12/05			4.3 J				<5	<5	16 J			
	10/01/05			<10				<5	<5	<250			
	04/02/06			<50				<5	<5	<250			
10/01/06			0.54 J				11	<5	<5				
03/25/07			3.4 J				490	<0.3	<15				
09/22/07			<5				6	<25	<250				
04/06/08			1.6 J				<1	<5	<20				
09/27/08			<5				<1	<5	<2				
03/30/09			<10				<1	<10	<100		6400		
09/19/09			<1				<1	<1	<25				
03/27/10			<1				<1	<5	<250				
10/09/10			<1				<1	<1	<20				
04/09/11			1.3				<1	<1	<50				
09/25/11			<1				<1	<1	<20				
Ethylbenzene													

**Table 2. Groundwater Quality Summary - Nonchlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

	DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14	
Toluene	02/06/91		64	216									
	08/15/91	<10.0	15.0	<50.0	2.86	3.78							
	03/30/93		11	12	<5	4 J	<50	3830					
	11/07/94	<5											
	05/18/95	<5	2 J	5	<5		3 J	<5					
	11/13/95	<5	<5	<5	<5		<5	<5					
	02/20/96						<1						
	05/20/96	<10	2.2	<1	<1		<1	<1					
	11/14/96	<1	<1	<1	3.7		<1	<1					
	05/08/97	<1	<1	<1	<1		<1	<1					
	09/08/97		<2	<2					26.9	4.33	<2	21300	
	11/26/97	<5	<5	<5	<5		<5	<5					
	06/19/98	<5		<5	<5		<5	221					
	11/30/98	<5		<5	<5		7.8	937				11000	
	02/15/99						<5						
	05/15/99	<5		<5	<5		<5	<5					
	09/03/99	< a					10						
	12/27/99	< a					5 a	< a					
	05/31/00	< a					< a	< a	1.3				
	11/10/00	< a					4 a	2 a					
	03/16/01	< a		<2			< a	< a	<2	<2	<2	150,000,000	
	09/20/01	< a		<2			< a	< a	<2	<2	<100	75000	
	02/25/02	< a		<10			< a	< a	<2	<2	<2	120000	
	09/30/02	< a		<5			2 a	< a	<5	<5	<25	54000	
	04/11/03	< a		<1			3 a	< a	<0.5	0.7	280	86000	
	09/30/03	< a		<0.5			4 a	4 a	<0.5	1.4	1.5	26000	
	03/26/04	< a		<18			< a	< a	<0.5	<3.1	2.4	38000	96000 a
	10/02/04			<5					<5	<5	<100		
	03/12/05			1.8 J					<5	<5	<250		
	10/01/05			0.4 J					<5	0.57 J	<250		
	04/02/06			<50					<5	<5	<250		
10/01/06			0.25 J					0.29 J	0.78 J	1 J			
03/25/07			<1					4.6 J	4.4 J	<10			
09/22/07			<5					<5	2.6 J	<250			
04/06/08			<5					<1	7.8	<20			
09/27/08			<5					<1	2 J	<2			
03/30/09			<10					<1	4.3 J	<100	22000		
09/19/09			<1					<1	1.5	<25			
03/27/10			<1					<1	<5	<250			
10/09/10			<1					<1	1.3	<20			
04/09/11			<1					<1	0.62 J	<50			
09/25/11			<1					<1	1.5	<20			
Toluene													

**Table 2. Groundwater Quality Summary - Nonchlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

	DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14	
Trimethyl- benzene 1,2,4- NA	02/06/91												
	08/15/91												
	03/30/93												
	11/07/94												
	05/18/95												
	11/13/95												
	02/20/96												
	05/20/96	<10	<1	<1	<1		<1	<1					
	11/14/96	9.6	<1	3.1	<1		<1	<1					
	05/08/97	3.7	<1	<1	<1		<1	<1					
	09/08/97												
	11/26/97												
	06/19/98												
	11/30/98												
	02/15/99												
	05/15/99												
	09/03/99												
	12/27/99												
	05/31/00												
	11/10/00												
	03/16/01			<10					<10	<10	<10	<10000	
	09/20/01	<10		<10	<10	<10	<10	<10	<10	<10	<500	<500	
	02/25/02			130					<10	<10	<10	3400	
	09/30/02			<5					<5	<5	<25	<500	
	04/11/03			NA					NA	NA	NA	NA	
	09/30/03			18 D					<0.5	0.048 J	<0.5	<630	
	03/26/04			30					<0.5	<3.1	<0.5	<1300	130
10/02/04			29					<5	<5	<100			
03/12/05			8.1 J					<5	<5	30 J			
10/01/05			<10					<5	<5	<250			
04/02/06			<50					<5	<5	<250			
10/01/06			<5					0.57 J	<5	<5			
03/25/07			3.6 J					19 J	<0.4	23 J			
09/22/07			<5					2.7 J	<25	<250			
04/06/08			<5					<1	2.3 J	<20			
09/27/08			<5					<1	<5	<2			
03/30/09			<10					<1	<10	<100	510		
09/19/09			<1					<1	<1	<25			
Trimethyl benzene 1,2,4-	03/27/10		<1					<1	<5	<250			
	10/09/10		<1					<1	<1	<20			
	04/09/11		<1					<1	<1	<50			
	09/25/11		<1					<1	<1	<20			

**Table 2. Groundwater Quality Summary - Nonchlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

	DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14	
Trimethyl- benzene 1,3,5- NA	02/06/91												
	08/15/91												
	03/30/93												
	11/07/94												
	05/18/95												
	11/13/95												
	02/20/96												
	05/20/96	<10	<1	<1	<1		<1	<1					
	11/14/96	4.3	<1	<1	<1		<1	<1					
	05/08/97	1.8	<1	<1	<1		<1	<1					
	09/08/97												
	11/26/97												
	06/19/98												
	11/30/98												
	02/15/99												
	05/15/99												
	09/03/99												
	12/27/99												
	05/31/00												
	11/10/00												
	03/16/01			<10					<10	<10	<10	<10000	
	09/20/01	<10		<10	<10	<10	<10	<10	<10	<10	<500	<500	
	02/25/02			<50					<10	<10	<10	1700	
	09/30/02			86					<5	<5	<25	<500	
	04/11/03			NA					NA	NA	NA	NA	
	09/30/03			0.9					<0.5	<0.5	<0.5	<630	
	03/26/04			<18					<0.5	<3.1	<0.5	<1300	NA a
	10/02/04			<5					<5	<5	<100		
	03/12/05			<25					<5	<5	<250		
	10/01/05			<10					<5	<5	<250		
	04/02/06			<50					<5	<5	<250		
	10/01/06			<5					<5	<5	<5		
	03/25/07			<3					6.7 J	<0.6	<30		
09/22/07			<5					1.2 J	<25	<250			
04/06/08			<5					<1	<5	<20			
09/27/08			20					<1	<5	<2			
03/30/09			<10					<1	<10	<100	240		
09/19/09			<1					<1	<1	<25			
Trimethyl benzene 1,3,5-	03/27/10		<1					<1	<5	<250			
	10/09/10		<1					<1	<1	<20			
	04/09/11		<1					<1	<1	<50			
	09/25/11		<1					<1	<1	<20			

**Table 2. Groundwater Quality Summary - Nonchlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

	DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14	
Xylenes (Total)													
	03/30/93		20	5 J	<5	3 J	<50	5160					
	11/07/94	381											
	05/18/95	99	<5	<5	<5		3 J	<5					
	11/13/95	122	<5	<5	<5		<5	<5					
	02/20/96						<1						
	05/20/96	196	4.2	<1	<1		1.6	31.2					
	11/14/96	44.3	<1	<1	14		2.9	<1					
	05/08/97	20	<1	<1	<1		<1	<1					
	09/08/97		<4	<4				178	13.5	<4	22,100		
	11/26/97	98.1	<15	<15	<15		<15	<15					
	06/19/98	126		<15	<15		<15	388					
	11/30/98	37.1		<15	<15		<15	1880			23,500		
	02/15/99						<15						
	05/15/99	73.6		16.3	<5		26.6	<5					
	09/03/99						16						
	12/27/99					3							
	05/31/00	14						7.9	125				
	11/10/00												
	03/16/01	5		<5					<5	<5	<5	310,000,000	
	09/20/01	<5		18	<5	<5	<5	<5	<5	<200		49,000	
	02/25/02	9 a		300	< a	< a	< a	<5	<5	<5		130,000	
	09/30/02	< a		6.4	< a	< a	< a	<5	<5	<25		29,000	
	04/11/03	17 a		26	< a	< a	< a	<0.5	<0.5	<210		56,000	
	09/30/03	< a		3.4	< a	< a	< a	<0.5	<0.5	<0.5		27,000	
	03/26/04	6 a		130	< a	< a	< a	<0.5	<3.1	<0.5		39,000	57,000 a
	10/02/04			8.7					<5	<5	<100		
	03/12/05			<25					<5	<5	56 J		
	10/01/05			<10					<5	<5	<250		
	04/02/06			<50					<5	<5	<250		
	10/01/06			<5					7	0.68 J	<5		
	03/25/07			6.6 J					1100	1.8 J	<25		
	09/22/07			4.3 J					30	<25	<250		
04/06/08			<5					<1	2.7 J	<20			
09/27/08			<5					<1	<5	<2			
03/30/09			<10					<1	<10	<100	40,000		
09/19/09			<1					<1	1.2	<25			
03/27/10			<1					<1	<5	<250			
10/09/10			<1					<1	0.38 J	<20			
04/09/11			5.1					<1	0.51 J	<50			
09/25/11			<1					<1	1.3	<20			
Xylenes													

**Table 2. Groundwater Quality Summary - Nonchlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

	DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14
Total	02/06/91		67	448								
Nonchlorinated	08/15/91		166	312	4	29						
Volatiles	03/30/93		67	146	2	38	0	6,429				
	11/07/94	500										
	05/18/95	130	40	75	0		25	0				
	11/13/95	161	29	38	0		0	0				
	02/20/96						9					
	05/20/96	253	25	12	5		16	48				
	11/14/96	55	25	4	35		15	10				
	05/08/97	25	18	2	0		19	2				
	09/08/97		23	0				467	273	0	29,280	
	11/26/97	133	28	0	0		0	221				
	06/19/98	168		103	0		20	1,689				
	11/30/98	45		42	0		77	2,587			33,340	
	02/15/99						0					
	05/15/99	92		24	0		98	0				
	09/03/99						146					
	12/27/99			37		47	41					
	05/31/00	18		15		34	176	229				
	11/10/00			8		35	19	16				
	03/16/01	7		3		7		0	8	13	513,000,000	
	09/20/01	0 a		90	0 a	7 a	5 a	0	5	0	133,900	
	02/25/02	13 a		1,630	0 a	14 a	0 a	0	4	2	280,200	
	09/30/02	0 a		1,798	0 a	23 a	0 a	0	0	0	90,000	
	04/11/03	23 a		77	0 a	21 a	4 a	0	1	280	153,000	
	09/30/03	0 a		326	0 a	28 a	25 a	1	53	2	57,470	
	03/26/04	6 a		600	0 a	0 a	0 a	0	34	25	82,700	159,860 a
	10/02/04			298				0	14	0		
	03/12/05			434				0	6	102		
	10/01/05			380				0	12	0		
	04/02/06			300				1	1	0		
	10/01/06			36				65	19	7		
	03/25/07			134				1,880	38	33		
	09/22/07			104				40	48	0		
	04/06/08			142				0	102	0		
	09/27/08			130				0	41	0		
	03/30/09			420				0	40	0	69,224	
	09/19/09			8				1	42	0		
Total	03/27/10			0.87				0	0.79	0		
Nonchlorinated	10/09/10			20				0	60	0		
Volatiles	04/09/11			31				0	11	0		
	09/25/11			67				0.3	69.8	0		

All values are micrograms per liter ug/l.

8/91 Sampling took place on 8/15-16/91.

* MW-2 abandoned on 12/16/92 for warehouse construction, and replaced with MW-2r on 10/26/94.

D - Compound exceeded upper calibration level.

E - Compound exceeded upper calibration level. Sample was diluted and reanalyzed.

J - Concentration estimated below detection limit.

9/8/97 results for MW 3,4,9,10,11, and 12 collected by GEL.

9/8/97 results for MW-8 are from 8/26/97 routine sampling.

3/6/01 results for MW-12 were from a free phase material floating in the well.

a-Data from Brenntag sampling for similar period

4/06 and 10/06 samples collected with passive diffusion bag samplers

**Table 3. Groundwater Quality Summary - Chlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

	DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14
Chloro- benzene	02/06/91		51	221								
	08/15/91	<10.0	85.0	240.0	51.10	44.50						
	03/30/93		60	105	3 J	63	12 J	326				
	11/07/94	<5				119						
	02/22/95						<25					
	05/18/95	<5	74	177	7		55	<5				
	08/15/95						<50	<1				
	11/13/95	<5	57	141	8		26	<5				
	02/20/96						42.5					
	05/20/96	<10	40.3	86.6	20.6		48.7	3.8				
	08/30/96						64.8					
	11/14/96	<1	58.8	169	426		45.4	19.5				
	02/28/97						30.7					
	05/08/97	<1	40.3	127.5	1.5		39.3	2.9				
	09/08/97		64.9	65			17.8	62.1	51.9	<2	374	
	11/26/97	<5	62.7	42.4	<5		7.2	<5				
	02/14/98						11.5					
	06/19/98	<5		119	12.6		22.5	149				
	08/08/98						40.6					
	11/30/98	<5		66.1	10.8		32.8	122			285	
	02/15/99						<5					
	05/15/99	<5		36.7	<5		23.9	<5				
	09/03/99						19					
	12/27/99	<2		41	3	103	8	<2				
	05/31/00	<1		89	<1	71	10	73				
	11/10/00	<10		170	<10	77	<50	27				
	03/16/01	<10		100	<10	34	<10	<10	40	<10	<10000000	
	09/20/01	<10		410	<10	<10	<10	<10	31	<500	<500	
	02/25/02	<10 a		980	<10 a	44 a	<10 a	<10	21	<10	520	
	09/30/02	<10 a		1000	<10 a	55 a	<10 a	<5	8.7	<25	<500	
	04/11/03	<10 a		48	<10 a	58 a	<10 a	<0.5	<0.5	<210	<2500	
	09/30/03	<10 a		330 D	<10 a	83 a	<10 a	1.7	61 D	4.4	<630	
	03/26/04	<10 a		690	<10 a	<10 a	<10 a	<0.5	49	7.4	<1300	110 a
10/02/04			660				<5	29	<100			
03/12/05			1100				<5	13	<250			
10/01/05			520				0.52 J	55	<250			
04/02/06			990				4.4 J	1.8 J	<250			
10/01/06			390				100	95	<10			
03/25/07			990				370	15	<10			
09/22/07			440				<5	91	<250			
04/06/08			730				<1	6.9	<20			
09/27/08			<5				<1	70	2.5			
03/30/09			750				<1	<10	<100	750		
09/19/09			120				2.6	93	<25			
03/27/10			38				<1	<5	<250			
10/09/10			360				<1	75	<20			
Chloro- benzene	04/09/11		660 E				<1	14	<50			
	09/25/11		340				0.72 J	82	<20			

**Table 3. Groundwater Quality Summary - Chlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

	DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14
Chloro-ethane	02/06/91		<10	<50								
	08/15/91	<10	<10	<50	<2	<2						
	03/30/93		<10	<20	<10	<10	<100	<200				
	11/07/94	<10				<2						
	02/22/95						<50					
	05/18/95	<10	<10	<10	<10		<10	<10				
	08/15/95						<100	<2				
	11/13/95	<10	<10	<10	<10		<10	<10				
	02/20/96						<1					
	05/20/96	<10	<1	<1	<1		<1	<1				
	08/30/96						<1					
	11/14/96	<1	<1	<1	2.1		<1	<1				
	02/28/97						<1					
	05/08/97	<1	<1	<1	<1		<1	<1				
	09/08/97		<2	<2			<1	<2	<2	<2	<200	
	11/26/97	<10	<10	<10	<10		<10	<10				
	02/14/98						<5					
	06/19/98	<10		<10	<10		<10	<10				
	08/08/98						<10					
	11/30/98	<10		<10	<10		<10	<10			<10	
	02/15/99						<10					
	05/15/99	<5		<5	<5		6.2	<5				
	09/03/99						<5					
	12/27/99	<2		<2	<2	<2	<2	<2				
	05/31/00	<1		<1	<1	<1	<1	<1				
	11/10/00	<5		<5	<5	<5	<25	<5				
	03/16/01	<5		<5	<5	<5	<5	<5	<5	<5	<500000	
	09/20/01	<5 a		<5	<5	<5	<5	<5	<5	<250	<250	
	02/25/02	<5 a		<25	<5 a	<5 a	<5 a	<5	<5	<5	<250	
	09/30/02	<5 a		16	<5 a	<5 a	<5 a	<5	<5	<25	<500	
	04/11/03	<5 a		<1	<5 a	<5 a	<5 a	<0.5	<0.5	<210	<2500	
	09/30/03	<5 a		20	<5 a	<5 a	<5 a	<0.5	<0.5	<0.5	<630	
	03/26/04	<5 a		<18	<5 a	<5 a	<5 a	<0.5	<3.1	<0.5	<1300	<50 a
10/02/04			<5				<5	<5	<100			
03/12/05			4.9 J				<5	<5	<250			
10/01/05			4.7 J				<5	<5	<250			
04/02/06			5.4 J				<5	<5	<250			
10/01/06			<5				<5	<5	<5			
03/25/07			<2.5				<2.5	<0.5	<25			
09/22/07			<5				<5	<25	<250			
04/06/08			<10				<2	<10	<40			
09/27/08			<10				<2	<10	<4			
03/30/09			6.5 J				<2	<20	<200	<200		
09/19/09			<2				<2	<2	<50			
03/27/10			<2				<2	<5	<250			
10/09/10			1.3 J				<2	<2	<40			
Chloro-ethane	04/09/11		0.51 J				<2	<2	<100			
	09/25/11		<2				<2	<2	<40			

**Table 3. Groundwater Quality Summary - Chlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

	DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14
Dichloro- benzene 1,2 (o)	02/06/91		13	1,175								
	08/15/91	<10.0	80	1,140	18.6	<2.00						
	03/30/93		34	649	4 J	2 J	8 J	35 J				
	11/07/94					<1						
	02/22/95						<25					
	05/18/95	<5	31	1070	3 J		26	<5				
	08/15/95						<50	<1				
	11/13/95	<5	29	979	<5		12	<5				
	02/20/96						13.1					
	05/20/96	<10	20	475	10.2		17.7	<1				
	08/30/96						33					
	11/14/96	<1	19.7	401	271		17	<1				
	02/28/97						9.3					
	05/08/97	<1	15.2	389	<1		12.5	<1				
	09/08/97		13.4	86.4			6	<10	66	<10	775	
	11/26/97	<5	13.9	67.4	<5		<5	<5				
	02/14/98						<5					
	06/19/98	<5		13.8	<5		8.4	6.9				
	08/08/98						25.1					
	11/30/98	<5		5.4	<5		102	19.4				1840
	02/15/99						9.9					
	05/15/99	<5		<5	<5		138	<5				
	09/03/99						140					
	12/27/99	<2		5	<2	<2	31	<2				
	05/31/00	<1		<1	<1	<1	<1	<1				
	11/10/00	<10		<10	<10	<10	62	<10				
	03/16/01	<10		<10	<10	<10	<10	<10	55	38	16000000	
	09/20/01	<10		<10	<10	<10	<10	<10	47	<500	1600	
	02/25/02	<10 a		<50	<10 a	<10 a	<10 a	<10 a	33	35	7000	
	09/30/02	<10 a		5.4	<10 a	<10 a	<10 a	<5	15	30	1000	
	04/11/03	<10 a		<1	<10 a	<10 a	<10 a	<0.5	0.8	<210	<2500	
	09/30/03	<10 a		4.8	<10 a	<10 a	<10 a	<0.5	88 D	39 E	1100	
	03/26/04	<10 a		<18	<10 a	<10 a	<10 a	<0.5	70	54 E	1400	450 a
10/02/04			<5				<5	36	<100			
03/12/05			<25				<5	19	<250			
10/01/05			<10				<5	66	<250			
04/02/06			<50				<5	15	<250			
10/01/06			1.4 J				0.6 J	120	26			
03/25/07			4.1 J				2.2 J	27 J	25 J			
09/22/07			1.4 J				<5	120	<250			
04/06/08			2.7 J				<1	20	<20			
09/27/08			<5				<1	87	<2			
03/30/09			<10				<1	14	<100	1100		
09/19/09			2				<1	97	<25			
03/27/10			<1				<1	2 J	<250			
10/09/10			1.7				<1	91	<20			
Dichloro- benzene 1,2	04/09/11		2.1				<1	25	<50			
	09/25/11		1.3				<1	95	<20			

**Table 3. Groundwater Quality Summary - Chlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

	DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14	
Dichloro- benzene 1,3 (m)	02/06/91		<10	94									
	08/15/91	<10.0	<10.0	80.0	<2.00	<2.00							
	03/30/93		3 J	40	<5	<5	<50	<100					
	11/07/94					<1							
	02/22/95						<25						
	05/18/95	<5	<5	<5	<5		<5	<5					
	08/15/95						<50	<1					
	11/13/95	<5	<5	<5	<5		<5	<5					
	02/20/96						2.7						
	05/20/96	<10	2	27.6	<1			5.1	<1				
	08/30/96							5.7					
	11/14/96	<1	10.4	26	15.4			6.3	<1				
	02/28/97							4					
	05/08/97	<1	1.5	28.8	<1			3.5	<1				
	09/08/97		<10	<10				2.6	<10	<10	<10	41.3	
	11/26/97	<5	<5	6.8	15.7			<5	<5				
	02/14/98							<5					
	06/19/98	<5		<5	<5			<5	<5				
	08/08/98							<5					
	11/30/98	<5		13.2	<5			9.8	<5			79.1	
	02/15/99							<5					
	05/15/99	<5		<5	<5			51.6	<5				
	09/03/99							12.5					
	12/27/99	<2		3	<2	<2		8	<2				
	05/31/00	<1		<1	<1	<1		<1	<1				
	11/10/00	<10		<10	<10	<10		<50	<10				
	03/16/01	<10		<10	<10	<10		<10	<10	<10	<10	<1000000	
	09/20/01	<10		<10	<10	<10		<10	<10	<10	<500	<500	
	02/25/02	<10 a		<50	<10 a	<10 a	<10 a	<10 a	<10	<10	<10	<500	
	09/30/02	<10 a		5.4	<10 a	<10 a	<10 a	<10 a	<5	<5	<25	<500	
	04/11/03	<10 a		<1	<10 a	<10 a	<10 a	<10 a	<0.5	<0.5	<210	<2500	
	09/30/03	<10 a		3.6	<10 a	<10 a	<10 a	<10 a	<0.5	<0.5	0.66	<630	
	03/26/04	<10 a		<18	<10 a	<10 a	<10 a	<10 a	<0.5	4.6	1	<1300	<100 a
	10/02/04			<5					<5	<5	<100		
	03/12/05			<25					<5	2.1 J	<250		
	10/01/05			1.6 J					<5	3.6 J	<250		
	04/02/06			<50					<5	2.1 J	<250		
	10/01/06			2.7 J					0.6 J	7.4	0.55 J		
	03/25/07			2.5 J					<1.5	2.8 J	<15		
	09/22/07			2.2 J					<5	6.5 J	<250		
04/06/08			2.4 J					<1	1.7 J	<20			
09/27/08			2.6 J					<1	4.9 J	<2			
03/30/09			<10					<1	<10	<100	76 J		
09/19/09			1.4					<1	5.1	<25			
03/27/10			0.36 J					<1	<5	<250			
10/09/10			1.2					<1	4.4	<20			
Dichloro- benzene 1,3	04/09/11		1.7					<1	2.1	<50			
	09/25/11		1.7					<1	4.9	<20			

**Table 3. Groundwater Quality Summary - Chlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

	DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14
Dichloro- benzene 1,4 (p)	02/06/91		48	322								
	08/15/91	<10.0	20.0	255.0	3.72	<2.00						
	03/30/93		13	148	<5	<5	6 J	<100				
	11/07/94					<1						
	02/22/95						<25					
	05/18/95	<5	17	256	<5		29	<5				
	08/15/95						<50	<1				
	11/13/95	<5	14	130	<5		13	<5				
	02/20/96						15.4					
	05/20/96	<10	10	90.6	2.2		27.2	<1				
	08/30/96						<1					
	11/14/96	<1	1.9	104	61.6		32.1	<1				
	02/28/97						<1					
	05/08/97	<1	7.7	102.5	<1		18	<1				
	09/08/97		<10	30			2.8	<10	16.6	<10	171	
	11/26/97	<5	10.7	24.3	<5		<5	<5				
	02/14/98						<5					
	06/19/98	<5		24.5	<5		10.6	6.4				
	08/08/98						22.8					
	11/30/98	<5		12.4	<5		35.8	9.9				103
	02/15/99						<5					
	05/15/99	<5		6.1	<5		10.3	<5				
	09/03/99						41					
	12/27/99	<2		8	<2	<2	19	<2				
	05/31/00	<1		<1	<1	<1	<1	<1				
	11/10/00	<10		30	<10	<10	<50	<10				
	03/16/01	<10		19	<10	<10	<10	<10	21	<10	<1000000	
	09/20/01	<10		23	<10	<10	<10	<10	20	<500	<500	
	02/25/02	<10 a		<50	<10 a	<10 a	<10 a	<10	16	<10	1400	
	9/30/2002	<10 a		19	<10 a	<10 a	<10 a	<5	7.8	<25	<500	
	4/11/2003	<10 a		<1	<10 a	<10 a	<10 a	<0.5	<0.5	<210	<2500	
	9/30/2003	<10 a		16	<10 a	<10 a	<10 a	<0.5	18	1.5	<630	
	3/26/2004	<10 a		<18	<10 a	<10 a	<10 a	<0.5	16	2.3	<1300	<100 a
	10/2/2004			<5				<5	8.7	<100		
	3/12/2005			8.4 J				<5	8.2	<250		
	10/1/2005			6.3 J				<5	12	<250		
4/2/2006			<50				0.27 J	7.3	<250			
10/1/2006			6.5				1.4 J	23	1.3 J			
3/25/2007			11 J				5.4 J	10	<10			
9/22/2007			8.2				2.1 J	21 J	<250			
4/6/2008			9.1				<1	6.5	<20			
9/27/2008			7.8				<1	15	<2			
3/30/2009			6.6 J				<1	3.7 J	<100	250		
9/19/2009			7.6				<1	16	<25			
3/27/2010			1.5				<1	<5	<250			
10/9/2010			8.2				<1	16	<20			
Dichloro- benzene 1,4	4/9/2011		6.4				<1	7.6	<50			
	9/25/2011		8.4				<1	17	<20			

**Table 3. Groundwater Quality Summary - Chlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

	DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14
Dichloro-ethane 1,1	02/06/91		17	63								
	08/15/91	<10.0	25.0	52.5	<2.00	<2.00						
	03/30/93		12	13	<5	<5	10 J	<100				
	11/07/94	<5				<1						
	02/22/95						<25					
	05/18/95	<5	8	11	<5		7	<5				
	08/15/95						<50	<1				
	11/13/95	<5	4 J	6	<5		6	<5				
	02/20/96						4.7					
	05/20/96	<10	3.8	4.7	<1		5.4	<1				
	08/30/96						6.7					
	11/14/96	<1	5.4	4.9	<1		6.9	<1				
	02/28/97						<1					
	05/08/97	<1	<1	3.6	<1		<1	<1				
	09/08/97		3.6	<2			5.6	<2	26.1	<2	<200	
	11/26/97	<5	<5	<5	<5		<5	<5				
	02/14/98						<5					
	06/19/98	<5		<5	<5		<5	<5				
	08/08/98						8.3					
	11/30/98	<5		<5	<5		9.3	6.1			26.7	
	02/15/99						<5					
	05/15/99	<5		<5	<5		13	<5				
	09/03/99						8.2					
	12/27/99	<2		3	<2	<2	15	<2				
	05/31/00	<1		1	<1	<1	23	<1				
	11/10/00	<2		<2	<2	<2	18	<2				
	03/16/01	<2		<2	<2	<2	<2	<2	10	3	<2000000	
	09/20/01	<2		<2	<2	<2	2	<2	9	<100	<100	
	02/25/02	<2 a		<10	<2 a	<2 a	<2 a	<2	8	27	120	
	09/30/02	<2 a		<5	<2 a	<2 a	<2 a	<5	<5	<25	<500	
	04/11/03	<2 a		2	<2 a	<2 a	<2 a	<0.5	0.6	<210	<2500	
	09/30/03	<2 a		<0.5	<2 a	<2 a	5 a	<0.5	11	2.1	<630	
	03/26/04	<2 a		<18	<2 a	<2 a	<2 a	<0.5	10	3.7	<1300	150 a
	10/02/04			<5				<5	5.2	<100		
	03/12/05			<25				<5	6.7	<250		
	10/01/05			<10				<5	5.2	<250		
	04/02/06			<50				<5	4.2 J	<250		
	10/01/06			<5				0.39 J	5.4	0.91 J		
	03/25/07			<1.5				<1.5	16	<15		
	09/22/07			<5				<5	9.5 J	<250		
04/06/08			<5				<1	19	<20			
09/27/08			<5				<1	7.4	<2			
03/30/09			<10				<1	17	<100	<100		
09/19/09			0.38 J				<1	4.5	<25			
03/27/10			0.38 J				<1	2.4 J	<250			
10/09/10			0.28 J				<1	5.4	<20			
Dichloro-ethane 1,1	04/09/11		0.27 J				<1	4.8	<50			
	09/25/11		0.15 J				<1	5.2	<20			

**Table 3. Groundwater Quality Summary - Chlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

	DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14
Dichloroethane 1,2	02/06/91		<10	<50								
	08/15/91	<10.0	25.0	<50.0	<2.00	<2.00						
	03/30/93		10	<10	<5	<5	<50	<100				
	11/07/94	<5				<1						
	02/22/95						<25					
	05/18/95	<5	4 J	<5	<5		<5	<5				
	08/15/95						<50	<1				
	11/13/95	<5	<5	<5	<5		<5	<5				
	02/20/96						<1					
	05/20/96	<10	<1	<1	<1		<1	<1				
	08/30/96						<1					
	11/14/96	<1	<1	<1	<1		<1	<1				
	02/28/97						<1					
	05/08/97	<1	<1	<1	<1		<1	<1				
	09/08/97		<2	<2			<1	<2	<2	<2	<200	
	11/26/97	<5	<5	<5	<5		<5	<5				
	02/14/98						<5					
	06/19/98	<5		<5	<5		<5	22.8				
	08/08/98						<5					
	11/30/98	<5		<5	<5		<5	<5			<5	
	02/15/99						<5					
	05/15/99	<5		<5	<5		<5	<5				
	09/03/99						<5					
	12/27/99	<2		<2	<2	<2	<2	<2				
	05/31/00	<1		<1	<1	<1	<1	<1				
	11/10/00	<2		<2	<2	<2	<2	<10	<2			
	03/16/01	<2		<2	<2	<2	<2	<2	<2	<2	<2000000	
	09/20/01	<2		<2	<2	<2	<2	<2	<2	<2	<100	<100
	02/25/02	<2 a		<10	<2 a	<2 a	<2 a	<2 a	<2	<2	<2	<100
	09/30/02	<2 a		<5	<2 a	<2 a	<2 a	<2 a	<5	<5	<25	<500
	04/11/03	<2 a		<1	<2 a	<2 a	<2 a	<2 a	<0.5	<0.5	<210	<2500
	09/30/03	<2 a		27 E	<2 a	<2 a	<2 a	<2 a	<0.5	3.3	<0.5	<630
	03/26/04	<2 a		<18	<2 a	<2 a	<2 a	<2 a	<0.5	<3.1	<5	<1300
10/02/04			<5					<5	<5	<100		
03/12/05			<25					<5	<5	<250		
10/01/05			<10					<5	<5	<250		
04/02/06			<50					<5	<5	<250		
10/01/06			<5				0.37 J	1 J	<5			
03/25/07			<1.5					<1.5	<0.3	<15		
09/22/07			<5					<5	<25	<250		
04/06/08			<5					<1	<5	<20		
09/27/08			<5					<1	<5	<2		
03/30/09			<10					<1	<10	<100	<100	
09/19/09			<1					<1	<1	<25		
03/27/10			<1					<1	<5	<250		
10/09/10			<1					<1	<1	<20		
Dichloroethane 1,2	04/09/11		<1					<1	<1	<50		
	09/25/11		<1					<1	<1	<20		

**Table 3. Groundwater Quality Summary - Chlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

	DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14
Dichloro- ethene 1,1	02/06/91		22	<50								
	08/15/91	<10.0	70.0	<50.0	<2.00	<2.00						
	03/30/93		14	4 J	<5	<5	<50	<100				
	11/07/94	<5				<1						
	02/22/95						<25					
	05/18/95	<5	7	<5	<5		3 J	<5				
	08/15/95						<50	<1				
	11/13/95	<5	<5	<5	<5		4 J	<5				
	02/20/96						3.8					
	05/20/96	<10	3.2	<1	<1		2.4	<1				
	08/30/96						<1					
	11/14/96	<1	2.7	<1	<1		<1	<1				
	02/28/97						5.8					
	05/08/97	<1	4	<1	<1		2.2	<1				
	09/08/97		<2	<2			<1	<2	<2	<2	<200	
	11/26/97	<5	<5	<5	<5		5.7	<5				
	02/14/98						<5					
	06/19/98	<5		<5	<5		7.9	<5				
	08/08/98						<5					
	11/30/98	<5		<5	<5		<5	<5			38.8	
	02/15/99						<5					
	05/15/99	<5		<5	<5		<5	<5				
	09/03/99						<5					
	12/27/99	<2		<2	<2	<2	8	<2				
	05/31/00	<1		<1	<1	<1	5	<1				
	11/10/00	<2		<2	<2	<2	<10	<2				
	03/16/01	<2		<2	<2	<2	<2	<2	<2	9	<2000000	
	09/20/01	<2		<2	<2	<2	4	<2	<2	<100	<100	
	02/25/02	<2 a		<10	<2 a	<2 a	<2 a	<2	<2	11	<100	
	09/30/02	<2 a		<5	<2 a	<2 a	2 a	<5	<5	<25	<500	
	04/11/03	<2 a		<1	<2 a	<2 a	3 a	<0.5	<0.5	<210	<2500	
	09/30/03	<2 a		<0.5	<2 a	<2 a	<2 a	<0.5	<0.5	21	<630	
	03/26/04	<2 a		<18	<2 a	<2 a	<2 a	<0.5	<3.1	29 E	<1300	<20 a
	10/02/04			<5				<5	<5	<100		
	03/12/05			<25				<5	<5	<250		
	10/01/05			<10				<5	<5	<250		
	04/02/06			<50				<5	<5	<250		
	10/01/06			<5				<5	<5	24		
	03/25/07			<2.5				<2.5	<0.5	<25		
	09/22/07			<5				<5	<25	<250		
04/06/08			<5				<1	5.1	12 J			
09/27/08			<5				<1	<5	11			
03/30/09			<10				<1	5.6 J	<100	<100		
09/19/09			<1				<1	0.37 J	<25			
03/27/10			<1				<1	<5	<250			
10/09/10			<1				<1	0.37 J	12 J			
Dichloro- ethene 1,1	04/09/11		<1				<1	<1	<50			
	09/25/11		<1				<1	0.69 J	12 J			

**Table 3. Groundwater Quality Summary - Chlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

	DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14
Dichloro- ethene cis- 1,2	02/06/91											
	08/15/91											
	03/30/93		81	11	96	44	172	290				
	11/07/94	33				151						
	02/22/95						392					
	05/18/95	35	63	4 J	3 J		131	<5				
	08/15/95						253	<1				
	11/13/95	28	20	<5	<5		227	<5				
	02/20/96						900					
	05/20/96	22	22.6	<1	<1		376	<1				
	08/30/96						233					
	11/14/96	22.4	37.9	3.2	<1		356	<1				
	02/28/97						474					
	05/08/97	21.3	50.5	2.8	<1		186	<1				
	09/08/97		16.2	<2			520	<2	34.3	166	8550	
	11/26/97	19.7	22.7	7.2	<5		632	<5				
	02/14/98						458					
	06/19/98	15.7		12.6	<5		358	86.9				
	08/08/98						236					
	11/30/98	15.7		12.1	<5		179	<5				2280
	02/15/99						28.2					
	05/15/99	8.5		61.3	<5		243	<5				
	09/03/99						150					
	12/27/99	11		65	11	25	182	<2				
	05/31/00	7		113	<1	42	290	<1				
	11/10/00	4		3	<2	18	300	<2				
	03/16/01	3		2	<2	3	79	<2	30	3,600	<2000000	
	09/20/01	3		2	<2	4	270	<2	38	6,800	7400	
	02/25/02	4 a		<10	<2 a	5 a	180 a	<2	18	5,500	13000	
	09/30/02	4 a		<5	<2 a	8 a	85 a	21	14	7,200	3600	
	04/11/03	6 a		5	<2 a	8 a	230 a	<0.5	23	6,400	8000	
	09/30/03	3 a		3.6	<2 a	9 a	89 a	<0.5	25 D	5,400 D	1400	
	03/26/04	4 a		<18	<2 a	<2 a	7 a	<0.5	19	8,800 D	2600	4800 a
10/02/04			<5				<5	6.4	9,400			
03/12/05			<25				0.32 J	3.3 J	14,000			
10/01/05			<10				3.9 J	2.2 J	8,900			
04/02/06			<50				5.3	0.44 J	8,700			
10/01/06			0.26 J				2 J	5.2	15,000			
03/25/07			2 J				<1.0	43	11,000			
09/22/07			<5				<5	320	15,000			
04/06/08			<5				0.3 J	1400	6,200			
09/27/08			<5				0.32 J	220	7,100			
03/30/09			<10				<1	1100	9,000	1400		
09/19/09			0.48 J				11	82	6,600			
03/27/10			1.9				1.5	70	9,800			
Dichloro- ethene cis- 1,2	10/09/10		0.25 J				6.8	84	8,400			
	04/09/11		<1				3.3	24	6,700			
	09/25/11		0.23 J				11	110	6,100			

**Table 3. Groundwater Quality Summary - Chlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

	DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14
Dichloro- ethene trans, 1-2	02/06/91		<10	<50								
	08/15/91	<10.0	10.0	<50.0	2.26	<2.00						
	03/30/93		5	<10	2 J	<5	<50	<100				
	11/07/94	32				<1						
	02/22/95						<25					
	05/18/95	32	4 J	<5	<5		3 J	<5				
	08/15/95						<50	<1				
	11/13/95	22	<5	<5	<5		<5	<5				
	02/20/96						1.8					
	05/20/96	30	2.5	<1	<1		<1	<1				
	08/30/96						<1					
	11/14/96	23	2.1	<1	<1		1.8	<1				
	02/28/97						<1					
	05/08/97	22.3	<1	<1	<1		3.1	<1				
	09/08/97		<2	<2			1	<2	<2	2.7	<200	
	11/26/97	11.5	<5	<5	<5		<5	<5				
	02/14/98						<5					
	06/19/98	19.4		<5	<5		<5	<5				
	08/08/98						<5					
	11/30/98	19.9		<5	<5		<5	<5			7.8	
	02/15/99						<5					
	05/15/99	11		<5	<5		<5	<5				
	09/03/99						<5					
	12/27/99	13		<2	<2	<2	<2	<2				
	05/31/00	7		<1	<1	<1	3	<1				
	11/10/00	3		<2	<2	<2	<10	<2				
	03/16/01	2		<2	<2	<2	<2	<2	<2	62	<2000000	
	09/20/01	3		<2	<2	<2	<2	<2	<2	<100	<100	
	02/25/02	3 a		<10	<2 a	<2 a	<2 a	<2 a	<2	<2	97	<100
	09/30/02	3 a		<5	<2 a	<2 a	<2 a	<5	<5	65	<500	
	04/11/03	5 a		<1	<2 a	<2 a	<2 a	<0.5	<0.5	<210	<2500	
	09/30/03	2 a		<0.5	<2 a	<2 a	<2 a	<0.5	2.4 D	93 E	<630	
	03/26/04	2 a		<18	<2 a	<2 a	<2 a	<0.5	<3.1	73 E	<1300	<20 a
10/02/04			<5				<5	<5	<100			
03/12/05			<25				<5	0.69 J	48 J			
10/01/05			<10				<5	1.3 J	34 J			
04/02/06			<50				<5	<5	20 J			
10/01/06			<5				0.62 J	2 J	46			
03/25/07			<2				<2.0	3 J	42 J			
09/22/07			<5				<5	5 J	44 J			
04/06/08			<5				<1	14	26			
09/27/08			<5				<1	3.9 J	32			
03/30/09			<10				<1	10	37 J	<100		
09/19/09			<1				0.26 J	2.4	36			
03/27/10			0.27 J				<1	1.3 J	36 J			
10/09/10			<1				<1	2.4	28			
04/09/11			<1				<1	1.1	25 J			
09/25/11			<1				<1	2.9	29			

**Table 3. Groundwater Quality Summary - Chlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

	DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14
Tetrachloro ethene	02/06/91		<10	<50								
	08/15/91	<10.0	10.0	60.0	<2.00	<2.00						
	03/30/93		<5	<10	<5	<5	34 J	<100				
	11/07/94	<5				<1						
	02/22/95						<25					
	05/18/95	<5	<5	<5	<5		4 J	<5				
	08/15/95						<50	<1				
	11/13/95	<5	<5	<5	<5		15	<5				
	02/20/96						4.1					
	05/20/96	<10	<1	<1	<1		2.8	<1				
	08/30/96						2.9					
	11/14/96	<1	<1	<1	1.5		6.1	<1				
	02/28/97						8.1					
	05/08/97	<1	<1	<1	<1		<1	<1				
	09/08/97		<2	<2			12	<2	<2	<2		353
	11/26/97	<5	<5	<5	<5		11.6	<5				
	02/14/98						19.1					
	06/19/98	<5		<5	<5		7	<5				
	08/08/98						<5					
	11/30/98	<5		<5	<5		<5	<5				3170
	02/15/99						<5					
	05/15/99	<5		<5	<5		<5	<5				
	09/03/99						<5					
	12/27/99	<2		<2	<2	<2	5	<2				
	05/31/00	<1		<1	<1	<1	3	<1				
	11/10/00	<2		<2	<2	<2	<10	<2				
	03/16/01	<2		<2	<2	<2	<2	<2	<2	<2		<2000000
	09/20/01	<2		<2	<2	<2	<2	<2	<2	<2	<100	<100
	02/25/02	<2 a		<10	<2 a	<2 a	<2 a	<2	<2	<2	<2	<100
	09/30/02	<2 a		<5	<2 a	<2 a	<2 a	<5	<5	<5	<25	<500
	04/11/03	<2 a		<1	<2 a	<2 a	<2 a	<0.5	<0.5	<210	<2500	
	09/30/03	<2 a		<0.5	<2 a	<2 a	<2 a	<0.5	<0.5	<0.5	<630	
	03/26/04	<2 a		<18	<2 a	<2 a	<2 a	<0.5	<3.1	<0.5	<1300	<20 a
10/02/04			<5				<5	<5	<100			
03/12/05			<25				<5	<5	<250			
10/01/05			<10				<5	<5	<250			
04/02/06			<50				<5	<5	<250			
10/01/06			<5				<5	<5	<5			
03/25/07			2 J				3.2 J	<0.4	64 J			
09/22/07			<5				<5	<25	<250			
04/06/08			<5				<1	<5	<20			
09/27/08			<5				<1	<5	<2			
03/30/09			<10				<1	<10	<100		<100	
09/19/09			0.84 J				<1	<1	<25			
03/27/10			0.78 J				<1	<5	<250			
10/09/10			0.18 J				<1	<1	<20			
Tetrachloro ethene	04/09/11		<1				<1	<1	<50			
	09/25/11		<1				<1	<1	<20			

**Table 3. Groundwater Quality Summary - Chlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

	DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14
Trichloro- ethene 5 ug/l	02/06/91		29	76								
	08/15/91	192.0	45.0	67.5	<2.00	<2.00						
	03/30/93		25	16	<5	<5	2,470	124				
	11/07/94	553				<1						
	02/22/95						5,130					
	05/18/95	477	19	10	<5		1,650	<5				
	08/15/95						2,240	<1				
	11/13/95	412	5	<5	<5		3,650	<5				
	02/20/96						1,140					
	05/20/96	390	9.3	7.3	<1		1,694	<1				
	08/30/96						1,750					
	11/14/96	295	7.1	2.1	<1		3,475	1				
	02/28/97						3,695					
	05/08/97	192.4	7.5	2.5	<1		631	<1				
	09/08/97		<2	<2			3,920	<2	<2	5.3	829	
	11/26/97	124	<5	<5	<5		5,950	<5				
	02/14/98						3,170					
	06/19/98	121		<5	<5		4,010	14.5				
	08/08/98						2,080					
	11/30/98	188		<5	<5		2,180	<5			1850	
	02/15/99						2,420					
	05/15/99	109		<5	<5		2,580	<5				
	09/03/99						990					
	12/27/99	102		<2	<2	<2	1,190	6				
	05/31/00	41		<1	<1	<1	2,050	<1				
	11/10/00	20		<2	<2	<2	940	<2				
	03/16/01	20		<2	<2	<2	140	<2	<2	96	16000000	
	09/20/01	17		<2	<2	<2	210	<2	<2	<100	6800	
	02/25/02	25	a	<10	<2 a	<2 a	9 a	<2	<2	60	13000	
	09/30/02	21	a	<5	<2 a	<2 a	27 a	<5	<5	26	5700	
	04/11/03	30	a	<1	<2 a	<2 a	95 a	<0.5	<0.5	<210	9500	
	09/30/03	16	a	<0.5	<2 a	<2 a	4 a	<0.5	0.7	<0.5	2500	
	03/26/04	16	a	<18	<2 a	<2 a	4 a	<0.5	<3.1	3.4	3700	6100 a
	10/02/04			<5				<5	<5	<100		
	03/12/05			<25				<5	<5	270		
	10/01/05			<10				<5	<5	<250		
	04/02/06			<50				<5	<5	<250		
	10/01/06			<5				<5	<5	5.8		
	03/25/07			<1.5				<1.5	<0.3	<15		
	09/22/07			<5				<5	<25	<250		
04/06/08			<5				<1	16	<20			
09/27/08			<5				<1	1.4 J	11			
03/30/09			<10				<1	<10	<100	68 J		
09/19/09			1.4				<1	0.69 J	<25			
03/27/10			1.5				<1	0.36 J	<250			
10/09/10			0.27 J				<1	<1	93			
Trichloro- ethene	04/09/11		<1				<1	<1	40 J			
	09/25/11		<1				<1	0.22 J	65			

**Table 3. Groundwater Quality Summary - Chlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

	DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14
Vinyl Chloride	02/06/91		58	<50								
	08/15/91	<10.0	85.0	<50.0	88.70	47.10						
	03/30/93		20	<20	79	27	<100	<200				
	11/07/94	3 J				17						
	02/22/95						<50					
	05/18/95	<10	27	<10	5 J		3 J	<10				
	08/15/95						<100	<2				
	11/13/95	<10	18	<10	<10		<10	<10				
	02/20/96						2.4					
	05/20/96	<10	13	<1	39.4		2.4	<1				
	08/30/96						1					
	11/14/96	1.6	15.2	<1	61.7		<1	<1				
	02/28/97						4.9					
	05/08/97	2.1	16.9	<1	<1		7.9	<1				
	09/08/97		18.2	<2			2.8	<2	107	26.4	266	
	11/26/97	<10	14.1	<10	<10		<10	<10				
	02/14/98						<2					
	06/19/98	<2		7.9	<2		34.2	<2				
	08/08/98						138					
	11/30/98	<2		9.2	<2		182	<2			144	
	02/15/99						21.8					
	05/15/99	<2		49.6	<2		296	<2				
	09/03/99						140					
	12/27/99	<2		18	<2	23	175	<2				
	05/31/00	<1		<1	<1	<1	<1	<1				
	11/10/00	<10		<10	<10	27	140	<10				
	03/16/01	<10		<10	<10	<10	<10	<10	18	200	<10000000	
	09/20/01	<2		2	<2	3	78	<2	24	150	120	
	02/25/02	<2 a		<10	<2 a	3 a	8 a	<2	12	250	310	
	09/30/02	<2 a		<2	<2 a	5 a	46 a	<2	<2	100	<200	
	04/11/03	<2 a		<1	<2 a	4 a	9 a	<0.5	15	<210	<2500	
	09/30/03	<2 a		1	2 a	4 a	38 a	<0.5	42 D	170 D	<630	
	03/26/04	<2 a		<18	<2 a	2 a	<2 a	<0.5	66	800 D	<1300	130 a
	10/02/04			<2				<2	19	290		
	03/12/05			<10				<2	12	600		
	10/01/05			<4				0.69 J	8.2	710		
	04/02/06			<20				1.3 J	2.9	1400		
	10/01/06			0.28 J				0.94 J	16	550		
	03/25/07			2.5 J				<0.5	900	690		
	09/22/07			<2				<2	590	460		
04/06/08			<5				<1	1600	93			
09/27/08			<5				<1	320	99			
03/30/09			<10				<1	1700	<100	<100		
09/19/09			<1				3.7	250	170			
03/27/10			<1				<1	78	180			
10/09/10			0.35 J				1.1	370	100			
Vinyl Chloride	04/09/11		<1				<1	67	100			
	09/25/11		0.5 J				0.97 J	470	84			

**Table 3. Groundwater Quality Summary - Chlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

	DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14
Total	02/06/91		238	1,951								
Chlorinated	08/15/91	192	455	1,895	164	92						
Volatiles *	03/30/93		277	986	184	136	2,712	775				
	11/07/94	621				287						
	02/22/95						5,522					
	05/18/95	544	254	1,528	18		1,911	0				
	08/15/95						2,493	0				
	11/13/95	462	147	1,256	8		3,953	0				
	02/20/96						2,131					
	05/20/96	442	127	692	72		2,182	4				
	08/30/96						2,097					
	11/14/96	342	161	710	839		3,947	21				
	02/28/97						4,232					
	05/08/97	238	144	657	2		904	3				
	09/08/97		116	181			4,491	62	302	200	11,359	
	11/26/97	155	124	148	16		6,607	0				
	02/14/98						3,659					
	06/19/98	156		178	13		4,459	287				
	08/08/98						2,551					
	11/30/98	224		118	11		2,731	157			9,824	
	02/15/99						2,480					
	05/15/99	129		154	0		3,362	0				
	09/03/99						1,501					
	12/27/99	126		143	14	151	1,641	6				
	05/31/00	55		203	0	113	2,384	73				
	11/10/00	27		203	0	122	1,460	27				
	03/16/01	25		121	0	37	219	0	174	4,008	32,000,000	
	09/20/01	23		437	0	7	564	0	169	6,950	15,920	
	02/25/02	32 a		980	0 a	52 a	197 a	0	108	5,980	35,350	
	09/30/02	28 a		1,046	0 a	68 a	160 a	21	46	7,421	10,300	
	04/11/03	41 a		55	0 a	70 a	337 a	0	39	6,400	17,500	
	09/30/03	21 a		406	2 a	96 a	136 a	2	251	5,732	5,000	
	03/26/04	22 a		690	0 a	2 a	11 a	0	235	9,774	7,700	11,900
	10/02/04			660				0	104	9,690		
	03/12/05			1,113				0	65	14,918		
	10/01/05			533				5	154	9,644		
	04/02/06			995				11	34	10,120		
	10/01/06			401				107	275	15,655		
	03/25/07			1,014				381	1,017	11,821		
	09/22/07			452				2	1,163	15,504		
	04/06/08			744				0	3,089	6,331		
	09/27/08			10				0	730	7,256		
	03/30/09			763				0	2,850	9,037	3,644	
	09/19/09			134				17.6	551	6,806		
	03/27/10			45				1.5	154	10,016		
Total	10/09/10			374				7.9	649	8,633		
Chlorinated	04/09/11			671				3.3	146	6,865		
Volatiles *	09/25/11			352				12.7	788	6,290		

**Table 3. Groundwater Quality Summary - Chlorinated Volatile Organic Parameters
4210 Azalea Drive, Charleston, SC**

DATE	MW-2r *	MW-3	MW-4	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-14
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All values are micrograms per liter (ug/l).

<10 - Compound not detected above method detection or practical quantitation level.

8/91 Sampling took place on 8/15-16/91.

* MW-2 abandoned on 12/16/92 for warehouse construction, and replaced with MW-2r on 10/26/94.

D - Compound exceeded upper calibration level. This value reported when value is below detection limit of dilution.

E - Compound exceeded upper calibration level. Sample was diluted and reanalyzed.

J - Concentration estimated below detection limit.

*T - Prior to 3/30/93, 1,2-cis dichloroethene was not included in lab analyses.

9/8/97 results for MW-3,4,9,10,11, &12 were collected by GEL.

8/26/97 data for MW-8 is from routine sampling performed on 8/26/97.

3/16/01 results for MW-12 were for sample of free phase material.

a - Data from Brenntag report dated 4/28/04

4/06, 10/06, and 3/07 samples collected with passive diffusion bag samplers

Table 4. Design Goals for Proposed Monitoring Wells

Proposed Well	Approximate Well Depth	Design Goal	Well Design
MW-11s	8 feet	Shallow groundwater above blue/green clay unit in MW-11	5-foot screen
MW-15	7 feet	The uppermost water table	5-foot screen
MW-16	12.5 feet	Shallow groundwater above blue/green clay unit	10-foot screen

Appendix: Certificates of Analysis – September 2011 Sampling

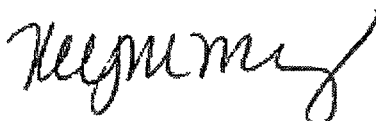
**Groundwater Monitoring Report & Response Plan
4210 Azalea Drive
Charleston, SC**

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

IPGX, Inc.
7 Palatine Road
Columbia, SC 29209
Attention: Michael Muthig

Project Name: **Azalea Drive**
Project Number: **BES-2010.01**
Lot Number: **MI27008**
Date Completed: **10/07/2011**



Kelly M. Maberry
Project Manager



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The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.



SHEALY ENVIRONMENTAL SERVICES, INC.

SC DHEC No: 32010

NELAC No: E87653

NC DENR No: 329

Case Narrative

IPGX, Inc.

Lot Number: MI27008

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

Shealy is not NELAC certified for Phosphorus by 365.1 but is certified in SC and NC.

Shealy is not NELAC certified for VPH, but is certified for VPH in NC.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

GC/MS Volatiles

The LCS/LCSD associated with batches 68621, 68922 and 69044 had methyl acetate recovered above the acceptance limits. This demonstrates a high bias on analytical results. There were no detections for this compound in the samples associated with these batches; therefore, data quality is not impacted.

The RPD for bromomethane exceeded method control limits in batch 68922; however, all other QA/QC criteria for this compound in the LCS/LCSD were within acceptance criteria and method control limits. No corrective action was required and data quality is not impacted.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary

IPGX, Inc.

Lot Number: MI27008

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-9	Aqueous	09/25/2011 1148	09/27/2011
002	MW-10	Aqueous	09/25/2011 1204	09/27/2011
003	MW-4	Aqueous	09/25/2011 1216	09/27/2011
004	MW-11	Aqueous	09/25/2011 1230	09/27/2011

(4 samples)

SHEALY ENVIRONMENTAL SERVICES, INC.

Executive Summary

IPGX, Inc.

Lot Number: MI27008

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	MW-9	Aqueous	Benzene	8260B	0.30	J	ug/L	5
001	MW-9	Aqueous	Chlorobenzene	8260B	0.72	J	ug/L	5
001	MW-9	Aqueous	cis-1,2-Dichloroethene	8260B	11		ug/L	5
001	MW-9	Aqueous	Vinyl chloride	8260B	0.97	J	ug/L	6
002	MW-10	Aqueous	Benzene	8260B	67		ug/L	7
002	MW-10	Aqueous	Chlorobenzene	8260B	82		ug/L	7
002	MW-10	Aqueous	Cyclohexane	8260B	3.5		ug/L	7
002	MW-10	Aqueous	1,2-Dichlorobenzene	8260B	95		ug/L	7
002	MW-10	Aqueous	1,3-Dichlorobenzene	8260B	4.9		ug/L	7
002	MW-10	Aqueous	1,4-Dichlorobenzene	8260B	17		ug/L	7
002	MW-10	Aqueous	1,1-Dichloroethane	8260B	5.2		ug/L	7
002	MW-10	Aqueous	1,1-Dichloroethene	8260B	0.69	J	ug/L	7
002	MW-10	Aqueous	cis-1,2-Dichloroethene	8260B	110		ug/L	7
002	MW-10	Aqueous	trans-1,2-Dichloroethene	8260B	2.9		ug/L	7
002	MW-10	Aqueous	Toluene	8260B	1.5		ug/L	7
002	MW-10	Aqueous	1,2,4-Trichlorobenzene	8260B	0.89	J	ug/L	7
002	MW-10	Aqueous	Trichloroethene	8260B	0.22	J	ug/L	8
002	MW-10	Aqueous	Vinyl chloride	8260B	470		ug/L	8
002	MW-10	Aqueous	Xylenes (total)	8260B	1.3		ug/L	8
003	MW-4	Aqueous	Benzene	8260B	67		ug/L	9
003	MW-4	Aqueous	Chlorobenzene	8260B	340		ug/L	9
003	MW-4	Aqueous	Cyclohexane	8260B	3.2		ug/L	9
003	MW-4	Aqueous	1,2-Dichlorobenzene	8260B	1.3		ug/L	9
003	MW-4	Aqueous	1,3-Dichlorobenzene	8260B	1.7		ug/L	9
003	MW-4	Aqueous	1,4-Dichlorobenzene	8260B	8.4		ug/L	9
003	MW-4	Aqueous	1,1-Dichloroethane	8260B	0.15	J	ug/L	9
003	MW-4	Aqueous	cis-1,2-Dichloroethene	8260B	0.23	J	ug/L	9
003	MW-4	Aqueous	Isopropylbenzene	8260B	3.4		ug/L	9
003	MW-4	Aqueous	n-Propylbenzene	8260B	1.2		ug/L	9
003	MW-4	Aqueous	Vinyl chloride	8260B	0.50	J	ug/L	10
004	MW-11	Aqueous	1,1-Dichloroethene	8260B	12	J	ug/L	11
004	MW-11	Aqueous	cis-1,2-Dichloroethene	8260B	6100		ug/L	11
004	MW-11	Aqueous	trans-1,2-Dichloroethene	8260B	29		ug/L	11
004	MW-11	Aqueous	Trichloroethene	8260B	65		ug/L	12
004	MW-11	Aqueous	Vinyl chloride	8260B	84		ug/L	12

(35 detections)

Volatile Organic Compounds by GC/MS

Client: IPGX, Inc.	Laboratory ID: MI27008-001
Description: MW-9	Matrix: Aqueous
Date Sampled: 09/25/2011 1148	
Date Received: 09/27/2011	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	09/28/2011 1849	BM		68621

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		20	6.7	ug/L	1
Benzene	71-43-2	8260B	0.30	J	1.0	0.13	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		1.0	0.33	ug/L	1
Bromoform	75-25-2	8260B	ND		1.0	0.66	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.0	0.80	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		1.0	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		1.0	0.14	ug/L	1
Chlorobenzene	108-90-7	8260B	0.72	J	1.0	0.33	ug/L	1
Chloroethane	75-00-3	8260B	ND		2.0	0.47	ug/L	1
Chloroform	67-66-3	8260B	ND		1.0	0.33	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		1.0	0.35	ug/L	1
Cyclohexane	110-82-7	8260B	ND		1.0	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		1.0	0.60	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		1.0	0.33	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		1.0	0.30	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		1.0	0.33	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		1.0	0.33	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		1.0	0.33	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		2.0	0.20	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		1.0	0.16	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	11		1.0	0.12	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		1.0	0.21	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		1.0	0.19	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		1.0	0.092	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		1.0	0.11	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		1.0	0.030	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		1.0	0.33	ug/L	1
n-Propylbenzene	103-65-1	8260B	ND		1.0	0.070	ug/L	1
Styrene	100-42-5	8260B	ND		1.0	0.12	ug/L	1
1,1,1,2-Tetrachloroethane	79-34-5	8260B	ND		1.0	0.16	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		1.0	0.13	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		1.0	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		1.0	0.51	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		1.0	0.074	ug/L	1

PQL = Practical quantitation limit
 ND = Not detected at or above the MDL
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
 J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
 P = The RPD between two GC columns exceeds 40%
 N = Recovery is out of criteria
 H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: IPGX, Inc.	Laboratory ID: MI27008-001
Description: MW-9	Matrix: Aqueous
Date Sampled: 09/25/2011 1148	
Date Received: 09/27/2011	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	09/28/2011 1849	BM		68621

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloroethane	79-00-5	8260B	ND		1.0	0.21	ug/L	1
Trichloroethene	79-01-6	8260B	ND		1.0	0.18	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		1.0	0.30	ug/L	1
1,2,4-Trimethylbenzene	95-63-6	8260B	ND		1.0	0.33	ug/L	1
1,3,5-Trimethylbenzene	108-67-8	8260B	ND		1.0	0.33	ug/L	1
Vinyl chloride	75-01-4	8260B	0.97	J	1.0	0.054	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		90	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit
 ND = Not detected at or above the MDL
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
 J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
 P = The RPD between two GC columns exceeds 40%
 N = Recovery is out of criteria
 H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: IPGX, Inc.

Laboratory ID: MI27008-002

Description: MW-10

Matrix: Aqueous

Date Sampled: 09/25/2011 1204

Date Received: 09/27/2011

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	09/28/2011 1910	BM		68621
2	5030B	8260B	2	10/04/2011 2358	JJG		69044

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		20	6.7	ug/L	1
Benzene	71-43-2	8260B	67		1.0	0.13	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		1.0	0.33	ug/L	1
Bromoform	75-25-2	8260B	ND		1.0	0.66	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.0	0.80	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		1.0	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		1.0	0.14	ug/L	1
Chlorobenzene	108-90-7	8260B	82		1.0	0.33	ug/L	1
Chloroethane	75-00-3	8260B	ND		2.0	0.47	ug/L	1
Chloroform	67-66-3	8260B	ND		1.0	0.33	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		1.0	0.35	ug/L	1
Cyclohexane	110-82-7	8260B	3.5		1.0	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		1.0	0.60	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		1.0	0.33	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		1.0	0.30	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	95		1.0	0.33	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	4.9		1.0	0.33	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	17		1.0	0.33	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		2.0	0.20	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	5.2		1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	0.69	J	1.0	0.16	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	110		1.0	0.12	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	2.9		1.0	0.21	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		1.0	0.19	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		1.0	0.092	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		1.0	0.11	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		1.0	0.030	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		1.0	0.33	ug/L	1
n-Propylbenzene	103-65-1	8260B	ND		1.0	0.070	ug/L	1
Styrene	100-42-5	8260B	ND		1.0	0.12	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		1.0	0.16	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		1.0	0.13	ug/L	1
Toluene	108-88-3	8260B	1.5		1.0	0.33	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		1.0	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	0.89	J	1.0	0.51	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: IPGX, Inc.	Laboratory ID: MI27008-002
Description: MW-10	Matrix: Aqueous
Date Sampled: 09/25/2011 1204	
Date Received: 09/27/2011	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	09/28/2011 1910	BM		68621
2	5030B	8260B	2	10/04/2011 2358	JJG		69044

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,1-Trichloroethane	71-55-6	8260B	ND		1.0	0.074	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		1.0	0.21	ug/L	1
Trichloroethene	79-01-6	8260B	0.22	J	1.0	0.18	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		1.0	0.30	ug/L	1
1,2,4-Trimethylbenzene	95-63-6	8260B	ND		1.0	0.33	ug/L	1
1,3,5-Trimethylbenzene	108-67-8	8260B	ND		1.0	0.33	ug/L	1
Vinyl chloride	75-01-4	8260B	470		2.0	0.11	ug/L	2
Xylenes (total)	1330-20-7	8260B	1.3		1.0	0.33	ug/L	1

Surrogate	Run 1			Run 2		
	Q	% Recovery	Acceptance Limits	Q	% Recovery	Acceptance Limits
1,2-Dichloroethane-d4		89	70-130		106	70-130
Bromofluorobenzene		88	70-130		92	70-130
Toluene-d8		96	70-130		106	70-130

PQL = Practical quantitation limit
 ND = Not detected at or above the MDL
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
 J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
 P = The RPD between two GC columns exceeds 40%
 N = Recovery is out of criteria
 H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **IPGX, Inc.**

Laboratory ID: **MI27008-003**

Description: **MW-4**

Matrix: **Aqueous**

Date Sampled: **09/25/2011 1216**

Date Received: **09/27/2011**

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 1	Analysis Date 10/03/2011 1457	Analyst BM	Prep Date	Batch 68922
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Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		20	6.7	ug/L	1
Benzene	71-43-2	8260B	67		1.0	0.13	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		1.0	0.33	ug/L	1
Bromoform	75-25-2	8260B	ND		1.0	0.66	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.0	0.80	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		1.0	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		1.0	0.14	ug/L	1
Chlorobenzene	108-90-7	8260B	340		1.0	0.33	ug/L	1
Chloroethane	75-00-3	8260B	ND		2.0	0.47	ug/L	1
Chloroform	67-66-3	8260B	ND		1.0	0.33	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		1.0	0.35	ug/L	1
Cyclohexane	110-82-7	8260B	3.2		1.0	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		1.0	0.60	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		1.0	0.33	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		1.0	0.30	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	1.3		1.0	0.33	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	1.7		1.0	0.33	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	8.4		1.0	0.33	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		2.0	0.20	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	0.15	J	1.0	0.13	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		1.0	0.16	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	0.23	J	1.0	0.12	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		1.0	0.21	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		1.0	0.19	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		1.0	0.092	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		1.0	0.11	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	3.4		1.0	0.030	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		1.0	0.33	ug/L	1
n-Propylbenzene	103-65-1	8260B	1.2		1.0	0.070	ug/L	1
Styrene	100-42-5	8260B	ND		1.0	0.12	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		1.0	0.16	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		1.0	0.13	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		1.0	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		1.0	0.51	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		1.0	0.074	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

H = Out of holding time

healy Environmental Services, Inc.

106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

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Level 1 Report v2.1

Volatile Organic Compounds by GC/MS

Client: IPGX, Inc.	Laboratory ID: MI27008-003
Description: MW-4	Matrix: Aqueous
Date Sampled: 09/25/2011 1216	
Date Received: 09/27/2011	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	10/03/2011 1457	BM		68922

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloroethane	79-00-5	8260B	ND		1.0	0.21	ug/L	1
Trichloroethene	79-01-6	8260B	ND		1.0	0.18	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		1.0	0.30	ug/L	1
1,2,4-Trimethylbenzene	95-63-6	8260B	ND		1.0	0.33	ug/L	1
1,3,5-Trimethylbenzene	108-67-8	8260B	ND		1.0	0.33	ug/L	1
Vinyl chloride	75-01-4	8260B	0.50	J	1.0	0.054	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
 ND = Not detected at or above the MDL
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
 J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
 P = The RPD between two GC columns exceeds 40%
 N = Recovery is out of criteria
 H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: IPGX, Inc.	Laboratory ID: MI27008-004
Description: MW-11	Matrix: Aqueous
Date Sampled: 09/25/2011 1230	
Date Received: 09/27/2011	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	10/05/2011 0019	JJG		69044

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		400	130	ug/L	1
Benzene	71-43-2	8260B	ND		20	2.6	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		20	6.6	ug/L	1
Bromoform	75-25-2	8260B	ND		20	13	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		40	16	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		200	41	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		20	1.9	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		20	2.7	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		20	6.6	ug/L	1
Chloroethane	75-00-3	8260B	ND		40	9.4	ug/L	1
Chloroform	67-66-3	8260B	ND		20	6.6	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		20	7.0	ug/L	1
Cyclohexane	110-82-7	8260B	ND		20	6.0	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		20	12	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		20	6.6	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		20	6.0	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		20	6.6	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		20	6.6	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		20	6.6	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		40	4.0	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		20	2.6	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		20	2.9	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	12	J	20	3.2	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	6100		20	2.4	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	29		20	4.1	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		20	3.8	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		20	1.8	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		20	2.1	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		20	6.6	ug/L	1
2-Hexanone	591-78-6	8260B	ND		200	5.5	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		20	0.60	ug/L	1
Methyl acetate	79-20-9	8260B	ND		20	6.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		20	8.0	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		200	6.2	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		100	19	ug/L	1
Methylene chloride	75-09-2	8260B	ND		20	6.6	ug/L	1
n-Propylbenzene	103-65-1	8260B	ND		20	1.4	ug/L	1
Styrene	100-42-5	8260B	ND		20	2.4	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		20	3.3	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		20	2.6	ug/L	1
Toluene	108-88-3	8260B	ND		20	6.6	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		20	6.0	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		20	10	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		20	1.5	ug/L	1

PQL = Practical quantitation limit B = Detected in the method blank E = Quantitation of compound exceeded the calibration range
 ND = Not detected at or above the MDL J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40%
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" N = Recovery is out of criteria H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: IPGX, Inc.	Laboratory ID: MI27008-004
Description: MW-11	Matrix: Aqueous
Date Sampled: 09/25/2011 1230	
Date Received: 09/27/2011	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	10/05/2011 0019	JJG		69044

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloroethane	79-00-5	8260B	ND		20	4.2	ug/L	1
Trichloroethene	79-01-6	8260B	65		20	3.6	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		20	6.0	ug/L	1
1,2,4-Trimethylbenzene	95-63-6	8260B	ND		20	6.6	ug/L	1
1,3,5-Trimethylbenzene	108-67-8	8260B	ND		20	6.6	ug/L	1
Vinyl chloride	75-01-4	8260B	84		20	1.1	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		20	6.6	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	70-130
Bromofluorobenzene		91	70-130
Toluene-d8		108	70-130

PQL = Practical quantitation limit
 ND = Not detected at or above the MDL
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
 J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
 P = The RPD between two GC columns exceeds 40%
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Chain of Custody Record

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

Number 04481

Form with sections for Client (JPGX), Address (CHARLOTTE, NC 29418), Project Name (AZALEA DRIVE), Report to Contact (MICHAEL MUTHIG), Sampler (MICHAEL MUTHIG), and a table for Sample ID / Description (MW-9, MW-10, MW-4, MW-11) with columns for Date, Time, Matrix, and Analysis. Includes a 'Possible Hazard Identification' table and a 'QC Requirements' section.

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
 Document Number: F-A13-016
 Revision Number: 8

Page 1 of 1
 Replaces Date: 02/23/11
 Effective Date: 05/06/11

Sample Receipt Checklist (SRC)

Client: SPGX Cooler Inspected by/date: 622 9/27/11 Lot #: MJ2708

Means of receipt: <input type="checkbox"/> SESI <input type="checkbox"/> Client <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Airborne Exp <input type="checkbox"/> Other			
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	1. Were custody seals present on the cooler?	
Yes <input type="checkbox"/>	No <input type="checkbox"/>	2. If custody seals were present, were they intact and unbroken?	
Cooler ID/temperature upon receipt <u>410</u> °C <u>1</u> °C <u>1</u> °C <u>1</u> °C <u>1</u> °C <u>1</u> °C <u>1</u> °C <u>1</u> °C			
Method: <input type="checkbox"/> Temperature Blank <input checked="" type="checkbox"/> Against Bottles			
Method of coolant: <input type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice <input type="checkbox"/> Dry Ice <input type="checkbox"/> None			
If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.			
Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	3. If temperature of any cooler exceeded 6 0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____ (For coolers received via commercial courier, PMs are to be notified immediately.)
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>	4. Is the commercial courier's packing slip attached to this form?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		5. Were proper custody procedures (relinquished/received) followed?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>	5a. Were samples relinquished by client to commercial courier?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		6. Were sample IDs listed?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		7. Was collection date & time listed?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		8. Were tests to be performed listed on the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		9. Did all samples arrive in the proper containers for each test?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		10. Did all container label information (ID, date, time) agree with COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		12. Was adequate sample volume available?
Yes <input type="checkbox"/>	No <input type="checkbox"/>		13. Were all samples received within 1/2 the holding time or 48 hours, whichever comes first?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		14. Were any samples containers missing?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		15. Were there any excess samples not listed on COC?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	NA <input type="checkbox"/>	16. Were bubbles present >"pea-size" (1/4" or 6mm in diameter) in any VOA vials?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) samples free of residual chlorine?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>	20. Were collection temperatures documented on the COC for NC samples?
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)			
Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H ₂ SO ₄ , HNO ₃ , HCl, NaOH) with the SR # (number) _____			
Sample(s) _____ were received with bubbles >6 mm in diameter.			
Sample(s) _____ were received with TRC >0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.			

Corrective Action taken, if necessary:
 Was client notified: Yes No
 SESI employee: _____
 Comments: _____

SHEALY ENVIRONMENTAL
 106 VANTAGE POINT DR
 WEST COLUMBIA SC 29172-3000
 Did client resp _____
 Date of respon _____
P: RED S: BY I: RD1
1171-1336
 1ZWC20A8C11937 4219 1030
HPDEE- 52201341 SEP 27 21:43:23 2011