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Phase I Remedial Investigation Work Plan for the Former Ash Disposal Area

Sutton Steam Plant Wilmington, North Carolina

Progress Energy
Raleigh, North Carolina

April 2004

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1. Introduction

This Phase I Remedial Investigation Work Plan (RIWP) has been prepared for Progress Energy Carolina's (Progress Energy) Sutton Steam Plant (Sutton Site) located in Wilmington, North Carolina (NCD000830646). The Phase I RIWP has been prepared pursuant to a voluntary Administrative Agreement (Docket Number 03-SF-217) signed by Progress Energy Carolinas, Inc., and the North Carolina Department of Environment and Natural Resources (NCDENR) Division of Waste Management, Inactive Hazardous Sites Branch. The work conducted under the Administrative Agreement is intended to meet the applicable requirements of North Carolina General Statute 130-310.9(c) (Statute), 15A North Carolina Administrative Code (NCAC) 13C .0300 Rules (Rules), and 15A NCAC 13C .0300 *Registered Environmental Consultant Implementation Guidance* (REC Guidance) dated August 2003. Blasland, Bouck, and Lee, Inc. (BBL) has been designated as the Registered Environmental Consultant (REC) for the project.

The requirements of the Administrative Agreement are focused on the Former Ash Disposal Area (FADA) at the Sutton Site. The FADA was used between 1954 and 1972 for the placement of coal ash generated at the Sutton Site. The Sutton Site is located along the east bank of the Cape Fear River near Wilmington, New Hanover County, North Carolina. The location of the site is shown on a portion of the United States Geological Survey (USGS) 7.5 minute topographic quadrangle maps for Castle Hayne and Leland, North Carolina, and is presented as **Figure 1**. The FADA and other notable site features are shown on a site map which is presented as **Figure 2**.

1.1 Objectives

The objectives of the Phase I Remedial Investigation (RI) under the REC program are to:

- identify releases (if any) of potential hazardous substances to the environment related to the FADA at the Sutton Site;
- identify exposure pathways related to potential releases from the FADA, if any;
- characterize the chemical nature of such releases (if any) and collect sufficient sampling data to support a cleanup level determination; and,
- characterize site conditions related to the FADA sufficiently to conduct a feasibility study of remedial alternatives and to support a proposed remedy, if needed.

This Phase I RIWP is the first step in characterizing environmental conditions related to the FADA. Subsequent data collection efforts will be based on the results of the Phase I RI.

1.2 Work Plan Organization

This Phase I RIWP is organized to conform to the REC Guidance document dated August 2003 and NCDENR's corresponding *Component Checklist – Remedial Investigation Workplan, REC Rules (15A NCAC 13C)* (Component Checklist). To facilitate review of the Phase I RIWP, each required component and the corresponding regulatory citation is identified in a section heading or subheading as presented in the REC Guidance and/or Component Checklist.

2. Site Background Information – .0306(g)(1-13)

2.1 Site Location Information – .0306(g)(1)

The following information is provided to address the site background information required for the Phase I RIWP under the REC rules.

2.1.1 Site Street Address

The physical address for the Sutton Site is:

Progress Energy Carolina's Inc.
L.V. Sutton Electric Plant
801 Sutton Steam Plant Road
Wilmington, NC 28401-8357

2.1.2 Latitude and Longitude

The latitude and longitude for the site are approximately 34° 17'39" north and 77° 59'12" west, respectively (Grubbs, 1999).

2.1.3 Site and Surrounding Property Land Use

2.1.3.1 Sutton Site Description

The Sutton Site is located on approximately 3,300 acres of land near Wilmington, New Hanover County, North Carolina. Notable site features are shown on a site map presented as **Figure 2**, and include the steam plant area, the FADA, one 11-million-gallon aboveground storage tank (AST) located within the FADA, the "old" ash pond (operated mainly from 1972 to 1985), the "new" ash pond (operated from 1985 to present), and Sutton Lake.

The Sutton Site consists of three coal-fired boilers (steam) units and three internal combustion turbine (CT) generators units. The steam units primarily operate on bituminous coal and burn American Society of Testing Materials (ASTM) Grade No. 2 fuel oil for startup/shutdown of boiler, and flame stabilization. Although the CT generator units primarily operate on ASTM Grade No. 2 fuel oil, they can also burn natural gas. No. 2 fuel oil is normally offloaded from trucks that deliver fuel oil to the site. The fuel oil is stored in onsite ASTs prior to transfer to the steam or CT generator units for use in generating electricity for Progress Energy's customers.

The Sutton Site receives its process cooling water from the 1,110-acre Sutton Lake. Sutton Lake is an off-stream cooling water reservoir that stores water and dissipates heat absorbed by the water in passing through the plant condensers. Sutton Lake is located along the east bank of the Cape Fear River immediately upstream (north) from the Sutton plant area (see **Figure 2**). Sutton Lake is a closed body of water with no channels or other uncontrolled connections between the Cape Fear River and other natural bodies of water. Sutton Lake is considered a cooling lake; therefore, it is not considered navigable water. Make-up water for Sutton Lake is taken from the Cape Fear River to replace the water lost by evaporation and seepage. Water is occasionally discharged from Sutton Lake to the Cape Fear River by raising one or both of the six-feet by four-feet sluice

gates located on the western perimeter of the lake that connect to the Cape Fear River. These periodic and controlled releases are performed in accordance with the Sutton Site's National Pollutant Discharge Elimination System (NPDES) Permit.

2.1.3.2 Surrounding Site Description

The Sutton Site is adjacent to the Cape Fear River, which is classified by NCDENR as Class C-Swamp waters in the Cape Fear River Basin. The immediate vicinity of the Sutton Site is generally rural with relatively few residences close by to the Sutton Site. The area surrounding the Sutton Site is mainly industrial, with many industrial facilities located along Highway 421 (Grubbs, 1999). Several businesses are located within one mile of the Sutton Plant, including the Maola Dairy distribution center and Ezzell Trucking Company. Two water supply wells operated by New Hanover County are located approximately 4,000 feet east of the FADA. These wells supply water to approximately 45 homes and 20 businesses in the area including the Sutton Plant (see **Figure 2**) (Grubbs, 1999).

2.2 Hazardous Waste Management Practices – .0306(g)(2)

The Sutton Site is classified as a small quantity generator of hazardous waste (between 220 pounds and 2,200 pounds of non-acute hazardous waste in one month). Typical wastes codes generated by the plant include D001, D002, D005, D007, D008, D011, D019, D035, F001, F002, F003, and F005. The plant normally accumulates hazardous waste in 55-gallon drums, and is not a permitted treatment, storage, or disposal facility. No vessels or tanks are used or have been used to accumulate hazardous waste. The plant only uses vendors that have been audited by the company to transport and dispose of hazardous waste. According to plant personnel, there have been no spills or releases of hazardous waste at the Sutton Site that have required notification to governmental agencies.

In addition, plant personnel indicated that coal ash was the only known material placed in the FADA during the time of its use (1954-1972). There are no records that any other material besides coal ash was placed in the FADA.

2.3 Topographic Maps – .0306(g)(3)

Original USGS topographic maps sufficient to cover an area within a one-mile radius around the FADA are required by the REC Guidance. Two maps, the Castle Hayne and Leland, North Carolina USGS 7.5-minute topographic quadrangle maps are necessary to meet this requirement and are provided in **Appendix A**.

2.4 Site Survey Plat – .0306(g)(4)

A copy of the survey plat for the FADA portion of the Sutton Site is included in **Appendix B**.

2.5 Geological and Hydrogeological Conditions – .0306(g)(5)

New Hanover County lies in the Atlantic Coastal Plain Physiographic Province in the southeast portion of North Carolina (Brown, 1985). The Sutton Site is located on the east side of the Cape Fear River within the alluvial plain between the coastal dunes and the interior uplands (NUS Corporation, 1989). Local elevations range from 15 feet above sea level to sea level. The site is underlain by up to 75 feet of surficial soil deposits consisting primarily of well drained sands. This unit is a water table aquifer and provides drinking water in the area. The average supply well depth in the area is 55-feet below ground surface (bgs) (NUS Corporation, 1989). Supply wells used by Progress Energy in 1989 had yields of between 480 and 1,100 gallons per minute (gpm) based on

pumping tests conducted at the time. The surficial sand unit is underlain by a silt and clay aquiclude approximately 160-feet thick (Bain, 1970). A potentiometric surface map of the water table aquifer using data collected by BBL on February 2, 2004 is presented as **Figure 3**. As shown on Figure 3, groundwater proximate to the study area flows east in a radial pattern relative to Lake Sutton.

An average transmissivity (T) value of 11,000 square feet per day (ft^2/day) was estimated by Heath for the surficial sand aquifer (Heath, 1989). Assuming an aquifer thickness of 55 feet, a typical hydraulic conductivity (K) value of 200 feet/day (ft/day) or 7.06 x 10^{-2} centimeters per second (cm/sec) was calculated for the site area. Based on this K value and the horizontal component of the hydraulic gradient that ranges between 0.0014 foot per foot (ft/ft) and 0.00045 ft/ft based on groundwater elevation data from the most recent monitoring event in March 2003, the average linear groundwater velocity near the study area ranges between 0.30 ft/day and 0.93 ft/day, or 109 to 339 feet per year.

2.6 Sources of Potable Water – .0306(g)(6)

BBL collected information regarding the number and location of potable supply wells within a one-half-mile radius of the FADA. The following sources of information were reviewed to identify water supply wells in the area:

- available Progress Energy records;
- available NCDENR files in their Wilmington, NC Regional Office;
- interviews with the New Hanover County Engineer; and
- the 1999 Environmental Site Investigation conducted by the NCDENR (Grubbs, 1999).

No water supply wells were identified within a one-half-mile radius of the FADA. This is primarily due to the large amount of acreage owned by Progress Energy around the Sutton Site, which serves as a property buffer from potential water well users. Nineteen water supply wells were identified east of the Sutton Site beyond the one-half-mile radius. Several of these wells are not used for drinking-water, but are used for process water and other industrial use. These well locations are shown on **Figure 4**. **Table 1** summarizes these wells.

2.7 Environmentally Sensitive Areas – .0306(g)(7)

BBL conducted an evaluation to identify environmentally sensitive areas proximate to the FADA, as required in the REC Guidance. BBL contacted the 16 contacts listed in the REC Guidance (see Appendix B of REC Guidance). The results of these contacts are summarized in **Table 2**. A sensitive environment was identified for the Lower Cape Fear River aquatic habitat area, which includes the Cape Fear River along the boundary of the Sutton Site Property. The 35 miles of river between Wilmington and the ocean is called the Cape Fear Estuary because of the tidal influence and saline waters. This area of the river is extremely important for saltwater organisms because it serves as a nursery for juvenile fish, crabs, and shrimp. The Cape Fear River system is North Carolina's largest river system. The basin covers 9,000 square miles, encompasses streams in 29 of the state's 100 counties, and is the most industrialized of all of North Carolina's rivers. The nearest marine sanctuary is located 16 miles south-southeast of Cape Hatteras. No other sensitive receptors were identified to date. It should be noted that this area is not in direct contact with the FADA. In addition, surface-water and sediment samples from the Cape Fear River will be collected as part of the Phase I RI.

Nine cultural sites were identified in proximity to the FADA by the North Carolina Cultural Resources Department. The locations of these sites are shown on **Figure 2**. As shown Figure2, these cultural sites are not located in the FADA, and will not be affected by the activities proposed in the Phase I RIWP.

2.8 Property Deed – .0306(g)(8)

The property deed for the FADA portion of the Sutton Site is presented in **Appendix C**.

2.9 Property Ownership – .0306(g)(9)

Progress Energy, then Carolina Power and Light Company, purchased a portion of the current Sutton Site property, which included the FADA, in 1952 from Mr. and Mrs. R. F. Hobbs. At the time, the Sutton Site was undeveloped land. Progress Energy constructed the Sutton Site thereafter, and has been the sole property owner since 1952.

2.10 Operational History – .0306(g)(10)

Operations at the Sutton Site began in 1954. The FADA was used for the placement of coal ash from 1954 to 1972. Use of the FADA for ash placement was discontinued thereafter.

The USGS was contacted to obtain historical aerial photographs for the site. Three aerial photos were available for the years 1970, 1983, and 1993 (see **Figures 5, 6,** and **7**, respectively). In addition, a closer view of the Sutton Site from the 1993 aerial photo is presented as **Figure 8**.

A search of available Sanborn Fire Insurance Maps for the Progress Energy Sutton Site was also conducted via the Proquest Company online service provided by the North Carolina Public Libraries. A search of Wilmington, New Hanover County, North Carolina returned a variety of Sanborn years available, mainly prior to 1910. Later years available included 1915, 1951, and 1955. Although the Sutton Site was built in the early 1950s, the 1915, 1951, and 1955 years of Sanborn maps were researched to determine if the area around the Sutton Site was covered. Based on BBL's review of the available Sanborn maps, there appears to be no coverage in the area where the Sutton Steam Plant is located. This probably is due to the rural location of the site and lack of development in the area prior to establishing the Sutton Site in 1954.

2.11 Hazardous Substance List – .0306(g)(11)

Based on the available records and information provided by Progress Energy personnel, the only potentially hazardous substance present in the FADA would be constituents associated with coal ash. Electricity at the Sutton Site is, in part, generated by the combustion of coal. Coal ash is a non-hazardous waste and is a by-product of the coal combustion process in accordance with 40 CFR 261.4(b)(4). Ninety-five percent of coal ash consists of naturally occurring minerals such as silicon, aluminum, iron, and calcium in their oxide forms. The remaining five percent consists primarily of magnesium, potassium, sodium, and titanium. In addition, trace elements such as antimony, arsenic, barium, cadmium, chromium, lead, mercury, selenium, and other trace metals can be present in coal ash (Grubbs, 1999). Their relative concentrations typically vary depending on the source of the coal.

One 11-million-gallon AST, currently empty, is present in the FADA area. A second 11-million-gallon AST was present in the same general area; however, this AST was destroyed while empty in 1999 during a flood event caused by Hurricane Floyd. According to plant personnel, these ASTs held either No. 6 fuel oil or were leased for the storage of Kraft pulping (white) liquor (white liquor is composed of sodium sulfide and sodium hydroxide, and is used in the pulp refining process).

The non-FADA portion of the Sutton Site may also contain small quantities of oil associated with electrical equipment and machinery (e.g. gasoline, hydraulic fluid, lubricating oil, transformer oil, used oil); however, the use and management of this material is not related to the FADA.

2.12 Environmental Permit History – .0306(g)(12)

The Sutton Site has several environmental permits that facilitate steam plant operations. The major permits for the site include:

- NPDES permit (Permit No. NC0001422); and
- Title V Air Quality Permit (Permit No. 01318T16)

In addition, the Sutton Site has a United States Environmental Protection Agency (USEPA) identification number for small quantity hazardous waste generation (not disposal) (USEPA I.D. No. NCD000830646), and permits for asbestos removal, ash reuse, barge unloading and dredging, and scrap tire hauling. Further, the Sutton Site holds a DOT hazardous materials transportation certificate; a certificate of registration as an oil terminal facility; and a laboratory certification for pH, temperature, and chlorine analyses for an onsite laboratory.

It should be stressed that none of the above-referenced permits pertain to the FADA because the FADA operated from 1954 to 1972 and was not subject to permitting requirements at the time.

2.13 Regulatory History – .0306(g)(13)

There are no known regulatory actions related to the FADA. Three previous environmental investigations have been conducted in the FADA. These investigations are, in chronological order:

- Richard Catlin & Associates, Inc. 1995. L.V. Sutton Plant (letter report), September 5, 1995.

- Grubbs, S.K. 1999. *Expanded Site Inspection Report, Carolina Power and Light Sutton Steam Electric Site, NCD 00830646.* North Carolina Department of Environment and Natural Resources. December, 1999.

- Law/Gibb Group. 2001. *Report of Ground-Water Assessment, CP&L Sutton Steam Plant Property,* Prepared for International Paper. June 7, 2001.

Copies of these reports are presented in **Appendix D.**

3. Phase I RI Site Assessment Activities for the FADA – .0306(g)(14-18) and .0306(q)

3.1 Procedures for Site Characterization – .0306(g)(14)

This section presents the procedures that will be followed to characterize the FADA in accordance with the most current version of the REC Guidance (August 2003). To characterize the FADA, the following activities will be conducted:

- test pitting and ash sampling;
- monitoring well and piezometer installation;
- groundwater sampling and laboratory analysis; and,
- surface-water and sediment sampling and laboratory analysis.

It should be noted that soil samples are not included for the FADA investigation because the ash material is not considered soil, and it is unlikely that native soil will be present in the FADA especially since groundwater underlying the FADA is expected to be very shallow. Therefore, potential impacts related to the FADA will be addressed based primarily on the results of groundwater, surface-water, and sediment samples collected during the Phase I RI. This approach was reviewed with Mr. John Powers of the NCDENR and agreed upon in September 2003.

The procedures described in this section have been developed in general accordance with REC program requirements, including field and laboratory procedures, quality control/quality assurance (QA/QC) provisions, and health and safety requirements. The procedures described herein are also consistent with the procedures provided in the *Environmental Investigations Standard Operating Procedures and Quality Assurance Manual* (EISOPQAM) (United States Environmental Protection Agency [USEPA], 2001).

3.1.1 Test Pitting and Ash Sampling

Test pitting and sampling of the ash material will be conducted in the FADA. The purpose of this task is two-fold:

- identify the horizontal limits of the FADA based on visual observations for use in developing future remedial action scenarios, if necessary; and,

- collect ash samples to archive for possible future characterization using the Synthetic Precipitation Leaching Procedure (SPLP) test for use in developing protection of groundwater levels, if necessary, based on the analytical results of the FADA groundwater samples.

Collection of the above-referenced ash samples was included in response to an NCDENR request to collect ash samples in areas where field observations/screening indicate variations in the ash material. The proposed test pitting and ash sample collection approach is consistent with the approach used at other similar landfill-like sites within the REC program, and replaces the specific requirements for grid-based soil sampling within release areas called for in the REC Guidance.

Test pitting will be conducted using a backhoe. Approximately 15 to 20 test pits will be excavated to a maximum depth of between 5 and 7 feet bgs, at a frequency of approximately one test pit per acre in the FADA. Proposed test pit locations are presented on **Figure 9**. Initial characterization of the ash will consist of visual observation of the material along test pit walls. Visual observations of the ash material characteristics will be recorded in a dedicated log book following EISOPQAM protocols for maintaining field records (see EISOPQAM Section 3.5 included in **Appendix E**).

Up to three ash samples will be collected as grab samples for archiving from the backhoe bucket during test pitting, in accordance with EISOPQAM sampling methodologies using backhoes (see EISOPQAM Section 12.3.2 in Appendix E). Proposed ash sampling locations are shown in **Figure 9**, although these locations may be changed based on field observations. Ash samples will be selected based on visual characteristics to capture the full range of variability observed in the field. Ash samples will be collected directly, without mixing, into laboratory sample containers.

All samples will be stored in coolers on ice and maintained under full chain-of-custody procedures. Samples will be transported via courier or shipped via overnight delivery to CompuChem Laboratories in Cary, North Carolina (NCDENR laboratory certification no. 79) and will be archived for possible future analysis using the SPLP via USEPA SW-846 Method 1312 for the following hazardous substance list (HSL) metals:

- antimony
- arsenic
- beryllium
- cadmium
- chromium
- hexavalent chromium
- copper
- lead
- manganese
- mercury
- nickel
- selenium
- silver
- thallium
- zinc

In accordance with the REC Guidance and the EISOPQAM, QA/QC samples will be submitted for analysis along with the samples collected in the field. QA/QC samples will include one blind field duplicate (see **Table 3**). The blind field duplicate will also be collected and archived for possible future analysis of HSL metals via the SPLP method.

The location and ground surface elevations of the test pits will be surveyed by a North Carolina-licensed surveyor. Test pit elevations will be identified with respect to North American Vertical Datum (NAVD) 29. Horizontal locations will be identified with respect to North American Datum (NAD) 83.

Safety procedures to be followed during test pitting procedures are provided in the site-specific Health and Safety Plan (see **Appendix F**).

3.1.2 Groundwater Investigation

Three new monitoring wells will be installed around the perimeter of the FADA and sampled to fulfill the REC groundwater characterization requirements. In addition, one piezometer will be installed to provide additional groundwater elevation information for the FADA. Monitoring well and piezometer installation procedures and monitoring well groundwater sampling and analysis procedures are provided in detail in the following sections.

3.1.2.1 Monitoring Well Installation

Three monitoring wells will be installed around the perimeter of the FADA. The wells will be installed by a North Carolina-licensed well driller. The proposed locations of the new monitoring wells are illustrated on **Figure 9** but may be changed slightly in the field based on field observations and other site conditions. Monitoring wells will be installed in accordance with the methods described in the ESIOPQAM (see Section 6 included in **Appendix E**). The wells will be installed using a 4.25-inch, inner-diameter (ID) (minimum) or 6.25-inch ID hollow-stem auger. Continuous soil samples will be collected during borehole advancement using 2-inch-diameter, 2-foot-long split-spoon samplers or 4-foot-long Geoprobe™ Macrocores. A BBL geologist will record observations of the soil's physical characteristics. Each sample will also be screened with a photoionization or flame ionization detector (PID/FID) and the results will be recorded in the field logbook.

The wells will be constructed of 2-inch-diameter flush-joint threaded polyvinyl chloride (PVC) riser with a 10-foot length of 0.010-inch slotted PVC well screen. The screened interval will be positioned so that it intersects the water table at the time of construction. A sand pack will be placed from the boring terminus to an appropriate depth above the top of the screened interval. A bentonite pellet seal will be placed on top of the filter pack. The bentonite seal will be allowed to hydrate for a minimum of 8 hours, or for the manufacturer's recommended hydration time, whichever is greater. Grout will then be pumped by the tremie method into the annular space around the casing to within 2 feet of the ground surface. After 24 hours, the wells will be completed by installing a surface pad and protective stickup or flush-mounted casing. **Figure 10** presents a typical shallow well construction diagram that will be used for this project. Following a minimum of 24 hours, the wells will be developed as described in Section 3.1.2.2 below. Boring logs and well construction records will be included in the Phase I RI report.

3.1.2.2 Monitoring Well Development

The new monitoring wells will be developed to allow groundwater representative of the surficial aquifer to be sampled. Monitoring well development will be conducted in accordance with the procedures presented in the EISOPQAM (see EISOPQAM Section 6.8, included in Appendix E). Monitoring wells will be developed until the column of water in the well is free of visible sediment, and water-quality parameters (e.g., pH, temperature, turbidity, specific conductivity) stabilize.

3.1.2.3 Piezometer Installation

One piezometer will be installed inside the perimeter of the FADA to better understand groundwater flow conditions in the area. The piezometer will be installed by a North Carolina-licensed well driller in accordance with the procedures presented in the EISOPQAM. The proposed location of the piezometer is shown on **Figure 9**, but may be changed slightly in the field based on field observations and other site conditions. The piezometer will be installed using a 4.25-inch-ID (minimum) hollow-stem auger. Continuous ash/soil samples will be collected during borehole advancement using 2-inch-diameter, 2-foot-long split-spoon samplers or 4-foot-long Geoprobe™ Macrocores. A BBL geologist will record observations of the soil's physical characteristics. Each sample will also be screened with a PID/FID and the results will be recorded in the field logbook.

The piezometer will be constructed of 2-inch-diameter, flush-joint-threaded PVC riser with a 10-foot length of 0.010-inch slotted PVC well screen. The screened interval will be positioned so that it intersects the water table at the time of construction. A sand pack will be placed from the boring terminus to an appropriate depth above the top of the screened interval. A bentonite pellet seal will be placed on top of the filter pack. The bentonite seal will be allowed to hydrate for a minimum of 8 hours or for the manufacturer's recommended hydration time, whichever is greater. Grout will then be pumped by the tremie method into the annular space around the

casing to within 2 feet of the ground surface. After 24 hours, the piezometer will be completed by installing a surface pad and protective stickup or flush-mounted casing. Piezometer construction records will be included in the Phase I RI report.

3.1.3 Monitoring Well and Piezometer Surveying

The location and elevation of the new monitoring wells and piezometer will be surveyed by a North Carolina-licensed surveyor. Well and piezometer elevations will include the top of inner casing and ground surface. Well and piezometer elevations will be identified with respect to NAVD 29. Horizontal locations will be identified with respect to NAD 83.

3.1.4 Groundwater Sample Collection

Before beginning groundwater sampling activities, one synoptic round of groundwater elevation measurements will be collected from the three new monitoring wells and one new piezometer. In addition, selected existing site monitoring wells may also be gauged. The measurements will be made with an electronic water-level probe. Depth-to-water measurements will be measured from the surveyed top of inner casing to the nearest 0.01 foot and recorded in the site logbook. Groundwater measurements will be converted to elevations and used to create a potentiometric surface contour map. These maps will be presented in the Phase I RI report.

Monitoring wells will be sampled using the low-flow purging and sampling methods. This involves purging and sampling each monitoring well with a bladder pump equipped with a Teflon® bladder, or a peristaltic pump and Teflon®-lined polyethylene tubing. The tubing will not be reused in other wells. The bladder pump, if used, will be positioned in the well such that the pump intake is situated at the middle of the well screen. The purge rate (maximum of 500 milliliters per minute) will be adjusted such that the water level within the well is not lowered by more than 0.3 foot. The water level within the well will be monitored throughout the duration of the purge. Additionally, field parameters (consisting of temperature, pH, specific conductivity, dissolved oxygen, oxidation-reduction potential [ORP], and turbidity) will be monitored continuously using a Horiba U-22, or equivalent meter, with a flow-through-cell assembly. Color of the purge water, presence or absence of a sheen, odor, and turbidity will also be recorded by BBL personnel throughout the duration of the purge. Each monitoring well will be purged until three consecutive field measurements (taken at 5-minute intervals) of pH, conductivity, dissolved oxygen, and ORP stabilize to within one standard unit, 3%, 10%, and 10 millivolts, respectively. Additionally, purging will continue until turbidity stabilizes (three consecutive readings within 10%) or is below 10 NTU.

After the field parameter measurements stabilize, groundwater samples will be collected into laboratory sample containers from the Teflon®-lined polyethylene tubing. If turbidity measurements do not stabilize, or if measurements stabilize above 10 NTU, groundwater samples will be decanted prior to collection. If decanting is required, groundwater will be collected in laboratory sample containers, suspended solids will be allowed to settle out, and groundwater will be decanted into a second laboratory sample container.

After sampling is completed in a monitoring well, the equipment used for sample collection will be decontaminated, as necessary, following the decontamination procedures outlined in the EISOPQAM (see the applicable portion of EISOPQAM Appendix B included in Appendix E).

In accordance with the REC Guidance and EISOPQAM, QA/QC samples will be submitted to the laboratory for analysis along with the samples collected in the field. QA/QC samples will include blind field duplicates, matrix spike/matrix spike duplicates (MS/MSDs), field (equipment) rinsate blanks, and VOC trip blanks. One field (equipment) rinsate blank will be collected from the sampling equipment. One blind field duplicate and

one MS/MSD sample will be collected. The rinsate blank, duplicate, and MS/MSD samples will be analyzed for the same parameters as regular groundwater samples (see **Tables 3** and **4**, and the list below). Trip blanks for each sample cooler that contains VOC samples will be analyzed for VOCs.

Samples will be stored in coolers on ice and maintained under full chain-of-custody procedures. Samples will be transported via courier or shipped via overnight delivery to CompuChem for analysis of the following analytical parameters:

- Target Compound List (TCL) VOCs by USEPA SW-846 Method 8260;
- TCL SVOCs by USEPA SW-846 Method 8270C; and,
- HSL metals (antimony, arsenic, beryllium, cadmium, chromium, hexavalent chromium, copper, lead, manganese, mercury, nickel, selenium, silver, thallium, and zinc) by USEPA SW-846 Method 6010.

3.1.5 Surface-Water and Sediment Sampling

Two surface-water and sediment samples will be collected from the Cape Fear River to fulfill the REC surface-water pathway investigation requirements. One surface-water sample and one sediment sample will be collected from a location in the river upstream from the FADA, and one surface-water sample and one sediment sample will be collected from a location in the river downstream from the FADA. The proposed surface-water and sediment sampling locations are shown on **Figure 9**. Surface-water and sediment samples will be collected from a boat following water safety procedures presented in the EISOPQAM (see Appendix E) and the site-specific Health and Safety Plan (HASP) [see Appendix F]. Surface-water and sediment samples will be collected pursuant to the EISOPQAM sampling techniques (see EISOPQAM Sections 10 and 11 in Appendix E). The downstream surface-water and sediment samples will be collected prior to collecting the upstream surface-water and sediment sample. Surface-water samples will be collected prior to collecting the sediment sample at each location. The surface-water and sediment sampling locations will be surveyed using GPS technology.

3.1.5.1 Surface-Water Sample Collection

Surface-water samples will be collected directly into laboratory sample containers by facing the sample container in the upstream direction and taking care not to disturb any sediment or to displace the preservative in the bottle.

After sampling is completed at a surface-water sampling location, the equipment used for sample collection will be decontaminated, as necessary, following the decontamination procedures outlined in the EISOPQAM (see applicable portion of EISOPQAM Appendix B, included in Appendix E).

In accordance with the REC Guidance and EISOPQAM, QA/QC samples will be submitted to the laboratory for analysis along with the samples collected in the field. QA/QC samples will include blind field duplicates, MS/MSDs, field (equipment) rinsate blanks, and VOC trip blanks. One field (equipment) rinsate blank will be collected from the sampling equipment. One blind field duplicate and one MS/MSD sample will be collected. The rinsate blank, duplicate, and MS/MSD samples will be analyzed for the same parameters as regular surface water samples (see **Tables 3** and **4**, and the list below). Trip blanks for each sample cooler that contains VOC samples will be analyzed for VOCs.

Samples will be stored in coolers on ice and maintained under full chain-of-custody procedures. Samples will be transported via courier or shipped via overnight delivery to CompuChem for analysis of the following analytical parameters:

- TCL VOCs by USEPA SW-846 Method 8260;
- TCL SVOCs by USEPA SW-846 Method 8270C; and
- HSL metals (antimony, arsenic, beryllium, cadmium, chromium, hexavalent chromium, copper, lead, manganese, mercury, nickel, selenium, silver, thallium, and zinc) by USEPA SW-846 Method 6010.

3.1.5.2 Sediment Sample Collection

Sediment samples will be co-located spatially and temporally with surface-water samples. Therefore, sediment samples will be collected from the same locations as the surface-water samples described in Section 3.1.8. Proposed sample locations are shown on **Figure 9**. Sediment samples will be collected after collecting surface-water samples, and sampling will proceed in a downstream-to-upstream direction. Sediment samples may be moved slightly in the field to bias sampling toward areas where sediments appear to accumulate.

At each sediment sample location, the water depth will be measured with a surveyor's rod marked in tenths of a foot and recorded. A sediment core will be advanced using a dedicated coring device. Coring will progress to a depth of 1 foot. Each core will be extruded and logged. One sample will be collected into laboratory sample containers from each core from the 0.0 to 0.5-inch interval.

In accordance with the REC Guidance and EISOPQAM, QA/QC samples will be submitted to the laboratory for analysis along with the samples collected in the field. QA/QC samples will include blind field duplicates, MS/MSDs, field (equipment) rinsate blanks, and VOC trip blanks. One field (equipment) rinsate blank will be collected from the sampling equipment. One blind field duplicate and one MS/MSD sample will be collected. The rinsate blank, duplicate, and MS/MSD samples will be analyzed for the same parameters as regular sediment samples (see **Tables 3** and **4**, and the list below). Trip blanks for each sample cooler that contains VOC samples will be analyzed for VOCs.

Samples will be stored in coolers on ice and maintained under full chain-of-custody procedures. Samples will be transported via courier or shipped via overnight delivery to CompuChem for analysis of the following analytical parameters:

- TCL VOCs by USEPA SW-846 Method 8260;
- TCL SVOCs by USEPA SW-846 Method 8270C; and
- HSL metals (antimony, arsenic, beryllium, cadmium, chromium, hexavalent chromium, copper, lead, manganese, mercury, nickel, selenium, silver, thallium, and zinc) by USEPA SW-846 Method 6010.

3.2 Sample Collection Points – .0306(g)(15)

The focus of this Phase I RIWP is the FADA; one of the units historically used to manage ash at the Sutton Site. The FADA was used for ash management between 1954 and 1972. According to facility personnel, the dimensions of the FADA are not known with certainty. The general location of the FADA is shown on **Figure 2.**

To meet the goals of the Phase I RI, the following activities will be conducted:

- test pitting and collection of ash samples;
- installation of three monitoring wells and collection groundwater samples; and
- collection of surface-water and sediment samples.

Test pitting will be conducted to determine the horizontal extent of the FADA and to collect three ash samples. Ash samples will be archived for possible future analysis for HSL metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc) using the SPLP.

Three shallow (water table) monitoring wells will be installed around the perimeter of the FADA once the perimeter has been established through the test pitting. Groundwater samples will be collected from the three new shallow monitoring wells. Groundwater samples will be analyzed for HSL metals and USEPA TCL substances (excluding pesticides and polychlorinated biphenyls [PCBs]). One piezometer will be installed within the FADA to measure the depth to groundwater to refine groundwater gradient and flow direction estimates.

Surface-water and sediment samples will be collected to meet REC surface-water pathway investigation requirements. Surface-water and sediment samples will be collected from two locations in the Cape Fear River; one sampling location upstream and one sampling location downstream of the FADA. Surface-water and sediment samples will be analyzed for HSL total metals and USEPA TCL substances (excluding pesticides and PCBs).

Locations of sample collection points are shown on **Figure 9**. Detailed descriptions of the sampling, analysis, QA/QC, and health and safety procedures are provided in Sections 3.1, 3.3, and 4.0, respectively.

3.3 Quality Assurance Project Plan – .0306(g)(16)

All field sampling procedures and quality control will be guided by guidelines provided in the EISOPQAM, which specifies procedures for conducting test pitting and collecting samples using a backhoes; installing, surveying, developing, and purging monitoring wells; collecting groundwater and surface-water samples; collecting and processing sediment cores; decontaminating sampling equipment; packaging samples for chemical analysis; collecting field QC samples (duplicates, MS/MSD samples, and rinsate blanks will be designated/generated at a rate of one per 20 field samples); and handling investigation-derived waste (IDW) (see selected EISOPQAM sections in Appendix E). **Table 4** summarizes the number of samples to be analyzed for specific parameters.

A site-specific Quality Assurance Project Plan (QAPP) is presented in **Appendix G**. This QAPP includes the QA manual for the North Carolina-certified laboratory that will be used for the Phase I RI.

BBL personnel will conduct a data validation review of the analytical data generated for the Phase I RI investigation. The data validation will be performed in accordance with national validation guidelines. A copy of the "Level III" data requirements is provided in **Appendix G**.

3.4 Analytical Methods and Parameters – .0306(g)(17)

Tables 3 and **4** summarize the number and type of samples to be collected and the analyses to be performed. All environmental and QA/QC samples will be transported via courier or shipped via overnight delivery to a North Carolina-certified laboratory for analysis of some or all of the following analytical parameters:

- TCL VOCs by USEPA SW-846 Method 8260;
- TCL SVOCs by USEPA SW-846 Method 8270C; and
- HSL metals (antimony, arsenic, beryllium, cadmium, chromium, hexavalent chromium, copper, lead, manganese, mercury, nickel, selenium, silver, thallium, and zinc) by USEPA SW-846 Method 6010.

No samples will be analyzed for PCBs or pesticides because none of these parameters were known to be managed in the FADA, based on information provided by Progress Energy personnel.

3.5 Decontamination Procedures – .0306(g)(18)

Equipment decontamination procedures will follow EISOPQAM Standard Field Cleaning Procedures (see EISOPQAM Appendix B in Appendix E). Personnel decontamination procedures will follow EISOPQAM Site Operation procedures (see EISOPQAM Section 4.3.6 in Appendix E).

3.6 Investigation-Derived Waste – .0306 (q)

IDW (drill cuttings, well development/purge water, etc.) will be contained in labeled 55-gallon drums pending the receipt of laboratory analysis. The material will then be managed in accordance with REC guidance (Appendix A.6(g)). If laboratory data demonstrates that the IDW waste is below applicable REC remediation goals (RGs), then the material will be placed or discharged onto the ground in a manner similar to the NCDENR Division of Water Quality, Groundwater Section guidance (NCDENR, 2000). If the IDW has constituents present above the RGs, then the IDW will be properly managed at an appropriate waste management facility.

4. Health and Safety Plan – .0306(d) and (g)(19)

A site-specific HASP has been prepared for the Phase I RI investigation. Included with the HASP is an attachment that details the measures to protect the surrounding community from exposure to site-related constituents, as required in .0306(d). The HASP is provided in **Appendix F**.

5. Certifications – .0306(b)(1-2)

Certification statements required by the Progress Energy (the Remediator) and the REC for the Phase RIWP are provided at the front of this document. Each of these statements has been properly notarized, as required under the REC program regulations.

CERTIFICATION STATEMENT

REMEDIATING PARTY CERTIFICATION STATEMENT (.0306(b)(2))

PROGRESS ENERGY CAROLINAS INC.
SUTTON STEAM PLANT
WILMINGTON, NORTH CAROLINA
NCD 000 830 646

PHASE I REMEDIAL INVESTIGATION WORK PLAN

"I certify under penalty of law that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this certification, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material and information contained herein is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for willfully submitting false, inaccurate or incomplete information."

Michael Shawn Longfellow
Printed Name

M S Longfellow
Signature

4/15/04
Date

North Carolina
State

New Hanover (notary commissioned in Buunswick)
County

I, Darlene B. Long, a Notary Public of said County and State, do hereby certify that M. S. Longfellow did personally appear and sign before me this the 15th day of April, 2004.

Darlene B. Long
Notary Public Signature

My commission expires: 1-22-06.

CERTIFICATION STATEMENT

REGISTERED SITE MANAGER CERTIFICATION STATEMENT (.0306(b)(1))

PROGRESS ENERGY CAROLINAS INC.
SUTTON STEAM PLANT
WILMINGTON, NORTH CAROLINA
NCD 000 830 646

PHASE I REMEDIAL INVESTIGATION WORK PLAN

"I certify under penalty of law that I am personally familiar with the information contained in this submittal, including any and all supporting documents accompanying this certification, and that the material and information contained herein is, to the best of my knowledge and belief, true, accurate and complete and complies with the Inactive Hazardous Sites Response Act G.S. 130A-310, et seq, and the voluntary remedial action program Rules 15A NCAC 13C .0300. I am aware that there are significant penalties for willfully submitting false, inaccurate or incomplete information."

Gary R. Cameron
Printed Name

Signature

4/27/04
Date

North Carolina
State

Wake
County

I, Michelle B Edwards, a Notary Public of said County and State, do hereby certify that GARY R. CAMERON did personally appear and sign before me this the 27th day of April, 2004.

Michelle B Edwards
Notary Public Signature

My commission expires: July 8, 2006.

MICHELLE B. EDWARDS * NOTARY * PUBLIC * WAKE COUNTY, N.C.

6. References

NCDENR. 2000. *Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater*, July 2000.

Bain, G.L. 1970. *Geology and Ground-Water Resources of New Hanover County, North Carolina,* USGS Bulletin Number 17.

Brown, P.M. 1985. *Geologic Map of North Carolina*, Department of Natural Resources and Community Development, North Carolina Geologic Survey.

Grubbs, S.K. 1999. *Expanded Site Inspection Report, Carolina Power and Light Sutton Steam Electric Site, NCD 00830646.* North Carolina Department of Environment and Natural Resources.

Heath, R.C. 1989. *Preliminary summary of hydrogeologic conditions in vicinity of Sutton Lake, New Hanover County, N.C.* For use by the Staff of Carolina Power & Light Co. for a briefing of staff of the N.C. Groundwater Section on December 12, 1989.

NUS Corporation. 1989. *Screening Site Inspection Phase I, Carolina Power and Lighting, Sutton Steam Plant, Wilmington, New Hanover County, North Carolina, EPA I.D. NCD000830646.* June 30, 1989.

United States Environmental Protection Agency Region 4. November 2001. *Environmental Investigations Standard Operating Procedures and Quality Assurance Manual.*

Tables

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engineers, scientists, economists

Table 1
Summary of Water Supply Wells Around the FADA
Progress Energy Sutton Steam Plant
Wilmington, North Carolina

Supply Well ID	Well Site Location	Location (Latitude and Longitude)
A	Sutton well A	N 34 17 .10, W 77 58 27 33.38
B	Sutton well B	N 34 17 .48, W 77 58 29.94
C	Sutton well C	N 34 17 27, W 77 58 27.36
1	Sutton well 1	N 34 17 27, W 77 58 38.94
2	Sutton well 2	N 34 17 1.80, W 77 58 46.92
3	Sutton well 3	N 34 16 55.38, W 77 58 47.28
4	Sutton well 4	N 34 17 3.72, W 77 58 53.40
5	Ezzell well	N 34 17 32.70, W 77 58 44.52
6	SAS water tower	N 34 17 23.88, W 77 58 13.74
7	Kens WOW well	N 34 17 13.32, W 77 58 23.88
8	Pro. Cams well	N 34 17 9.30, W 77 58 18.06
9	Tide water transit	N 34 17 4.14, W 77 58 26.82
10	Carrier well	N 34 17 4.14, W 77 58 21.48
11	Pac lease well	N 34 17 3.24, W 77 58 19.32
12	International mailing service	N 34 17 5.94, W 77 58 14.88
13	Abandon build on Roymac rd	N 34 17 15.36, W 77 58 27.72
14	New Hanover County Well 3	N 34 17 15.48, W 77 58 31.80
15	New Hanover County Well 4	N 34 17 13.32, W 77 58 35.94
16	Maola Well	N 34 17 15.96, W 77 58 32.04

Notes
All Sutton Site Wells are used for process water needs only and not for human consumption.

Table 2
Results of Sensitiv[redacted]ptor Survey Review
Prog[redacted]nergy
Sutton Steam Plant
Wilmington, NC

Contact	Name	Telephone No. or Email	Date First Contacted	Sensitive Environment	Results of Inquiry	Comments
NC Division of Parks and Recreation - Natural Heritage Program	Jennifer Dennis	(919) 733-4181	12/22/2004	Sate Parks	Sensitive environment not present.	None
				Sensitive Areas Identified Under the National Estuary	Sensitive environment not present.	None
				Designated State Natural Areas	Sensitive environment not present.	None
				State Seashore, Lakeshore and River Recreational	Sensitive environment not present.	None
	Sarah McRae	(919) 715-1751	1/7/2004	Areas Important to Maintenance of Unique Natural Communities	Significant natural heritage area that may be affected is the state significant Lower Cape Fear River Aquatic Habitat.	Phase I RI work in the FADA will not impact aquatic habitat.
				Rare species (State and Federal Threatened and Endangered)	Significant natural heritage area that may be affected is the state significant Lower Cape Fear River Aquatic Habitat; federal and state endangered shortnose sturgeon (*Acipenser brevirostrum*); federal and state threatened American alligator (*Alligator mississippiensis*); endangered red-cockaded woodpecker (*Picoides borealis*).	Phase I RI work in the FADA will not impact alligator, bird, or aquatic habitat.
				Sensitive Aquatic Habitat	Significant natural heritage area that may be affected is the state significant Lower Cape Fear River Aquatic Habitat.	Phase I RI work in the FADA will not impact aquatic habitat.
				State-Designated Areas for Protection or Maintenance of Aquatic Life	Significant natural heritage area that may be affected is the state significant Lower Cape Fear River Aquatic Habitat.	Phase I RI work in the FADA will not impact aquatic habitat.
NC Planning and Natural Resources	Robert K. Huband	(919) 715-2658	12/22/2004	State Wild & Scenic Rivers	Sensitive environment not present.	None
National Park Service - Public Affairs Office	Paul Winegar	(404) 562-3123, x600	12/22/2004	National Seashore, Lakeshore and River	Sensitive environment not present.	None
				National Parks or Monuments	Sensitive environment not present.	None
National Park Service - Internet	http://www.nps.gov/rivers	NA	NA	Federal Designated Wild & Scenic Rivers	Sensitive environment not present.	None
US Forest Service	Steve Hendricks	(828) 257-4873	12/18/2004	Designated and Proposed Federal Wilderness and Natural Areas	Sensitive environment not present.	None
	Larry Haden	(828) 257-4864	12/18/2004	National Preserves and Forests	Sensitive environment not present.	None
	Bill Jackson	(828) 257-4815	1/21/2004	Federal Land Desginated for the Protection of Natural Ecosystems	The Shining Rock and Linville Gorge Wilderness are about 460 and 400 km NW of the Sutton Steam Plant. Both of these Class I areas managed by the USDA Forest Service and no Class analysis will be required unless there are very large increases (>10,000 per year) of sulfur dioxide or nitrogen oxides. The Sutton Steam Plant is within 200 km of Swanquarter and Cape Romain. Contact the USDA Fish and Wildlife Service representative to see if they require a Class I analysis to be completed.	Phase I RI work in the FADA will not increase sulfur dioxide or nitrogen oxide emissions.
NC Division of Water Quality	Dianne Reid	dianne.reid@ncmail.net	1/21/2004	Critical Areas Identified Under the Clean Lakes Program	Greenfield Lake is the only lake identified under the Clean Lakes Program in New Hanover County, NC.	Phase I RI work in the FADA will not impact Greenfield Lake.
NC Division of Forest Resources	Les Hunter	(919) 546-7411 or (910) 770-0259	12/22/2004	State Preserves and Forests	Sensitive environment not present.	None
US Fish and Wildlife Service - Raleigh Field Office	Dale Suiter	(919) 856-4520, x18	1/13/2004	Terrestrial Areas Utilized for Breeding by Large or Dense Aggregations of Animals	Sensitive environment not present.	None
NC Wildlife Resources Commission	Vic French	(910) 259-5555	12/22/2004	National or State Wildlife Refuges	Sensitive environment not present.	None
NOAA - National Marine Sanctuaries	http://www.sanctuaries.nos.noaa.gov/oms/oms.htm	NA	NA	Marine Sanctuaries	Nearest sanctuary is the USS Monitor Marine Sanctuary located 16 miles SSE of Cape Hatteras in 240 feet of water.	Phase I RI work in the FADA will not impact USS Monitor Marine Sanctuary.

Table 2
Results of Sensitive Receptor Survey Review
Progress Energy
Sutton Steam Plant
Wilmington, NC

Contact	Name	Telephone No. or Email	Date First Contacted	Sensitive Environment	Results of Inquiry	Comments
NC Department of Cultural Resources	David L.S. Brook	(919) 733-6547	1/12/2004	National and State Historical Sites	Nine archaeological sites have been recorded either within or immediately adjacent to the project area. All are situated along the eastern edge of Sutton Lake, formerly the eastern bank of Catfish Creek prior to the creation of the lake. These sites have not been assessed to determine their eleigibility to the National Register of Historic Places. The location of these sites should be reestablished prior to ground disturbing activity outside of the existing ash retention ponds. If the sites cannot be avoided they should be assessed to determine their eligibility for listing in the National Register of Historic Places.	BBL is currently working with the Cultural Resources Department to get the longitude and latitude of the 9 locations and will check these prior to implementing Phase I RI field activities.
NC Division of Coastal Management	Jason Dail	(910) 395-3900	1/12/2004	Areas Identified Under Coastal Protection Legislation	All work conducted within 75 feet of the Cape Fear River requires a permit from the North Carolina Division of Coastal Management pursuant to the Coastal Area Management Act	All test pit and monitoring wells will be located more than 75 ft. from the Cape Fear River.
	http://dcm2.enr.state.nc.us	NA	NA	Coastal Barriers or Units of a Coastal Barrier Resources System	Sensitive environment not present.	None
NC Wildlife Resources Commission	Angie Rodgers	(919) 460-7350	1/9/2004	Spawning Areas Critical for the Maintenance of Fish/Shellfish Species within River, Lake or Coastal Tidal Waters	Starting with Sutton Lake, the primary concern is related to fish habitat in shallow water areas. The majority of gamefish species in Sutton Lake are centrarchids (largemouth bass and various sunfish species including bluegill, redbreast sunfish, redear sunfish, black crappie, warmouth, pumpkinseed) and these species rely heavily on structure and "apparently gain some energetic or ecological benefit from occupying complex structure (woody debris, shoreline vegetation, artificial fish attractors, etc). Since these species are self-sustaining in Sutton Lake, preservation of littoral zone habitats is essential as they are utilized during spring and summer as spawning and nursery areas. Complex structure also provides habitats conducive to resting, feeding, refuge, and concealment. Additionally, riparian habitat adjacent to the lake is also important as it contributes to the recruitment of natural woody debris to the aquatic environment." Because Progress Energy has actively and aggressively treated aquatic vegetation with herbicides and grass carp, we have deployed fish attractors (Christmas trees and artificial structures) in the lake as an effort to provide additional habitat to compensate for those vegetative losses. Because of the many anadromous fish species that use the Cape Fear River, special consideration should be given to this area as it serves as a vital migratory pathway to upstream spawning habitat.	Phase I RI work in the FADA will not impact aquatic habitat.
				Migratory Pathways and Feeding Areas Critical for Maintenance of Anadromous Fish Species within River Reaches or Areas in Lakes or Coastal Tidal Waters in which such Fish Spend Extended Periods of Time	The other area of concern is the Cape Fear River and anadromous fish issues. Many fish species (American shad, striped bass, Atlantic and shortnose sturgeon, hickory shad, blueback herring, alewife) use the Cape Fear as a migratory route to spawning habitat, which is upstream of Sutton Lake. However, the lower end of the Cape Fear River is used as nursery habitat throughout migration. "Populations of alewife and blueback herring (river herring) and hickory shad are extremely depressed in the river in the vicinity of the Sutton Plant (Lake Sutton). Historical spawning areas for these species are upstream of Fayetteville. Atlantic sturgeon and shortnose sturgeon are also present in the river, but in very low numbers. American shad are plentiful during the spring spawning run and numbers appear to be increasing" (Keith Ashley, personal communication). Because of the many anadromous fish species that use the Cape Fear River, special consideration should be given to this area as it serves as a vital migratory pathway to upstream spawning habitat.	Phase I RI work in the FADA will not impact aquatic habitat.
US Army Corps of Engineers	Angie Pannock	(910) 251-4611	1/12/2004	Wetlands	Wetlands surround the property. Adjacent to south and southeast are riparian hard woods, brackish marshes, wetland pine flats, headwater wetlands, and tidal marshes. To the north and northwest is a tailings pond. (Note: A Wetlands Delineation on property around the Sutton Steam Plant was previously compiled by Progress Energy.)	Monitoring wells and test pits will located away from potential wetland areas.

Table 3
Analytical Methods, Sample Containers, Preservation, and Hold Times
for Former Ash Disposal Area Samples
Progress Energy Sutton Steam Plant
Wilmington, North Carolina

Analysis	Method[2]	Sample Container	Volume	Preservation	Hold Time
Solids Samples (Ash and Sediment)					
HSL Metals[1]	6010B	Polyethylene Bottle	8 oz	ice	180 days
TCL VOCs	8260B			ice	14 days
TCL SVOCs	8270C			ice	7 days for extraction, 40 days for analysis
Water Samples (Surface Water and Groundwater)					
HSL Metals	3030C/ 6010B	Polyethylene Bottle	1 Liter	HNO_3 (pH<2), ice	180 days
TCL VOCs	8260B	Glass Vials w/ Septum Seal	40 mL in triplicate, 120 mL total	HNO_3 (pH<2), ice	14 days
TCL SVOCs	8270C	Glass Bottle	1 Liter in duplicate, 2L total	ice	7 days for extraction, 40 days for analysis

Notes:

1. HSL Metals are antimony, arsenic, berylium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc.
2. 3030C metals preparation must be completed within 72 hours of sample collection.

CompuChem Laboratories
501 Madison Ave
Cary, North Carolina 27511
1-800-833-5097
Attn: Rodney Raimonde
rraimonde@compuchemlabs.com

Table 4
Sampling Matrix for Former Ash Disposal Area
Progress Energy Sutton Steam Plant
Wilmington, North Carolina

Sample ID	TCL VOCs	TCL SVOCs	HSL Metals[1]	
Ash Samples				
ASH-1			1	archive
ASH-2			1	archive
ASH-3			1	archive
ASH QA/QC Samples				
Blind Field Duplicate			1	archive
Total Ash Samples			4	
Groundwater Samples				
FADA GW-1	1	1	1	
FADA GW-2	1	1	1	
FADA GW-3	1	1	1	
Groundwater QA/QC Samples				
Trip Blank	1			
Blind Field Duplicate	1	1	1	
Field Equipment Rinsate Blank	1	1	1	
MS/MSD	1	1	1	
Total Groundwater Samples	7	6	6	
Surface Water Samples				
SW-1	1	1	1	
SW-2	1	1	1	
Surface Water QA/QC Samples				
Trip Blank	1			
Blind Field Duplicate	1	1	1	
Field Equipment Rinsate Blank	1	1	1	
MS/MSD	1	1	1	
Total Surface Water Samples	6	5	5	
Sediment Samples				
SD-1	1	1	1	
SD-2	1	1	1	
Sediment QA/QC Samples				
Trip Blank	1			
Blind Field Duplicate	1	1	1	
Field Equipment Rinsate Blank	1	1	1	
MS/MSD	1	1	1	
Total Sediment Samples	6	5	5	
TOTAL	19	16	20	

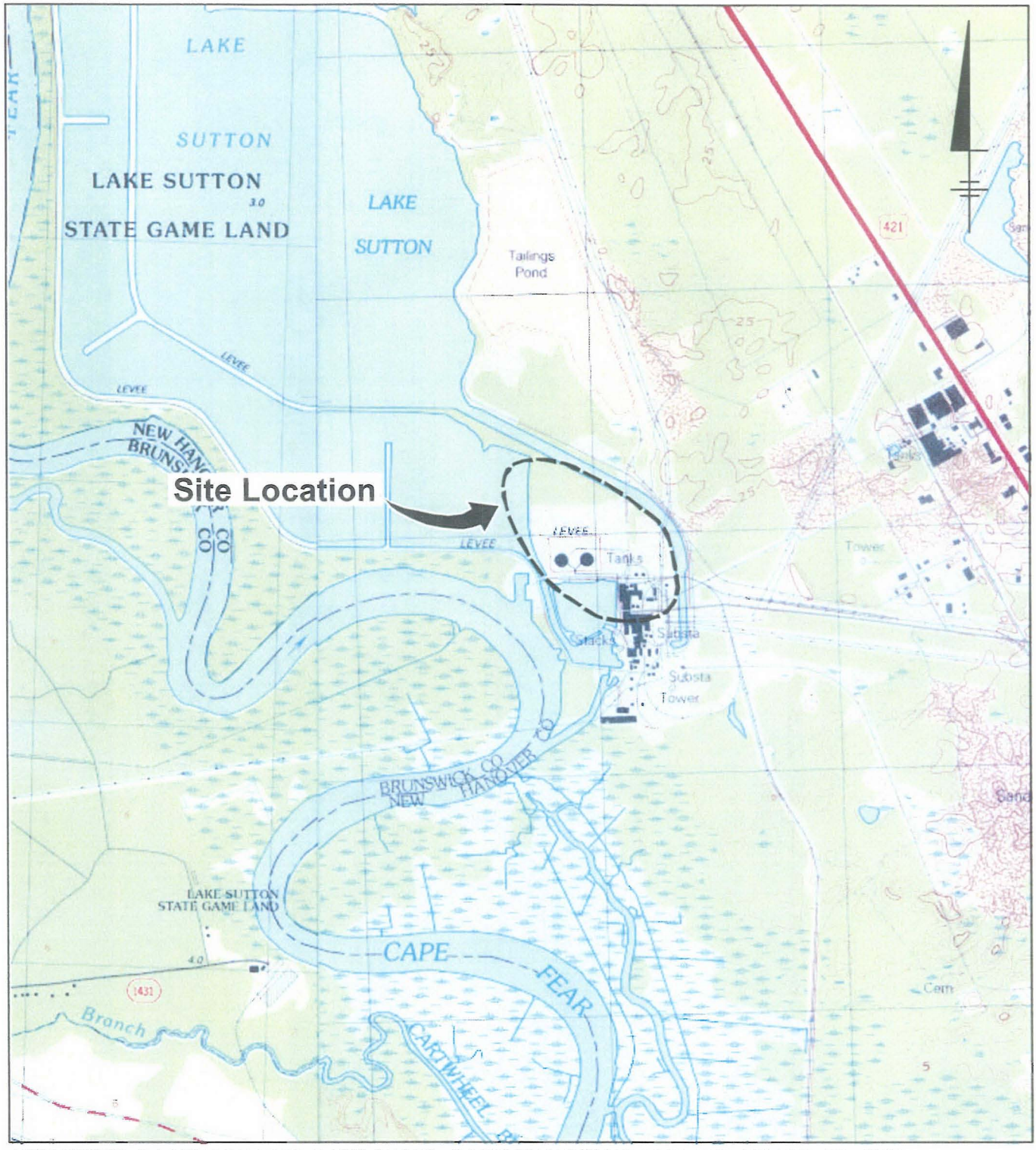
Notes:

1. HSL Metals are antimony, arsenic, berylium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc.

A "Level III" laboratory data package must be provided for analytical results.

Figures

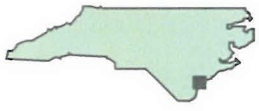
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REFERENCE: BASEMAPUSGS7.5 MIN.QUADS.,CASTLEHAYNE,NC,1997,AND LELAND, NC, 1997.

2000' 0 2000'

ApproximateScale:1"=2000'



AreaLocation

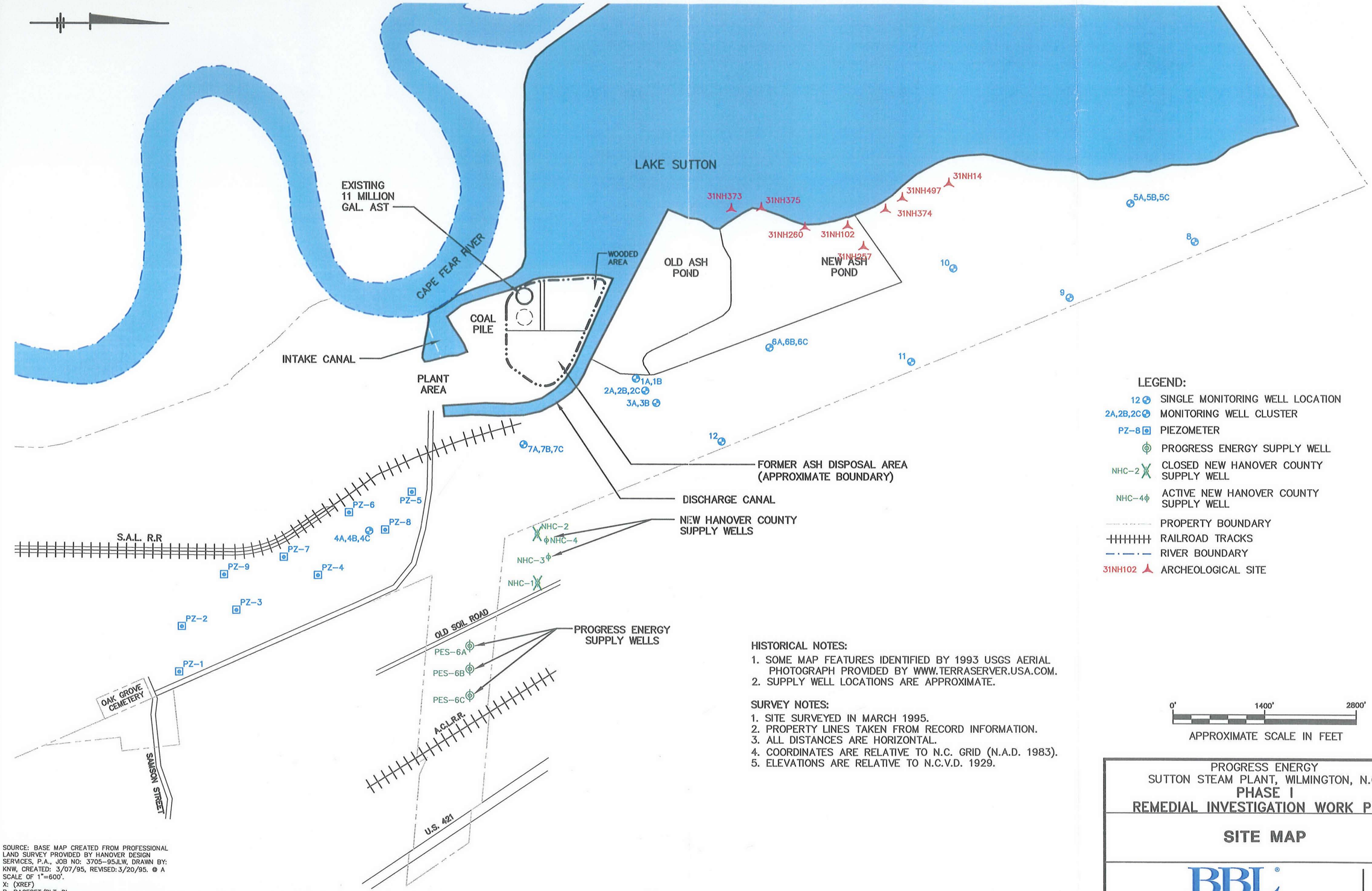
PROGRESSENERGY
SUTTON STEAM PLANT, WILMINGTON,N.C.
PHASE I REMEDIAL INVESTIGATION WORK PLAN

SITE LOCATION MAP

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engineers, scientists, economists

FIGURE 1

02/4/04 SYR-D85-DJH TAM-85JAR
PE_SUTTON\040\04010002\04010N02.CDR



LEGEND:

- 12 SINGLE MONITORING WELL LOCATION
- 2A,2B,2C MONITORING WELL CLUSTER
- PZ-8 PIEZOMETER
- PROGRESS ENERGY SUPPLY WELL
- NHC-2 CLOSED NEW HANOVER COUNTY SUPPLY WELL
- NHC-4 ACTIVE NEW HANOVER COUNTY SUPPLY WELL
- PROPERTY BOUNDARY
- RAILROAD TRACKS
- RIVER BOUNDARY
- 31NH102 ARCHEOLOGICAL SITE

HISTORICAL NOTES:

1. SOME MAP FEATURES IDENTIFIED BY 1993 USGS AERIAL PHOTOGRAPH PROVIDED BY WWW.TERRASERVER.USA.COM.
2. SUPPLY WELL LOCATIONS ARE APPROXIMATE.

SURVEY NOTES:

1. SITE SURVEYED IN MARCH 1995.
2. PROPERTY LINES TAKEN FROM RECORD INFORMATION.
3. ALL DISTANCES ARE HORIZONTAL.
4. COORDINATES ARE RELATIVE TO N.C. GRID (N.A.D. 1983).
5. ELEVATIONS ARE RELATIVE TO N.C.V.D. 1929.

0' 1400' 2800'

APPROXIMATE SCALE IN FEET

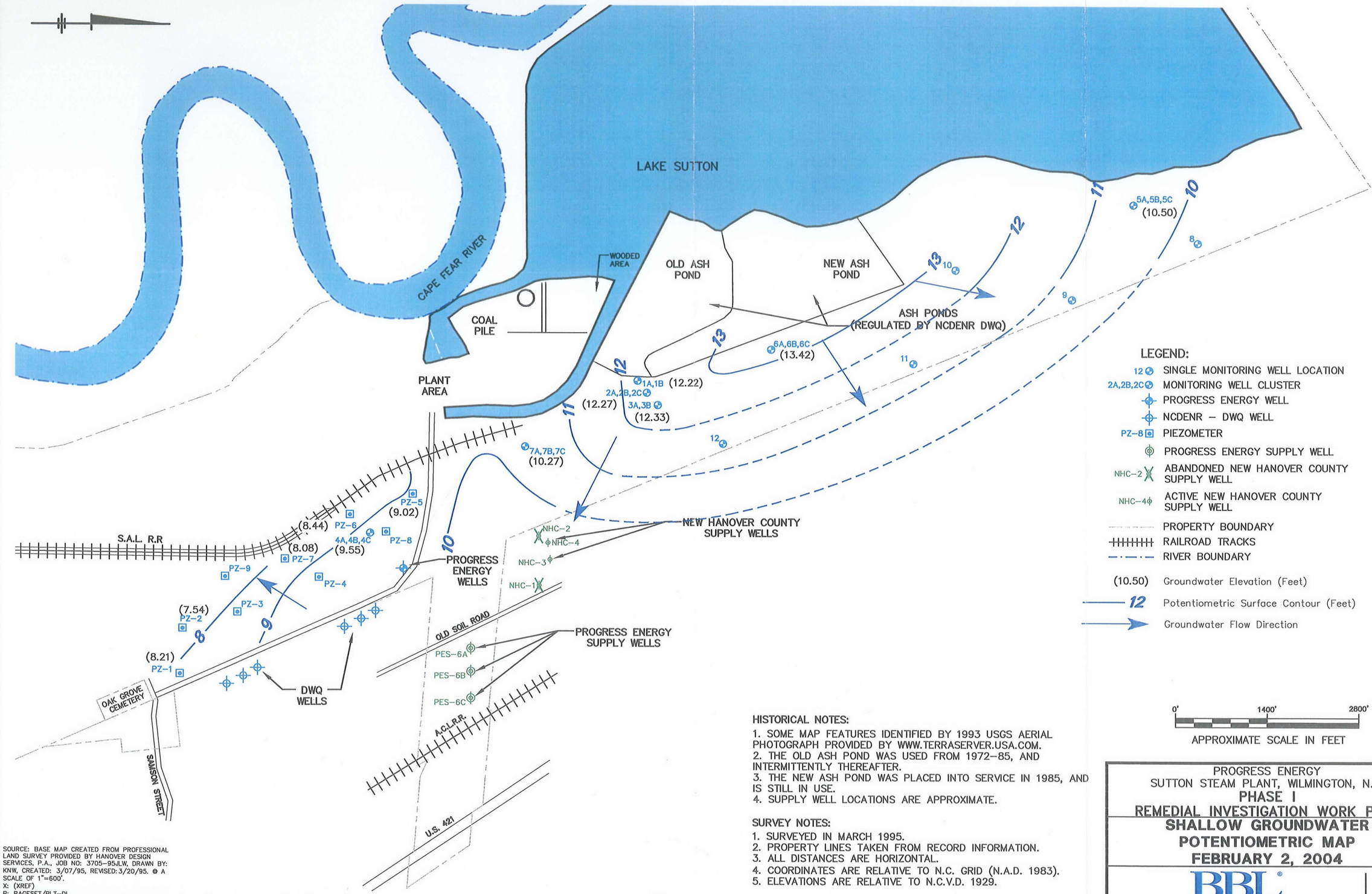
SOURCE: BASE MAP CREATED FROM PROFESSIONAL LAND SURVEY PROVIDED BY HANOVER DESIGN SERVICES, P.A., JOB NO: 3705-95JLW, DRAWN BY: KNW, CREATED: 3/07/95, REVISED: 3/20/95. @ A SCALE OF 1"=600'.
X: (XREF)
P: PAGESET/PLT-DL
3/19/04 BOC-85-MJS TAM-85 JAR
PE_SUTTON\040\04010002\P1RIWP\04010B01.DWG

PROGRESS ENERGY
SUTTON STEAM PLANT, WILMINGTON, N.C.
PHASE I
REMEDIAL INVESTIGATION WORK PLAN

SITE MAP

BBL BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE
2



SOURCE: BASE MAP CREATED FROM PROFESSIONAL LAND SURVEY PROVIDED BY HANOVER DESIGN SERVICES, P.A., JOB NO: 3705-95JLW, DRAWN BY: KNW, CREATED: 3/07/95, REVISED: 3/20/95. @ A SCALE OF 1"=600'.
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3/2/04 BOC-85-MJS TAM-85 JAR
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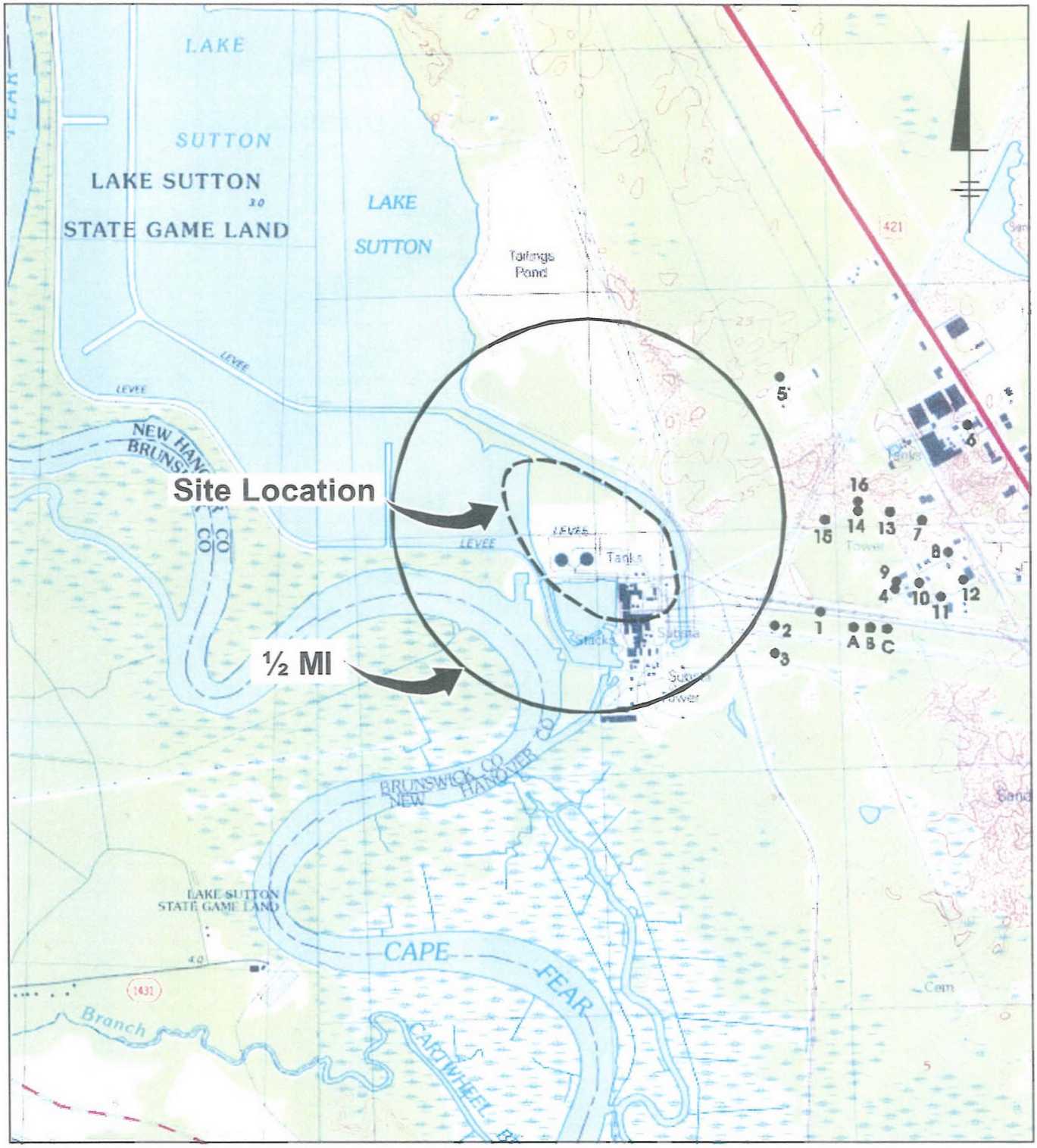
HISTORICAL NOTES:
1. SOME MAP FEATURES IDENTIFIED BY 1993 USGS AERIAL PHOTOGRAPH PROVIDED BY WWW.TERRASERVER.USA.COM.
2. THE OLD ASH POND WAS USED FROM 1972-85, AND INTERMITTENTLY THEREAFTER.
3. THE NEW ASH POND WAS PLACED INTO SERVICE IN 1985, AND IS STILL IN USE.
4. SUPPLY WELL LOCATIONS ARE APPROXIMATE.

SURVEY NOTES:
1. SURVEYED IN MARCH 1995.
2. PROPERTY LINES TAKEN FROM RECORD INFORMATION.
3. ALL DISTANCES ARE HORIZONTAL.
4. COORDINATES ARE RELATIVE TO N.C. GRID (N.A.D. 1983).
5. ELEVATIONS ARE RELATIVE TO N.C.V.D. 1929.

PROGRESS ENERGY
SUTTON STEAM PLANT, WILMINGTON, N.C.
PHASE I
REMEDIAL INVESTIGATION WORK PLAN
SHALLOW GROUNDWATER POTENTIOMETRIC MAP
FEBRUARY 2, 2004

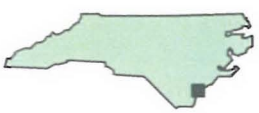
BBL BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists

FIGURE 3



REFERENCE: BASEMAPUSGS7.5 MIN.QUADS.,CASTLEHAYNE,NC,1997,AND LELAND, NC, 1997.

7 ● APPROXIMATE LOCATION OF SUPPLY WELL



AreaLocation

2000' 0 2000'

ApproximateScale:1"=2000'

02/4/04 SYR-D85-DJH TAM-85JAR
PE_SUTTON\040\04010002\PISAP-FADA\04010N02.CDR

PROGRESSENERGY
SUTTON STEAM PLANT, WILMINGTON,N.C.
PHASE I REMEDIAL INVESTIGATION WORK PLAN

POTENTIAL RECEPTOR MAP

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FIGURE
4



SOURCE: Aerial photograph provided by USGS, 1970.

PROGRESS ENERGY
SUTTON STEAM PLANT, WILMINGTON, N.C.
PHASE I
REMEDIAL INVESTIGATION WORK PLAN

AERIAL PHOTOGRAPH 1970

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FIGURE
5

X: 197DJPGN
L: (LAYER)
P: PAGESET/PLT-AP1
2/4/04 TAN-65 JAR
PE_SUTTON\040\D401 0002\P1RIWP\D4010N03.DWG



SOURCE: Aerial photograph provided by USGS, 2/13/1983.

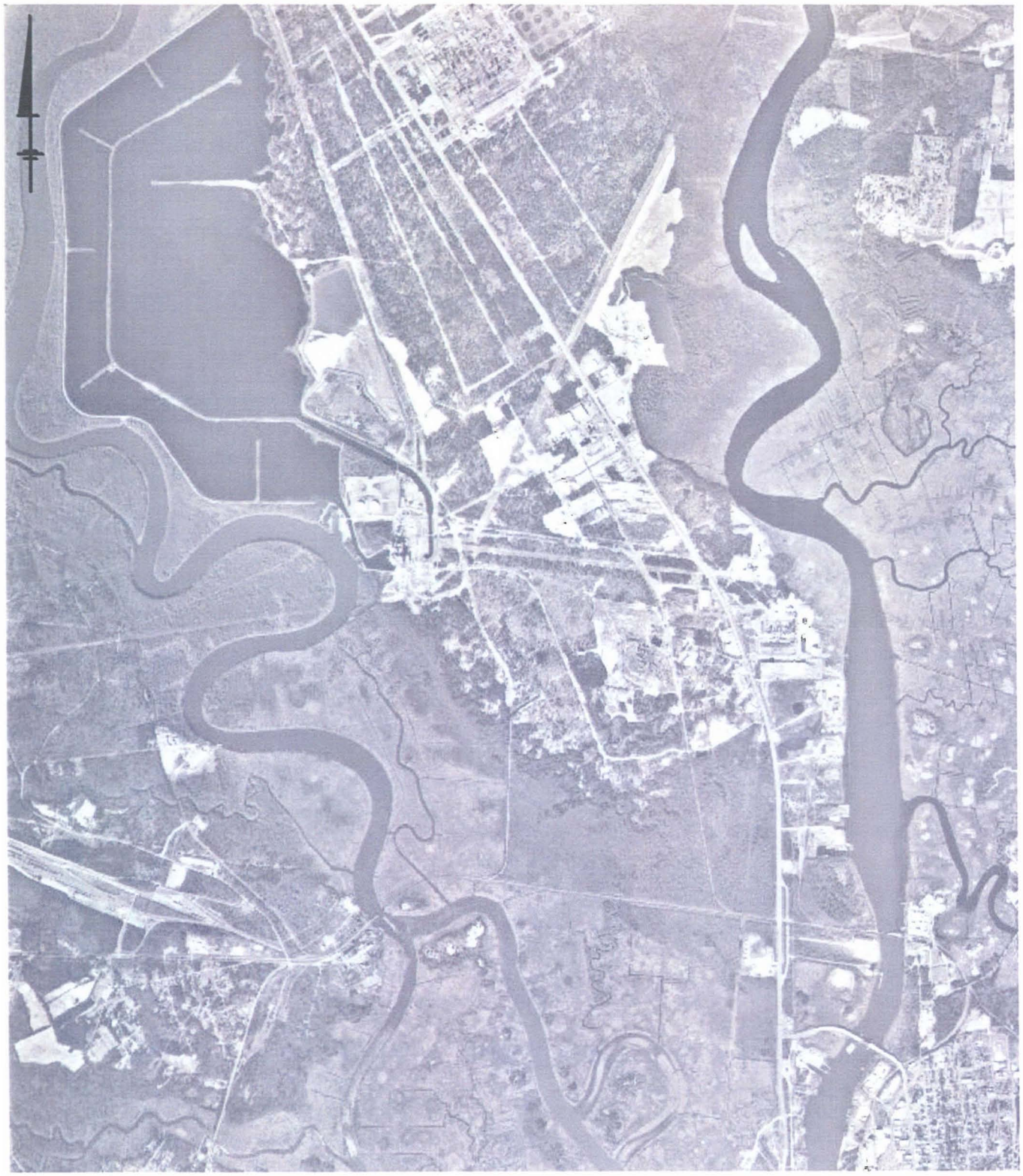
PROGRESS ENERGY
SUTTON STEAM PLANT, WILMINGTON, N.C.
PHASE I
REMEDIAL INVESTIGATION WORK PLAN

AERIAL PHOTOGRAPH
FEBRUARY 13, 1983

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FIGURE
6

X: 1983-02-13.PGN
L: (LAYER)
P: PAGESET/PLT-AP1
2/4/04 TAN-BS JAR
PE_SUTTON\040\D401 0002\P1RIWP\D401GN04.DWG



SOURCE: Aerial photograph provided by USGS, 2/3/1993.

PROGRESS ENERGY
SUTTON STEAM PLANT, WILMINGTON, N.C.
PHASE I
REMEDIAL INVESTIGATION WORK PLAN

AERIAL PHOTOGRAPH
FEBRUARY 3, 1993

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FIGURE
7

X: 1993-02-03.PGN
L: (LAYER)
P: PAGESET/PLT-AP1
2/4/04 TAN-65 JAR
PE_SUTTON\040\D401 0002\P1RIWP\D401GN06.DWG



SOURCE: Aerial photographs downloaded from http://terraserver-usa.com, 2/3/1993.

0 2000' 4000'

APPROXIMATE GRAPHIC SCALE

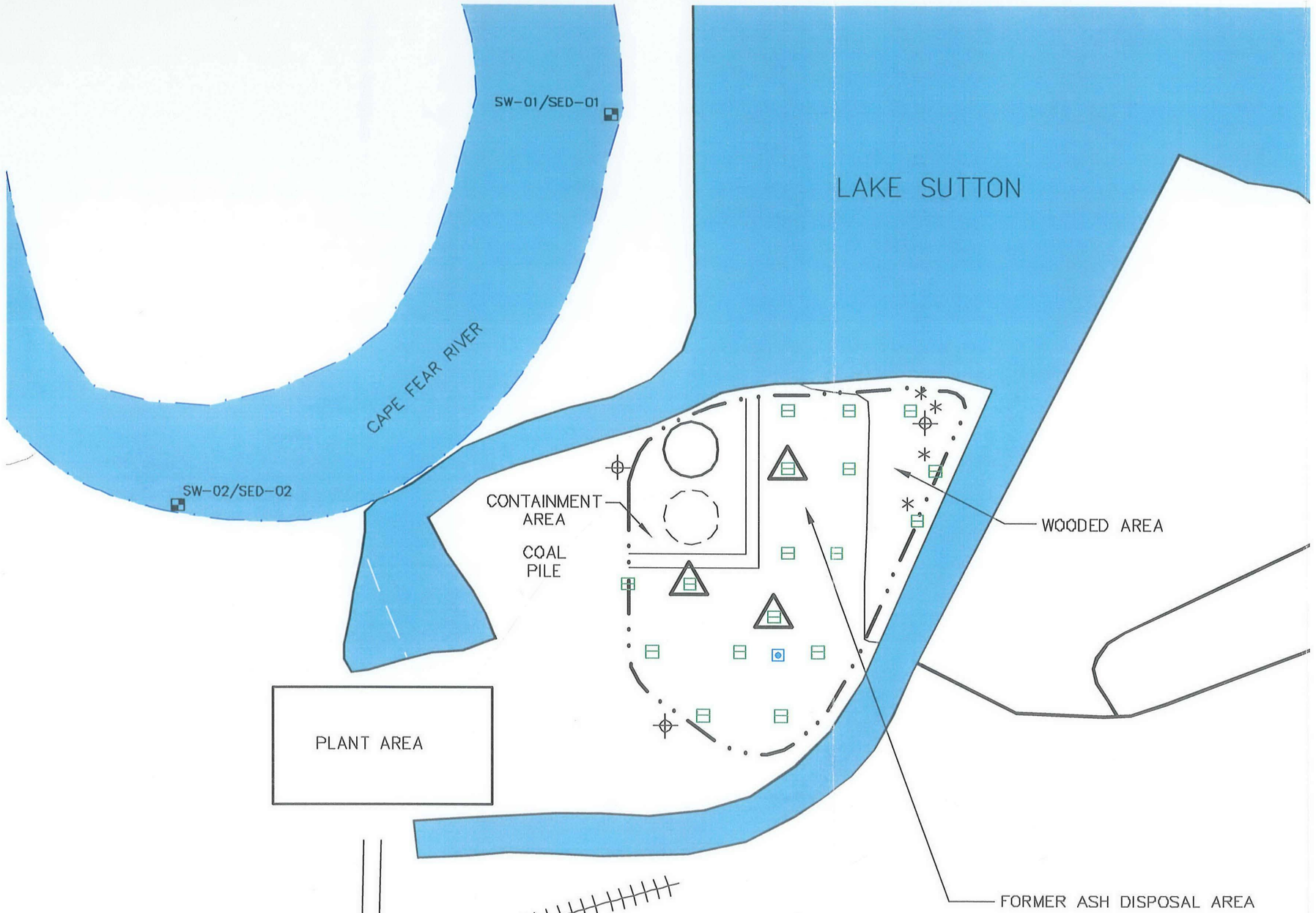
PROGRESS ENERGY
SUTTON STEAM PLANT, WILMINGTON, N.C.
PHASE I
REMEDIAL INVESTIGATION WORK PLAN

AERIAL PHOTOGRAPH
FEBRUARY 3, 1993

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FIGURE
8

X: AERIAL*.JPG
L: (LAYER)
P: PAGESET/PLT-AP1
2/4/04 TAN-65 JAR
PE_SUTTON\040\D401 0002\P1RIWP\D401GN08.DWG



LEGEND:

- TEST PIT LOCATION
- ASH SAMPLE COLLECTED FOR ARCHIVING [1]
- PROPOSED PIEZOMETER LOCATION
- PROPOSED MONITORING WELL LOCATION
- SUFACE WATER/SEDIMENT SAMPLE LOCATION
- TEST PIT/WELL LOCATIONS DEPENDENT ON ACCESSIBILITY
- FORMER ABOVEGROUND STORAGE TANK
- PROPERTY BOUNDARY
- RAILROAD TRACKS
- RIVER BOUNDARY
- APPROXIMATE BOUNDARY OF FORMER ASH DISPOSAL AREA, EXACT BOUNDARY IS NOT KNOWN.

HISTORICAL NOTES:

1. FORMER ASH DISPOSAL AREA BASED ON MAP INCLUDED IN 1999 ESI REPORT CONDUCTED BY NCDENR.
2. SOME MAP FEATURES IDENTIFIED BY 1993 USGS AERIAL PHOTOGRAPH PROVIDED BY WWW.TERRASERVER.USA.COM.

SURVEY NOTES:

1. SURVEYED IN MARCH 1995.
2. PROPERTY LINES TAKEN FROM RECORD INFORMATION.
3. ALL DISTANCES ARE HORIZONTAL.
4. COORDINATES ARE RELATIVE TO N.C. GRID (N.A.D. 1983).
5. ELEVATIONS ARE RELATIVE TO N.G.V.D. 1929.

OTHER NOTES:

1. ACTUAL ASH SAMPLE LOCATIONS MAY BE MODIFIED BY ACTUAL FIELD CONDITIONS.

0' 500 1000

APPROXIMATE SCALE IN FEET

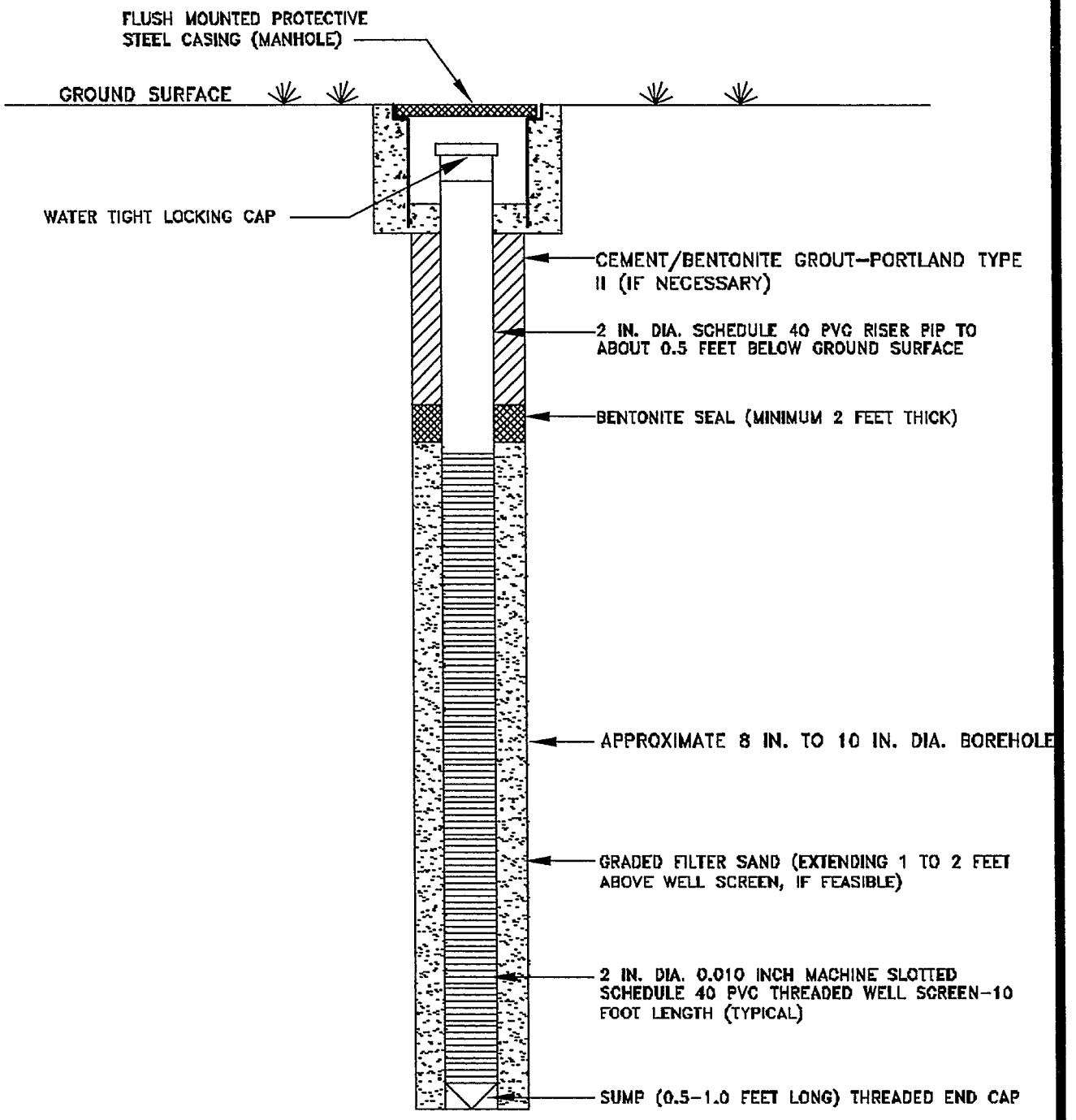
SOURCE: BASE MAP CREATED FROM PROFESSIONAL LAND SURVEY PROVIDED BY HANOVER DESIGN SERVICES, P.A., JOB NO: 3705-98JUN, DRAWN BY: KNW, CREATED: 3/07/95, REVISED: 3/20/95. @ A SCALE OF 1"=600'.
Xi (XREF)
Pi PAGESET/PLT-DL
2/4/04 BOC-86-NJS TAM-85 JAR
PE_SUTTON\040\04010002\PIRWP\0401DB02.DWG

PROGRESS ENERGY
SUTTON STEAM PLANT, WILMINGTON, N.C.
PHASE I
REMEDIAL INVESTIGATION WORK PLAN

SAMPLE LOCATION MAP

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FIGURE 9



NOTES:

1. FINAL WELL CONSTRUCTION MAY BE ALTERED IN CONSIDERATION OF SITE SPECIFIC CONDITIONS OBSERVED DURING DRILLING.

2. WELL MAY BE COMPLETED AT THE SURFACE USING AND ABOVE–GRADE (A.K.A. STICK–UP) PROTECTIVE CASING.

(DRAWING NOT TO SCALE)

PROGRESS ENERGY
SUTTON STEAM PLANT, WILMINGTON, N.C.
PHASE I
REMEDIAL INVESTIGATION WORK PLAN

TYPICAL SHALLOW PERMANENT MONITORING WELL CONSTRUCTION DETAIL

BBL
JACKSLAND, BOUCK & LEE, P.C.
ENGINEERS, SCIENTISTS, CONSULTANTS

FIGURE
10

X: (XREF)
L: (LAYER)
T: (TAB)
P: PAGESET/PLT-AP
1/28/04 TAM-85 JAR
PE_SUTTON\g40\g4010002\PISAP-FADA\g4010N07.DWG

Appendices

BBL®
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Appendix A

Topographic Maps

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Appendix B

Survey Plat

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Appendix C

Property Deed

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Deed file 1214

STATE OF NORTH CAROLINA)
COUNTY OF NEW HANOVER (

CREV Indexed

THIS DEED, Made this 15th day of July, 1952, by and between R. F. HOBBS and wife, DAISY E. HOBBS, of the County of New Hanover, State of North Carolina, parties of the first part, and CAROLINA POWER & LIGHT COMPANY, a corporation organized and existing under the laws of the State of North Carolina, party of the second part,

W I T N E S S E T H:

That the said parties of the first part, for and in consideration of the sum of One Hundred Dollars ($100.00) and other good and valuable considerations to them in hand paid by the said party of the second part, the receipt of which is hereby acknowledged, have granted, bargained, sold and conveyed, and by these presents do hereby grant, bargain, sell and convey unto the said party of the second part and to its successors and assigns, forever, all of that certain tract or parcel of land, situate, lying and being in Cape Fear Township, County of New Hanover, State of North Carolina, and more particularly described as follows:

BEGINNING at an old marked cypress tree on the South edge of Mount Misery and on the Eastern bank of the Cape Fear River, said point of beginning being a corner of the lands of the parties of the first part and the City of Wilmington, and runs thence, with and along the Northern and Eastern boundaries of the lands of the City of Wilmington, North 74 degrees 13 minutes East 1,432 feet to a stake and South 35 degrees 54 minutes East 2,489 feet to a stake; thence North 12 degrees 31 minutes West 1,667.64 feet to a stake; thence South 80 degrees 51 minutes East 1,415.34 feet to a stake in the Western boundary of the lands of Fleming and Royal; thence, with and along the Western boundary of said lands, North 18 degrees 49 minutes West 962.39 feet to a stake; thence North 80 degrees 51 minutes West 1,301.7 feet to a stake; thence North 12 degrees 31 minutes West 2,497.64 feet to a stake; thence North 45 degrees West 3,658 feet to the run of Catfish Creek; thence Southwestwardly with the run of Catfish Creek to the Cape Fear River; thence down and with the Cape Fear River to the point of beginning, as shown and described on Carolina Power & Light Company Drawing No. RA-9410; containing 660.3 acres, more or less.

TO HAVE AND TO HOLD the above granted and conveyed lands and premises, together with all and singular, the rights privileges, easements, tenements, appurtenances and riparian rights thereunto belonging or in anywise appertaining unto the party of the second part, its successors and assigns, in fee simple, forever.

And the said parties of the first part, for themselves, their heirs, executors and administrators do covenant to and with the said party of the second part, its successors and assigns, that they are seized in fee of the above granted and described premises, and they have good right to sell and convey the same in fee simple; that the same are free and clear from any and all encumbrances and that they will and their heirs, executors and administrators shall warrant and defend the title to the same against the lawful claims and demands of any and all persons whomsoever.

IN TESTIMONY WHEREOF, the parties of the first part have hereunto set their hands and seals the day and year first above written.

R. F. Hobbs (SEAL)

Daisy E. Hobbs (SEAL)

STATE OF NORTH CAROLINA)

COUNTY OF NEW HANOVER (

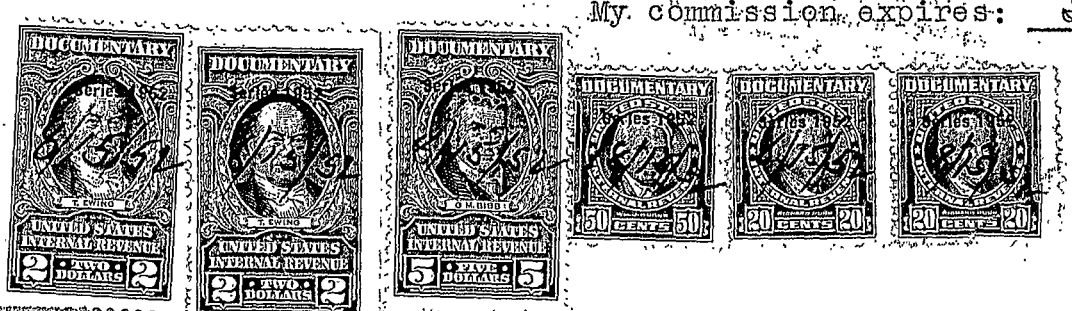
I, Donna Reid Dewey, a Notary Public in and for the State and County aforesaid, do hereby certify that R. F. HOBBS and wife, DAISY E. HOBBS, this day personally came before me and acknowledged the due execution of the foregoing instrument for the purposes therein expressed.

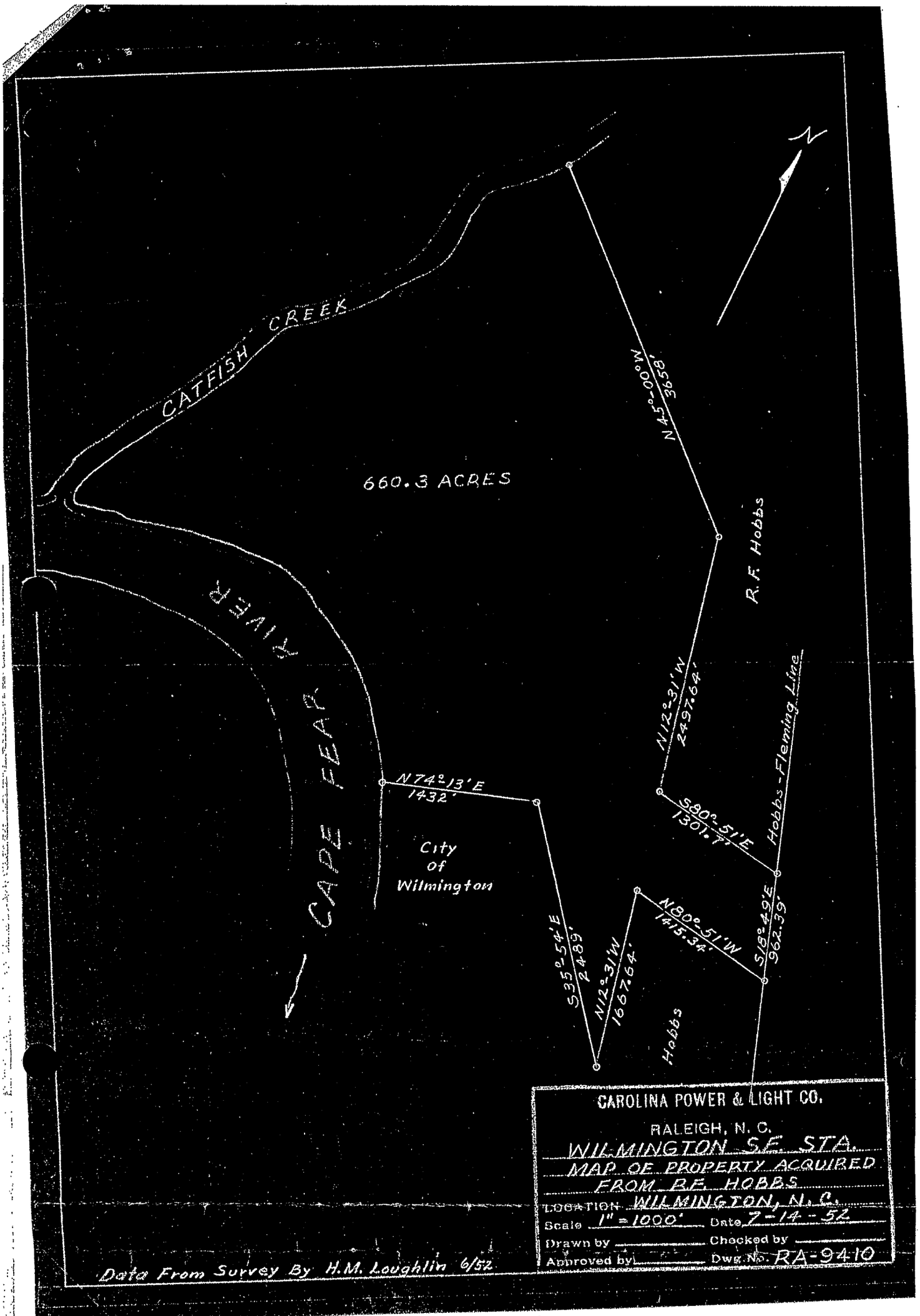
Witness my hand and Notarial Seal, this 15th day of July, 1952.

9.90

Donna Reid Dewey
Notary Public

My commission expires: July 26, 1953





CAROLINA POWER & LIGHT CO.

RALEIGH, N. C.

WILMINGTON S.E. STA.

MAP OF PROPERTY ACQUIRED FROM R.F. HOBBS

LOCATION WILMINGTON, N. C.

Scale 1" = 1000' Date 7-14-52

Drawn by _____ Checked by _____

Approved by _____ Dwg. No. RA-9410

Data From Survey By H.M. Loughlin 6/52

I/A

104IHS113

Hart Exhibit 62
Docket No. E-2, Sub 1219

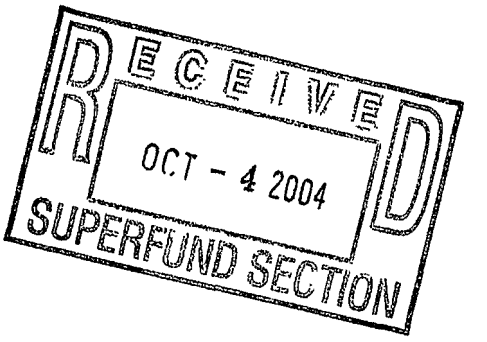
OFFICIAL COPY

Apr 13 2020

3/7/2011

DocumentID	NCD000830646
Site Name	CAROLINA P&L CO. SUTTON STEAM
DocumentType	Site Assessment Rpt
RptSegment	1
DocDate	9/30/2004
DocRcvd	10/4/2004
Box	SF113
AccessLevel	PUBLIC
Division	WASTE MANAGEMENT
Section	SUPERFUND
Program	IHS
DocCat	FACILITY

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Transmitted Via Federal Express

REC-LEAD

September 30, 2004

Mr. Kim Caulk, P.G.
Department of Environment
and Natural Resources
Superfund Section
Division of Waste Management
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

Re: Submittal of Phase I Remedial Investigation Report
Former Ash Disposal Area
Progress Energy Carolina's Inc.
L.V. Sutton Steam Electric Plant
Wilmington, North Carolina
NCD 000 830 646
BBL Project #: 04010

Dear Mr. Caulk:

The attached Phase I Remedial Investigation Report (RIR) has been prepared on behalf of Progress Energy by Blasland, Bouck and Lee, Inc. (BBL) for the Former Ash Disposal Area at the L.V. Sutton Steam Electric Plant located at 801 Sutton Steam Plant Road in Wilmington, New Hanover County, North Carolina. The Phase I RIR has been prepared pursuant to a voluntary Administrative Agreement (Docket Number 03-SF-217) signed by Progress Energy Carolina's Inc. and the North Carolina Department of Environment and Natural Resources (NCDENR) in October 2003. This Phase I RIR has been prepared to meet the applicable requirements of the North Carolina General Statute 130-310.9(c), and 15A North Carolina Administrative Code (NCAC) 13C .0300 Rules, 15A NCAC 13C.0300 *Registered Environmental Consultant Implementation Guidance* dated August 2004.

Please note that submittal of this Phase I RIR is also intended to fulfill the quarterly progress report requirement for October 2004 as outlined in Section III (B) of the Administrative Agreement between Progress Energy and NCDENR.

3700 Regency Parkway, Suite 140 • Cary, NC 27511-8574
Tel (919) 469-1952 • Fax (919) 469-5676 • www.bbl-inc.com • Offices Nationwide
F:\USERS\crickerby\2004file\21642430

If you have any questions regarding this report, please feel free to call me at 919-469-1952, ext: 11.

Sincerely,

BLASLAND, BOUCK & LEE, INC.

Gary R. Cameron, P.E., RSM
Vice-President

DCHP/sed

cc: Kerry MacPherson (Progress Energy)
M. Shawn Longfellow (Progress Energy)
R. Kent Tyndall (Progress Energy)
Scott E. Davies, P.G. (BBL)
Daniel Peterman (BBL)

DCHP/sed
Enclosures: 1

REPORT

Phase I Remedial Investigation Report for the Former Ash Disposal Area

L.V. Sutton Steam Electric Plant, Wilmington, NC

Progress Energy Service Company, LLC
Raleigh, North Carolina

September 2004

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

North Carolina Department of Environment
And Natural Resources
Division of Waste Management
Superfund Section
Inactive Hazardous Sites Branch

PHASE I REMEDIAL INVESTIGATION COMPLETION CERTIFICATION
15A NCAC 13C.0306(B)(5)(A)

Site Name L. V. Sutton Steam Plant Street Address 801 Sutton Steam Plant Rd.

County New Hanover Wilmington, NC 28401

Site ID No. NCD 000 830 646

The Phase I remedial investigation, which is the subject of this certification has, to the best of my knowledge, been completed in compliance with the Inactive Hazardous Sites Response Act G.S. 130A-310, et seq. and the voluntary remedial action program Rules 15A NCAC 13C .0300, and Blasland, Bouck, & Lee, Inc. **is in compliance with Rules .0305(b)(2) and .0305(b)(3), of this section. I am aware that there are significant penalties for willfully submitting false, inaccurate or incomplete information.**

RSM Signature — 9/30/04 Date

Gary R. Cameron, P.E.
RSM Name

Blasland, Bouck, & Lee, Inc. — 3700 Regency Pkwy, Suite 140
REC Name — Mailing Address

REC No. — Cary, NC 27511
City, State, ZIP

North Carolina (Enter State)
Durham COUNTY

I, Jill Vance, a Notary Public of said County and State, do hereby certify that GARY R. CAMERON did personally appear and sign before me this the 30TH day of SEPTEMBER, 2004.

Notary Public (signature) (OFFICIAL SEAL)

My commission expires: 7-23-2005.

Form G - I

CERTIFICATION STATEMENT

REGISTERED SITE MANAGER CERTIFICATION STATEMENT (.0306(b)(1))

PROGRESS ENERGY CAROLINAS INC.
SUTTON STEAM PLANT
WILMINGTON, NORTH CAROLINA
NCD 000 830 646

PHASE I REMEDIAL INVESTIGATION REPORT

"I certify under penalty of law that I am personally familiar with the information contained in this submittal, including any and all supporting documents accompanying this certification, and that the material and information contained herein is, to the best of my knowledge and belief, true, accurate and complete and complies with the Inactive Hazardous Sites Response Act G.S. 130A-310, et seq, and the voluntary remedial action program Rules 15A NCAC 13C .0300. I am aware that there are significant penalties for willfully submitting false, inaccurate or incomplete information."

Gary R. Cameron, P.E.
Printed Name

Signature

9/30/04
Date

North Carolina
State

Wake
County

I, Jill Vance, a Notary Public of said County and State, do hereby certify that GARY R. CAMERON did personally appear and sign before me this the 30TH day of SEPTEMBER, 2004.

Notary Public Signature

My commission expires: 7-23-2005.

CERTIFICATION STATEMENT

REMEDIATING PARTY CERTIFICATION STATEMENT (.0306(b)(2))

PROGRESS ENERGY CAROLINAS INC.
SUTTON STEAM PLANT
WILMINGTON, NORTH CAROLINA
NCD 000 830 646

PHASE I REMEDIAL INVESTIGATION REPORT

"I certify under penalty of law that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this certification, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material and information contained herein is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for willfully submitting false, inaccurate or incomplete information."

Michael Shawn Longfellow
Printed Name

Signature

9-28-04
Date

North Carolina
State

New Hanover
County

I, Darlene B. Long, a Notary Public of said ~~County and~~ State, do hereby certify that Michael Shawn Longfellow did personally appear and sign before me this the 28th day of October, 2004.

Darlene B. Long
Notary Public Signature

My commission expires: 1-22-06.

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1. Introduction

1.1 Overview

This Phase I Remedial Investigation Report (RIR) addresses the Former Ash Disposal Area (FADA) at Progress Energy Carolina's (Progress Energy) L.V. Sutton Electric Steam Plant (Sutton Site) located in Wilmington, New Hanover County, North Carolina (NCD000830646). This Phase I RIR has been prepared pursuant to a voluntary Administrative Agreement (Docket Number 03-SF-217) signed by Progress Energy Carolinas, Inc., and the North Carolina Department of Environment and Natural Resources (NCDENR) Division of Waste Management, Inactive Hazardous Sites Branch.

The work conducted under the Administrative Agreement is intended to meet the applicable requirements of North Carolina General Statute 130-310.9(c) (Statute), 15A North Carolina Administrative Code (NCAC) 13C .0300 Rules (Rules), and 15A NCAC 13C .0300 *Registered Environmental Consultant Implementation Guidance* (REC Guidance) dated August 2003. Blasland, Bouck & Lee, Inc. (BBL) has been designated as the Registered Environmental Consultant (REC) for the project.

The FADA was used between 1954 and 1972 for the placement of coal ash generated at the Sutton Site. The Sutton Site is located along the east bank of the Cape Fear River northwest of Wilmington, New Hanover County, North Carolina. The location of the Sutton Site is shown on a portion of the United States Geological Survey (USGS) 7.5 minute topographic quadrangle maps for Castle Hayne and Leland, North Carolina, and is presented as **Figure 1**. The FADA and other notable site features are shown on a site map which is presented as **Figure 2**.

1.2 Phase I Remedial Investigation (RI) Objectives

The Phase I RI field activities were conducted between May 24 and July 2, 2004. The objectives of the Phase I RI under the REC program were to:

- identify releases (if any) of potential hazardous substances to the environmental media related to the FADA;
- identify exposure pathways related to potential releases from the FADA, if any;
- characterize the chemical nature of such releases (if any) and collect sufficient sampling data to support a cleanup level determination; and,
- characterize site conditions related to any such releases (if any) sufficiently to conduct a feasibility study of remedial alternatives and to support a proposed remedy, if needed.

1.3 Report Organization

This Phase I RIR is organized to conform to the REC Guidance document dated August 2003 and NCDENR's corresponding *Component Checklist – Remedial Investigation Report, REC Rules (15A NCAC 13C)* (Component Checklist). To facilitate review of the Phase I RIR, each required component and the corresponding regulatory citation is identified in a section heading or subheading as presented in the REC Guidance and/or Component Checklist.

2. Site Background Information

2.1 Site Description

The Sutton Site is located on approximately 3,300 acres of land near Wilmington, New Hanover County, North Carolina. A portion of the Sutton Site showing the FADA and surrounding features is shown on **Figure 2**. Notable site features include the FADA, an 11-million-gallon aboveground storage tank (AST) located within the FADA, a concrete pad for a former AST, the plant discharge canal to the north, and Lake Sutton to the west.

2.1.1 Site Operations

The Sutton Site consists of three coal-fired boiler (steam) units and three internal combustion turbine (CT) generator units for use in generating electricity for Progress Energy's customers. The steam units primarily operate on bituminous coal but also burn American Society of Testing Materials (ASTM) Grade No. 2 fuel oil for startup/shutdown of site boilers and flame stabilization. Although the CT generator units primarily operate on No. 2 fuel oil, they can also burn natural gas.

The Sutton Site receives its process cooling water from the 1,110-acre Lake Sutton, which is an off-stream cooling water reservoir that stores water and dissipates heat absorbed by the water as it passes through the plant condensers. The lake is located along the east bank of the Cape Fear River immediately upstream (north) from the plant area (see **Figure 1**), and is a closed body of water with no channels or other uncontrolled connections between the Cape Fear River and other natural bodies of water. Lake Sutton is considered a cooling lake; therefore, it is not considered navigable water.

Within the FADA, one of the two large ASTs (the western tank) is still present. The eastern tank was removed in the late 1990s. The ASTs formerly contained No.6 fuel Oil from 1971 through 1981. Thereafter, they were used to store process liquors for a paper manufacturing company (R. Catlin and Associates, 1995).

2.1.2 Area of Concern – Former Ash Disposal Area

The focus of the Phase I RI was the FADA - one of the units historically used to manage ash at the Sutton Site. Operations at the Sutton Site began in 1954, and the FADA was used between 1954 and 1972 for the placement of coal ash. The general location of the FADA is shown on **Figure 2**.

3. Phase I RI Site Assessment Activities - .0306 (h) (2-5)

3.1 Narrative Description - .0306 (h)(1)

The Phase I RI was conducted in general accordance with the Phase I RI Work Plan (RIWP) (BBL, 2004) and the REC Guidance requirements. The activities completed during the RI included:

- test pitting to delineate the FADA;
- groundwater monitoring well and piezometer installation;
- groundwater sampling and analysis;
- soil boring advancement;
- soil sampling and analysis; and
- surface-water and sediment sampling and analysis from the Cape Fear River.

The investigation strategy for the Phase I RI was based on the preliminary conceptual site model (CSM) developed for the FADA. Groundwater was known to be within a few feet of the surface within the FADA based on historical data. It was believed ash material would essentially comprise the unsaturated zone where present. Therefore, the Phase I RIWP proposed the use of test pitting and ash sample collection to delineate the FADA horizontally and vertically to the water table. This approach is consistent with other similar landfill-like sites, and was intended to replace the specific requirements for grid-based soil sampling within release areas called for in the REC Guidance. The NCDENR was consulted on this approach, and subsequently approved the proposed Phase I RI strategy.

Figures 2 and **3** show the locations of all test pit, soil boring, monitoring well, and piezometer locations.

3.1.1 Work Plan Variances

Certain variances from the Phase I RIWP were implemented based on observations during the Phase I RI field program. In all cases, these variances were implemented to enhance the understanding of the subsurface conditions in and around the FADA. Variances from the Phase I RIWP are summarized below:

- Three test pits and 19 hand auger borings were added to field program voluntarily by Progress Energy to facilitate the delineation of the FADA. In some cases, hand auger locations were substituted for test pits in areas where backhoe access was not possible due to dense vegetation or health and safety concerns related to the potential presence of underground utilities.

- One additional monitoring well (MW-16) was added to delineate the eastern FADA boundary.

- Two of the planned monitoring well locations were modified based on field observations and health and safety concerns over the presence of underground utilities.

- An apparent petroleum hydrocarbon material was observed in three test pit areas (at TP-1 and TP-12, and near TP-16 and TP-20); therefore, three soil samples and associated quality assurance/quality control (QA/QC) samples were collected for analysis of 13 Hazardous Substance List (HSL) metals, Target Compound List (TCL) volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) plus 10 tentatively identified compounds (TICs) as required in the Appendix A Section A.2.1.1 and A.7.1.1 of the REC Guidance.

- One soil sample was collected at test pit TP-16 and was analyzed for Total Petroleum Hydrocarbons (TPH) as Diesel Range Organics (DRO) using USEPA SW-846 Method 8015, and Extractable Petroleum Hydrocarbons (EPH) to identify the type of apparent petroleum material observed during test pitting activities.

3.2 Special Assessments - .0306 (h) (10)

Two special assessment techniques were used to investigate the FADA – test pits and ash sampling. These special assessment techniques are described below.

3.2.1 Test Pitting

Test pitting was used as the primary investigation method to delineate the ash material within the FADA for the Phase I RI. The purpose of this approach was two-fold:

- to identify the horizontal limits of the FADA based on visual observations for use in developing future remedial action scenarios, if necessary; and,

- to determine the vertical extent of the ash material down to shallow groundwater.

Test pitting was conducted using a backhoe. Twenty test pits were excavated to depths ranging from 1.5 to 7.4 feet below ground surface (bgs). The test pit locations are presented on **Figure 3**. Initial characterization of the ash consisted of visual observation of the material along test pit walls. Visual observations of the ash material characteristics were recorded in a dedicated log book following Environmental Investigation Standard Operating Procedure Quality Assurance Manual (EISOPQAM) protocols for maintaining field records (USEPA, 2001). **Table 1** provides a detailed description of each test pit.

The location and ground surface elevations of the test pits were surveyed by a North Carolina-licensed surveyor in accordance with Appendix A Section A.6 of the REC Guidance. Test pit ground surface elevations were identified with respect to North American Vertical Datum (NAVD) 29. Horizontal locations were identified with respect to North American Datum (NAD) 83.

3.2.2 Ash Sampling

Three ash samples were collected and archived for possible future characterization using the Synthetic Precipitation Leaching Procedure (SPLP) test for use in developing "protection of groundwater" soil remediation goals, if necessary, based on the analytical results of the FADA groundwater samples.

Three ash samples were collected as grab samples from the backhoe bucket during test pitting in accordance with EISOPQAM sampling methodologies using backhoes (see EISOPQAM Section 12.3.2). The sample locations are shown in **Figure 3**. Ash samples were selected based on visual characteristics to assess the range of variability observed in the field, and were collected directly (without mixing) into laboratory-grounded sample containers.

The ash samples were stored in coolers on ice and maintained under full chain-of-custody procedures. The samples were transported to CompuChem Laboratories in Cary, North Carolina (NCDENR laboratory certification no. 79) and were archived for possible future analysis using the SPLP via USEPA SW-846 Method 1312 for the following HSL metals:

• antimony	• mercury
• arsenic	• nickel
• beryllium	• selenium
• cadmium	• silver

• chromium	• thallium
• copper	• zinc
• lead	

3.3 Well and Piezometer Construction - .0306 (h) (2)

3.3.1 Monitoring Well Construction

Four permanent monitoring wells (MW-13, MW-14, MW-15, and MW-16) were installed around the FADA to assess groundwater quality as part of the Phase I RI activities. One of the wells (MW-16), was installed to assess background groundwater quality conditions near the FADA. The locations of the monitoring wells installed during the Phase I RI are depicted on **Figures 2** and **3**. All wells were installed utilizing 4.25-inch inner-diameter (ID) hollow-stem augers. Continuous soil samples were collected during borehole advancement using 1.5-foot split-spoon samplers. Soil samples were screened for organic vapors utilizing an organic vapor analyzer equipped with a flame ionization detector (FID). FID results are summarized on well construction logs provided in **Appendix A**. All wells were installed by a North Carolina-licensed well driller.

Each well was constructed with 2-inch-diameter flush-joint threaded polyvinyl chloride (PVC) riser with a 10-foot length of 0.010-inch slotted PVC well screen. The screened intervals were positioned so that they intersected the water table at the time of construction. A sand pack was placed from the boring terminus to an appropriate depth above the top of the screened interval. A bentonite pellet seal was placed above of the filter pack to an appropriate depth. The bentonite seal was allowed to hydrate for a minimum of 8 hours. Grout was then installed into the annular space around the casing to an appropriate depth. After a 24-hour period, the wells were completed by constructing a 2-foot by 2-foot cement surface pad and installing a protective aboveground steel casing secured with a lock and cap. A summary of the well construction details are provided in **Table 2**. Well construction records and boring logs are provided in **Appendix A**.

3.3.2 Piezometer Construction

One piezometer (PZ-10) was installed proximate to the FADA to facilitate an understanding of groundwater flow in the study area. The piezometer was installed utilizing 4.25-inch ID hollow-stem augers. Continuous soil samples were collected during borehole advancement using 1.5-foot split-spoon samplers. Soil samples were screened for organic vapors utilizing an organic vapor analyzer equipped with an FID. FID results are summarized on the piezometer construction log provided in **Appendix A**.

The piezometer was constructed with 2-inch-diameter flush-joint threaded PVC riser with a 10-foot length of 0.010-inch slotted PVC screen. The screened interval was positioned so that it intersected the water table at the time of construction. A sand pack was placed from the boring terminus to an appropriate depth above the top of the screened interval. A bentonite pellet seal was placed above of the filter pack to an appropriate depth. The bentonite seal was allowed to hydrate for a minimum of 8 hours. Grout was then installed into the annular space around the casing to an appropriate depth. After a 24-hour period, the piezometer was completed by constructing a 2-foot by 2-foot cement surface pad and installing a protective aboveground steel casing secured with a lock.

3.3.3 Monitoring Well Development

New monitoring wells MW-13, MW-14, MW-15, and MW-16 were developed 24 hours prior to sampling activities. Monitoring well development was conducted in accordance with the procedures presented in the EISOPQAM (see Section 6.8). All monitoring wells were developed until the column of water in the well was free of visible sediment and until water-quality parameters (e.g., pH, temperature, turbidity, specific conductivity, and oxidation-reduction potential [ORP]) in the purge water had stabilized.

3.3.4 Monitoring Well and Piezometer Surveying

The location and elevation of each new monitoring well and the piezometer was surveyed by a North Carolina-licensed surveyor. The elevations recorded for each well and piezometer included the top of casing and ground surface. Elevations were identified with respect to NAVD 29, and horizontal locations were identified with respect to NAD 83. Survey data for the newly installed wells and piezometer is summarized in **Table 3**.

3.4 Sampling Locations .0306 (h) (3)

The following section describes the sampling program implemented for the Phase I RI. The parameter list developed for the Phase I RIWP was based on Appendix A Section A.2 of the REC Guidance and consisted of:

- HSL metals;
- TCL VOCs plus 10 TICs; and,
- TCL SVOCs plus 10 TICs.

Sampling for pesticides, dioxins/furans, or polychlorinated biphenyl's (PCBs) was not conducted because these constituents were not managed in the FADA according to Progress Energy personnel.

3.4.1 Hand Auger Boring Program

Nineteen hand auger borings were advanced in the study area to facilitate delineation of the FADA. Hand auger boring locations are shown on **Figures 2** and **3**. These borings were not included in the Phase I RIWP, but were added during field activities for one of the following reasons:

- to delineate the FADA in the densely vegetated portion of the study area (see **Figure 3**);
- to delineate the FADA in areas where there was a high potential for encountering underground utilities;
- to further delineate the three areas within the FADA where an apparent petroleum hydrocarbon material was detected during test pitting and hand auger boring activities; and,
- to collect soil samples for laboratory analysis to further evaluate the apparent petroleum hydrocarbon material.

Hand auger depths ranged from 1.2 to 6 feet bgs. Visual observations of the ash material characteristics were recorded in a dedicated log book following EISOPQAM protocols for maintaining field records. **Table 1** provides a detailed description of each hand auger boring. The location and ground surface elevations of the hand auger borings were surveyed by a North Carolina-licensed surveyor. Hand auger boring elevations were identified with respect to NAVD 29, and horizontal locations were identified with respect to NAD 83.

3.4.2 Soil Sampling Activities

An apparent petroleum hydrocarbon material was initially observed in three test pit areas (at TP-1 and TP-12, and near TP-15, TP-16, and TP-20); therefore, three soil samples and associated QA/QC samples were collected for analysis of HSL metals, and TCL VOCs and SVOCs plus 10 TICs in accordance with the REC Guidance (see **Figure 3**). Soil samples were collected using a hand auger, which was properly decontaminated between each boring in accordance with EISOPQAM procedures.

All soil samples were stored in coolers on ice and maintained under full chain-of-custody procedures. Samples were transported via courier and shipped via overnight delivery to CompuChem Laboratories for analysis of the following parameters:

- TCL VOCs using USEPA SW-846 Method 8260B;

- TCL SVOCs using USEPA SW-846 Method 8270C; and

- 13 HSL metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc) using USEPA SW-846 Method 6010 B/7470 (mercury only).

In addition, one additional soil sample was collected at test pit TP-16 for TPH as DRO analysis using USEPA SW-846 Method 8015 and Tennessee EPH to identify the type of apparent petroleum material observed during field activities.

3.4.3 Groundwater Sampling Activities

Four groundwater monitoring wells were installed as part of the Phase I RI. Prior to commencement of groundwater sampling activities, one synoptic round of groundwater-level measurements were collected from the newly installed monitoring wells and the piezometer. The measurements were made with an electronic water-level probe. Depth-to-water measurements were measured from the surveyed top of casing to the nearest 0.01 foot and recorded in a bound logbook. The locations of all existing groundwater monitoring wells and the piezometer are depicted on **Figures 2** and **3**. The water level measurements are summarized in **Table 2**.

Prior to sampling the four monitoring wells, each well was purged utilizing low-flow methods in accordance with the Phase I RIWP. This involved the use of a peristaltic pump equipped with silicone and Teflon®-lined polyethylene (PE) tubing. The PE tubing was positioned in the well such that the intake was situated at the middle of the well screen. During low-flow sampling methods, the purge rate (maximum of 500 milliliters per minute) was adjusted such that the water level within the well was not lowered by more than 0.3 feet. The water level within the well was monitored throughout the duration of the purge. Field parameters (consisting of temperature, pH, specific conductivity, dissolved oxygen (DO), ORP, and turbidity) were monitored continuously during the purging of all wells using a Horiba U-22 meter, with a flow-through-cell assembly. Color of the purged water, presence or absence of a sheen, and odor were recorded by BBL personnel throughout the duration of the purge. Each monitoring well was purged until three consecutive field measurements (taken at five-minute intervals) of pH, specific conductivity, DO, and ORP stabilized to within one standard unit, 3%, 10%, and 10 millivolts, respectively. All groundwater samples were collected in accordance with the EISOPQAM and Phase I RIWP.

Equipment used for sample collection was decontaminated, as necessary, following the decontamination procedures outlined in the EISOPQAM (see applicable portion of EISOPQAM Appendix B).

All groundwater samples were stored in coolers on ice and maintained under full chain-of-custody procedures. Samples were transported via courier and shipped via overnight delivery to CompuChem Laboratories for analysis of the following analytical parameters:

- TCL VOCs using USEPA SW-846 Method 8260B;

- TCL SVOCs using USEPA SW-846 Method 8270C; and

- 13 HSL metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc) using USEPA SW-846 Method 6010 B/7470 (mercury only).

3.4.4 Surface-Water and Sediment Sample Collection

Two surface-water samples were collected from the Caper Fear River upstream and downstream of the FADA during the Phase I RI. Sediment samples were collected at the same locations where surface-water samples were collected. Prior to the commencement of surface-water and sediment sampling activities, each sample location was documented by a BBL scientist utilizing global positioning system (GPS) technology. Due to the inaccessibility of the heavily vegetated shoreline adjacent to the Cape Fear River, sample locations were unable to be physically staked as called for in the REC guidelines; however, GPS coordinates will allow for accurate relocation of each sample point, if necessary.

Surface-water and sediment samples were collected using the applicable procedures provided in the EISOPQAM.

3.4.4.1 Surface-Water Sample Collection

One downstream (SW-2) and one upstream (SW-1) surface-water sample was collected from the Cape Fear River. Surface-water sampling was conducted using the procedures provided in the EISOPQAM (see Section 10). The sampling locations are depicted on **Figure 4.**

Surface-water sampling proceeded in a downstream-to-upstream direction. During collection, sampling personnel were positioned downstream of the sample location. The surface-water depth was measured with a surveyor's rod marked in tenths of a foot and recorded. Surface-water samples were collected directly into laboratory sample containers by facing the sample container in the upstream direction and taking care not to disturb any sediment or to displace the preservative in the bottle.

Following sample collection, field personnel monitored pH, temperature, specific conductivity, DO, ORP, and turbidity at the depth from which the sample was collected using a Horiba U-22 water-quality meter. All data was documented in a log book. The surface-water locations were surveyed using GPS technology and documented in a log book.

Samples were stored in coolers on ice and maintained under full chain-of-custody procedures. Samples were transported by BBL to CompuChem Laboratories for analysis of the following parameters:

- TCL VOCs using USEPA SW-846 Method 8260;
- TCL SVOCs using USEPA SW-846 Method 8270C; and
- 13 HSL metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc) using USEPA SW-846 Method 6010B/7470 (mercury only).

3.4.4.2 Sediment Sample Collection

Two sediment samples [SD-1 (upstream) and SD-2 (downstream)] were collected from the Cape Fear River. Sediment samples were co-located spatially and temporally with surface-water samples. Sediment samples were collected in accordance with the methods described in the EISOPQAM.

Sediment samples were collected in a downstream-to-upstream direction. The sampling locations are depicted on **Figure 4**. At each sediment sample location, the water depth was measured with a surveyor's rod marked in tenths of a foot and recorded. A sediment core was collected using either dedicated polycarbonate tubing or a stainless steel hand trowel. Coring progressed to a depth of 1 foot. Each core was extruded and logged. One sample was collected from each core from the 0.0- to 6-inch interval.

Samples were stored in coolers on ice and maintained under full chain-of-custody procedures. Samples were transported by BBL to CompuChem Laboratories for analysis of the following parameters:

- TCL-VOCs using USEPA SW-846 Method 8260 (unmixed);
- TCL-SVOCs using USEPA SW-846 Method 8270C; and,
- 13 HSL metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc) using USEPA SW-846 Method 6010B/7470 (mercury only).

3.5 Quality Assurance/Quality Control - .0306 (h) (4)

In accordance with the REC Guidance and EISOPQAM, QA/QC samples for each media type (e.g. soil, sediment, groundwater, surface water) were submitted to the laboratory for analysis along with the samples collected in the field. QA/QC samples included blind field duplicates, matrix spike/matrix spike duplicates (MS/MSDs), field (equipment) rinsate blanks, and VOC trip blanks. Blind field duplicates were collected each day and analyzed for the constituents sampled on that day. One field (equipment) rinsate blank was collected per week from each type of sampling equipment used. MS/MSD samples were collected at a frequency of 1 per 20 samples. Trip blanks were placed into each sample cooler that contained samples to be analyzed for VOCs.

Equipment decontamination procedures followed the EISOPQAM Standard Field Cleaning Procedures (see EISOPQAM Appendix B).

3.6 Investigation Derived Waste - .0306 (h) (5)

Investigation derived waste (IDW) (drill cuttings, well development/purge water, etc.) was contained in labeled 55-gallon steel drums pending the receipt of laboratory analysis of the Phase I RI sampling activities. An IDW management approach is being developed consistent with the REC Guidance [Appendix A.6(g)] based on the Phase I RI analytical results. The majority of the IDW was from sampling locations that were below applicable REC remediation goals (RGs). This material will be placed onto the ground in accordance with EISOPQAM requirements. IDW from the few locations that may contain constituents above the RGs will be properly managed at an appropriate solid waste management facility.

4. Geology and Hydrogeology - .0306 (h)(6-7)

4.1 Regional Geology and Hydrogeology

New Hanover County lies in the Atlantic Coastal Plain Physiographic Province in the southeast portion of North Carolina (Brown, 1985). The Sutton Site is located on the east side of the Cape Fear River within the alluvial plain between the coastal dunes and the interior uplands (NUS Corporation, 1989). Local elevations range from 15 feet above sea level to sea level. The site is underlain by up to 75 feet of surficial soil deposits consisting primarily of well drained sands. This unit is a water table aquifer and provides drinking water in the area. The average supply well depth in the area is 55-feet bgs (NUS Corporation, 1989). Supply wells used by Progress Energy in 1989 had yields of between 480 and 1,100 gallons per minute (gpm) based on pumping tests conducted at the time. The surficial sand unit is underlain by a silt and clay aquiclude approximately 160-feet thick (Bain, 1970). A potentiometric surface map of the water table aquifer using data collected by BBL in June 2004 is presented as **Figure 5**. As shown on **Figure 5**, groundwater proximate to the study area generally flows to the east in a radial pattern relative to Lake Sutton; however, local variations are present proximate to the Old Ash Pond (OAP).

An average transmissivity (T) value of 11,000 square feet per day (ft^2/day) was estimated by Heath for the surficial sand aquifer (Heath, 1989). Assuming an aquifer thickness of 55 feet, a typical hydraulic conductivity (K) value of 200 feet per day (ft/day) or 7.06×10^{-2} centimeters per second (cm/sec) was calculated for the site area. Based on this K value and the horizontal component of the hydraulic gradient that ranges between 0.0014 foot per foot (ft/ft) and 0.00045 ft/ft based on groundwater elevation data from the March 2003 monitoring event, the average linear groundwater velocity near the study area ranges between 0.30 ft/day and 0.93 ft/day, or 109 to 339 feet per year.

4.2 Site Geology

Site geology in the vicinity of the FADA was evaluated based on the field activities conducted during the Phase I RI. Subsurface characteristics were logged during the installation of 20 test pits, 19 hand auger borings, four groundwater monitoring wells and one piezometer in and around the FADA.

Soils around the outside of the FADA consist primarily of medium-grained sand with some coarse-grained sand and silt. Soil color varied from white to light grey, light brown, and orange brown. **Table 1** summarizes test pit and hand auger boring soil descriptions. **Appendix A** contains the boring logs for the monitoring wells and piezometer.

Within the FADA, three distinct units were identified above the water table as follows:

- **Ash Unit** – The ash unit consists of a distinctive layer of dark to light grey colloids that are typically laminated in appearance.
- **Definable Ash Unit and Sand** – This unit consists of a definable ash layer as described above combined with a grey sand and ash mixture that may be present above or below the ash layer.
- **Sand and Ash Mixture** – This unit consists of medium grey sand mixed with ash material between sand grains with no definable ash layer present.

Figure 3 shows the outline of the FADA and the spatial distribution of the three above-referenced units based on the delineation data collected during the Phase I RI.

An east-to-west cross-section (A-A') and two north-to-south trending cross-sections (B-B') and (C-C') were constructed to present subsurface soil and ash characteristics in and around the FADA. A geologic cross-section location map is presented as **Figure 6**. **Figures 7, 8,** and **9** present cross-sections (A-A'), (B-B') and (C-C'), respectively.

4.3 Site Hydrogeology

Shallow groundwater in the FADA area ranged from 0.0 (MW-15) to 5.84 (MW-13) feet below ground surface (ft bgs) based on water level data collected in June 2004. Shallow groundwater flows generally to the southwest away from the discharge canal which forms the northern FADA boundary. There is also a component of groundwater flow to northwest along the southwest portion of the FADA. Further, the highest groundwater elevation was gauged in MW-13 located in the northwest corner of the FADA bordering Lake Sutton. These data indicate that groundwater flow may converge onto the FADA from the adjacent surface-water bodies. A potentiometric surface map was prepared using the June 22, 2004 groundwater elevation data and is presented as **Figure 5.** A summary of shallow groundwater elevation data for all existing wells is provided on **Table 2.** It should be noted that groundwater flow within the FADA may be significantly affected locally by the relative permeability differences between the three units within the FADA described in Section 4.2 above. This condition was observed in several test pits. The low permeability of the ash unit significantly retarded groundwater flow relative to the much more permeable sand and ash mixture and/or sandy soil.

The horizontal component of the hydraulic gradient was determined in the vicinity of the FADA using the June 22, 2004 groundwater elevation data presented in **Table 2.** The horizontal gradient is approximately 0.0016 ft/ft based on a head difference of 0.8 feet between upgradient well MW-16 and the downgradient piezometer PZ-10, which are located approximately 490 feet apart (see Figure 5).

5. Phase I RI Analytical Results - .0306 (h) (8-9)

5.1 General

This section presents the results of the analysis of Phase I RI samples. Laboratory reports of the results for the samples collected during the Phase I RI are presented in **Appendix B**.

5.2 Groundwater Sampling Results

5.2.1 Field Parameter Data

Stabilized field parameter data for the June 2004 monitoring period are presented in **Table 4**. Values of pH ranged from 6.44 (MW-16) to 6.82 (MW-15) std. units. These values indicate that groundwater within the FADA is neutral to slightly acidic. Specific conductivity ranged from 195 (MW-16) to 582 (MW-14) microseimans per centimeter (µS/cm). Temperature ranged from 22.60 °Celsius (C) (MW-13) to 26.39 °C (MW-14). DO ranged from 0.22 (MW-14) to 2.09 (MW-15) milligrams per liter (mg/L). ORP ranged from -100 (MW-15) to -197 (MW-13) millivolts (mV). These data indicate that reducing conditions are present in shallow groundwater within the FADA. Stabilized groundwater turbidity results were five Nephelometric Turbidity Units (NTUs) or less within all wells.

5.2.2 HSL Metals Data

Groundwater samples from the four FADA monitoring wells were analyzed for HSL metals as required by the REC Guidance. Four of the 13 HSL metals were detected in groundwater samples from the FADA wells; however, all metal concentrations were well below their respective RGs with the exception of arsenic. Arsenic was detected at concentrations above the 15A NCAC 2L Standard (10 µg/L) in groundwater samples collected from monitoring wells MW-13, MW-14, and MW-15. Arsenic concentrations were 70.6 µg/L, 10.9 µg/L, and 41.3 µg/L in groundwater samples from MW-13, MW-14, and MW-15, respectively. Arsenic was detected below the RG at 3.5µg/L in the sample from background well MW-16. HSL metals results are presented in **Table 5** for the June 2004 monitoring event.

5.2.3 VOC and SVOC Data

Groundwater samples from the FADA monitoring wells were analyzed for TCL VOCs and TCL SVOCs. VOC and SVOC data are presented in **Table 5**. One VOC (acetone) was detected at very low concentrations from samples collected at MW-13, MW-14, and MW-15. None of the VOCs exceeded available RGs. Acetone is a common laboratory artifact and does not appear to be site related.

No TCL SVOCs were detected in groundwater samples from the FADA.

5.3 Soil Sampling Results

Three soil samples [SB-10 (3.5 - 4ft.), SB-11 (4 - 4.5ft.), and SF-1 (0.8 - 1.2ft.)] were collected within the FADA during the Phase I RI. Provisions for collecting these samples were not included in the Phase I RIWP; however, a field decision was made to collect the samples based on visual observations of an apparent petroleum material at four test pit locations. A fourth soil sample (TP-16) was collected to identify the type of petroleum observed in the field. The location of the soil samples are shown on **Figure 3**.

5.3.1 HSL Metals Data

Three soil samples were collected from the FADA and were analyzed for HSL metals as required by the REC Guidance. HSL metals results are presented in **Table 6**. Twelve HSL metals were detected in the soil samples from the FADA; however, all metal concentrations were below their respective RGs with the exception of

arsenic and thallium in the sample from SB-10. Arsenic was detected in the soil sample from SB-10 (3.5 – 4 ft bgs) at a concentration of 13.3 milligrams per kilogram (mg/kg), and thallium was detected at 2.0 mg/kg.

5.3.2 VOC and SVOC Data

Soil samples from the FADA soil borings were analyzed for TCL VOCs and TCL SVOCs. Seven VOCs were detected at low concentrations as shown on **Table 6**. All VOC concentrations were below their available RGs. Several of the VOCs detected are common laboratory artifacts and do not appear to be site related.

Thirteen SVOCs were detected in soil samples collected from the FADA (see **Table 6**). All SVOC concentrations were below their respective RGs with the exception of benzo(a)pyrene which was detected at 91 micrograms per kilograms (µg/kg) in the sample from SB-11 (the RG is 62 µg/kg). However, it should be noted that this concentration was reported by the laboratory as an estimated value.

5.3.3 TPH Analysis

One soil sample was collected from test pit TP-16 (2.8 – 3.0 ft.) and was analyzed initially for TPH (DRO). The TPH (DRO) concentration was 7,300 mg/kg. Based on discussions with Progress Energy site personnel, it was determined that the source of the petroleum hydrocarbon material may have been related to a historical release of No. 6 fuel oil from one of the ASTs overlying the FADA[1]. This was consistent with the visual observations during test pit operations (i.e. the petroleum hydrocarbon material appeared to be a heavy fuel type). Therefore, BBL requested that the laboratory re-analyze the sample and extend the run time to evaluate the presence of heavier petroleum compounds. Subsequently, the laboratory re-analyzed the soil sample via the Tennessee EPH method. Analytical results indicated a TPH (EPH) concentration of 31,000 mg/kg. The main portion of the TPH was concentrated in the heavier fuel range and is indicative of No. 6 fuel oil. TPH results are presented in **Table 6**.

5.4 Sediment Sampling Results

Two sediment samples (SD-1 and SD-2) were collected from the Cape Fear River upstream and downstream of the FADA. The location of the sediment samples are shown on **Figure 4**.

5.4.1 HSL Metals Data

The two sediment samples collected from the Cape Fear River were analyzed for HSL metals as required by the REC Guidance. HSL metals results for the sediment samples are presented in **Table 7**. Ten HSL metals were detected at low concentrations in either SD-1 or SD-2. All metal concentrations were below their respective RGs with the exception of arsenic and mercury which were detected in the upstream sample at 5.4 mg/kg and 0.22 mg/kg, respectively, slightly above the RG of 4.4 mg/kg for arsenic and 0.13 mg/kg for mercury. Overall, metals concentrations in the upstream sediment sample were higher than concentrations in the downstream sample.

5.4.2 VOC and SVOC Data

Sediment samples SD-1 and SD-2 were analyzed for TCL VOCs and TCL SVOCs. VOC and SVOC data are presented in **Table 7**. Four VOCs (1,2,4-trichlorobenzene, 2-butanone, acetone, and methylene chloride) were detected at very low concentrations. None of the VOCs exceeded available RGs. Each of these VOCs are common laboratory artifacts and do not appear to be site related.

No SVOCs were detected in either of the sediment samples collected from the Cape Fear River.

[1] The release of the No. 6 Fuel Oil in the AST area was previously reported to the NCDENR and assessed by Progress Energy (see Appendix D of the Phase I RI WP).

5.5 Surface-Water Sampling Results

Two surface-water samples were collected from the Cape Fear River upstream and downstream of the FADA. The location of the surface-water samples are shown on **Figure 4**.

5.5.1 Field Parameter Data

Field parameter data for the surface-water samples collected in June 2004 are presented in **Table 4**. Values of pH were 6.24 std. units at SW-1 and 6.12 std. units at SW-2. Specific conductivity was 136 µS/cm at SW-1 and 161µS/cm at SW-2. The temperature at SW-1 was 29.50 °C and 29.36 °C at SW-2. DO was 4.93 mg/L at SW-1 and 4.68 mg/L at SW-2. ORP was 147 mV at SW-1 and 186 mV at SW-2. Turbidity readings were 16.0 NTUs at SW-1 and 0.0 NTUs at SW-2.

5.5.2 HSL Metals Data

The two surface-water samples collected from the Cape Fear River were analyzed for HSL metals as required by the REC Guidance. HSL metal results for the surface-water samples are presented in **Table 8**. Six HSL metals were detected at low concentrations. Arsenic was not detected in either of the surface-water samples. Lastly, metals concentrations in the upstream sample were higher than concentrations in the downstream sample.

5.5.3 VOC and SVOC Data

Surface-water samples SW-1 and SW-2 were analyzed for TCL VOCs and TCL SVOCs. VOC and SVOC data are presented in **Table 8**. Four VOCs (chloroform, chloromethane, methyl-tert-butyl ether, and methylene chloride) were detected at very low concentrations. None of the VOCs exceeded available RGs. Each of these VOCs are common laboratory artifacts and do not appear to be site related.

No SVOCs were detected in surface-water samples collected from the Cape Fear River.

5.6 Quality Assurance/Quality Control Data

QA/QC samples were collected during Phase I RI field activities, including duplicates for each media sampled, MS/MSD samples, field equipment (rinsate) blanks, and VOC trip blanks. Duplicate sample results are shown in brackets in **Tables 5** through **8**. **Table 9** presents the analytical results for VOC trip and equipment blank samples. Overall, duplicate samples results compare well to their corresponding samples. Equipment blank and trip blank indicate very low levels of five VOCs (2-hexanone, chloromethane, dichlorodifluoromethane, methylene chloride, and toluene). These constituents are often detected as laboratory artifacts and are not consistent with the constituents of concern at the site. Therefore, these constituents do not appear to be site related.

5.6.1 Data Validation

Analytical data generated for the Phase I RI were evaluated by a BBL data validation specialist to determine the acceptability of the data generated by the analytical laboratory. A limited data validation/review was completed on the level III data packages submitted by the laboratory for each sample delivery group in accordance with the Quality Assurance Project Plan (QAPP) included as part of the Phase I RIWP. The limited data validation reports are included with the laboratory data in **Appendix B**. Overall, the data validation reports found the data acceptable and usable. None of the data within the data set were rejected due to any deviation cited in the data validation reports.

6. Conclusion and Recommendations

6.1 Conclusions

The following conclusions have been developed based on the results of the Phase I RI.

- The FADA has been delineated horizontally and vertically based on the test pit and hand auger boring data collected as part of the Phase I RI.

- Three ash related units have been identified within the FADA: a definable ash present to the water table, a definable ash combined with a sand and ash mixture, and a sand and ash mixture with no definable ash layer present.

- Shallow groundwater appears to have been impacted with arsenic above the groundwater RG of 10 µg/L based on samples collected from three monitoring wells (MW-13, MW-14, and MW-15). Based on these data, additional shallow and deep monitoring wells are necessary to delineate arsenic in groundwater horizontally and vertically.

- Groundwater flow in the FADA appears to converge toward the central portion of the FADA from the discharge canal to the north and Lake Sutton to the west. This groundwater flow pattern may limit potential impacts to these surface-water bodies; however, additional data along the western and southern portion of the FADA are needed to confirm overall groundwater movement proximate to the FADA.

- Ash from the FADA does not appear to have impacted surface water or sediments in the Cape Fear River. In fact, constituent concentrations in the downstream samples were generally lower than in the upstream samples.

- Analysis of the three soil samples collected for possible SPLP analysis does not appear to be necessary at this time. Rather, the focus of future RI efforts should be delineating groundwater impacts.

- A light non-aqueous phase liquid (LNAPL) was observed in three areas within the FADA (see **Figure 3**). Analytical results indicate that no organic constituents exceeded soil RGs with the exception of benzo(a)pyrene in sample SB-11 at an estimated concentration of 91 µg/kg (the RG is 62 µg/kg). Analytical results for the soil sample collected to identify the LNAPL indicate that the material is consistent with a heavy petroleum hydrocarbon material such as No. 6 fuel oil. This is consistent with historical records that indicate a possible release from one of the ASTs overlying the FADA. The three areas where LNAPL was observed have not been fully delineated and may require additional investigation.

6.2 Recommendations

The following recommendations have been developed based on the results of the Phase I RI. The results of the analysis of samples from the Cape Fear River indicate that surface water and sediment have not been impacted by the FADA. No additional investigation of surface water or sediments is warranted. A focused Phase II RI is recommended to address data gaps identified in the Phase I RI. The Phase II RI should consist of the following elements:

- installation of a limited number of additional shallow monitoring wells to complete horizontal delineation of arsenic in groundwater and to confirm the direction of groundwater flow along the western and southern border of the FADA;

- installation of a limited number of additional shallow piezometers to complete the horizontal delineation of groundwater flow direction in and around the western and southern border of the FADA;

- installation of a limited number of deep monitoring wells to evaluate the vertical extent of arsenic impacts in groundwater related to the FADA;

- advancement of additional hand auger borings to delineate the three areas where LNAPL was observed in the FADA;

- sampling and analysis proximate to the three LNAPL areas using the Massachusetts Department of Environmental Protection (MADEP) EPH/Volatile Petroleum Hydrocarbon (VPH) analytical method to confirm the horizontal limits of these areas; and

- collection of background soil samples to comply with the REC Guidance requirements.

To address the recommendations provided above, a RIWP Addendum will be prepared and submitted to the NCDENR as required under Section .0306 (g) and applicable portions of Appendix A of the REC Guidance. Field activities under the RIWP Addendum will be implemented within a reasonable timeframe after submittal of the RIWP Addendum since formal NCDENR review and approval of the work plan is not required.

7. Site Photographs - .0306 (h) (11)

Site photographs were taken during the Phase I RI field activities. Representative site photographs are presented in **Appendix C**.

8. Certifications -.0306 (b) (1-2)

Completed certification statements from the remediating party and the registered site manager are provided in **Appendix D.**

9. Phase I RI Completion Statement - .0306 (b) (5)

A copy of the completion statement for the Phase I RI (Form G-1) is included in **Appendix E**.

10. References

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Tables

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Table 1
Test Pit and Soil Boring Descriptions for the Former Ash Disposal Area
Progress Energy L.V. Sutton Electric Steam Plant
Wilmington, North Carolina

Location ID / Test Pit ID	Date	Maximum Depth (ft bgs)	Depth Interval (ft bgs)	Lithologic Description	USCS Classification		Comments
TP-1	5/24/2004	1.8	(0.0-0.8)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		
			(0.8-1.1)	SAND, black, medium grained, trace organics, roots, moist, trace oil substance visible.	SM		Petroleum staining observed.
			(1.1-1.8)	SAND, gray, medium grained, wet.	SM		
TP-2	5/24/2004	2.6	(0.0-0.2)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		
			(0.2-2.6)	CLAYEY SAND, black to brown, trace organics, wet.	SC		
TP-3	5/24/2004	6.2	(0.0-0.4)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		
			(0.4-1.5)	ASH, dark gray, silty, laminated.			
			(1.5-1.55)	SAND, light gray, fine grained.	SM		
			(1.55-2.05)	ASH, dark gray, silty, laminated.			
			(2.05-2.6)	SAND, dark gray, medium grained.	SM		
			(2.6-6.2)	ASH and SAND, dark gray, silt to fine grained, laminated.			Sample collected for laboratory analysis at 4 ft bgs.
TP-4	5/25/2004	4	(0.0-0.9)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		
			(0.9-1.5)	SAND with trace ASH, brown, silt to medium grained.			
			(1.5-1.6)	SAND, light gray, medium grained.	SM		
			(1.6-1.9)	ASH, dark grey, silty.			
			(1.9-4)	SAND and ASH, dark gray, silt to fine grained.			
TP-5	5/25/2004	2.6	(0.0-0.3)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		
			(0.3-1)	SAND, brown to tan, medium grained, wet.	SM		
			(1-1.8)	SAND, dark brown to black, fine to medium grained, wet.	SM		
			(1.8-2.6)	SAND, black, fine to medium grained.	SM		
TP-6	5/25/2004	4.6	(0.0-0.2)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		
			(0.2-1.7)	ASH, dark gray, silty, trace organics.			
			(1.7-2.1)	SAND, dark gray to brown to gray, medium grained, visible roots.	SM		
			(2.1-4.6)	SAND and ASH, gray, silt to medium grained.			
TP-7	5/25/2004	7.0	(0.0-0.2)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		
			(0.2-1.2)	SAND, dark gray, fine to medium grained.	SM		
			(1.2-3.3)	SAND, dark brown, medium grained.	SM		
			(3.3-3.5)	SAND, tan, medium grained, wet.	SM		Perched groundwater at base of the SAND layer.
			(3.5-4.8)	SAND and ASH, fine to medium grained, laminated.			
			(4.8-7.0)	SAND, dark brown, medium grained, high organic content, roots.	SM		
TP-8	5/25/2004	4.0	(0.0-0.3)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		Excavation unstable, undercaving.
			(0.3-0.9)	SAND, dark gray, fine to medium grained.	SM		
			(0.9-2.0)	SAND, brown to dark gray, medium grained.	SM		
			(2.0-4.0)	SAND, light gray, medium to coarse grained.	SM		

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Location ID / Test Pit ID	Date	Maximum Depth (ft bgs)	Depth Interval (ft bgs)	Lithologic Description	USCS Classification		Comments
TP-9	5/25/2004	4.0	(0.0-0.2)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		Excavation unstable, undercaving of lower SAND units.
			(0.2-1.2)	SAND, dark gray, medium grained, organics, roots.	SM		
			(1.2-2.9)	SAND, light brown to gray, medium grained, roots.	SM		
			(2.9-4.0)	SAND, light gray, medium to coarse grained.	SM		
TP-10	5/25/2004	7.4	(0.0-0.4)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		Groundwater observed at 6.9 ft bgs. Overlying ash layer appears to retard groundwater in this area.
			(0.4-2.6)	SAND and ASH, gray, silt to medium grained.			
			(2.6-3.4)	SAND, brown, medium grained, moist.	SM		
			(3.4-6.9)	SAND and ASH, silt to medium grained, laminated, moist.			
			(6.9-7.4)	SAND, dark gray, medium to coarse grained, organics, roots, wet.	SM		
TP-11	5/26/2004	6.2	(0.0-0.4)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	SM		
			(0.4-1.0)	SAND, light brown to dark brown, fine to medium grained.	SM		
			(1.0-2.6)	SAND and ASH, dark brown to black, silt to medium grained.			
			(2.6-3.5)	SAND and ASH, dark gray to black, silt to fine grained.			Groundwater observed at approximately 5 ft bgs.
			(3.5-6.2)	SAND and ASH, silt to fine grained, laminated.			Sample collected for laboratory analysis at 5 ft bgs.
TP-12	5/26/2004	8.6	(0.0-0.4)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		Groundwater observed at approximately 8.4 ft bgs.H77
			(0.4-1.8)	SAND and ASH, black, silt to fine grained.			
			(1.8-3.9)	SAND, light brown to black, medium grained.	SM		
			(3.9-4.6)	SAND, black, medium grained, trace organics and roots, moist.	SM		Petroleum staining observed.
			(4.6-8.6)	SAND and ASH, black and gray, fine grained, laminated.			Sample collected for laboratory analysis at 5 ft bgs.
TP-13	5/26/2004	3.8	(0.0-0.4)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		Excavation unstable, undercaving.
			(0.4-1.2)	SAND, light to dark brown, medium grained.	SM		
			(1.2-1.6)	SAND, gray to black, medium grained.	SM		
			(1.6-3.8)	SAND, light brown to orange-brown, medium grained.	SM		
TP-14	5/26/2004	5.0	(0.0-1.1)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	SM		Groundwater observed at approximately 4 ft bgs.
			(1.1-5.0)	SAND, orange-brown, fine to medium grained.	SM		
TP-15	5/26/2004	7.0	(0.0-0.9)	SAND, gray, medium grained, organics, roots.	SM		
			(0.9-3.5)	SAND, light to dark brown, medium grained.	SM		
			(3.5-7.0)	ASH, gray, silty.			
TP-16	5/26/2004	4.5	(0.0-1.5)	SAND, gray, medium grained, organics, roots.	SM		Groundwater observed at approximately 4 ft bgs.
			(1.5-2.8)	SAND, dark brown, medium grained.	SM		Ash beds truncate at the south end of test pit, returning to SAND, orange-brown, medium grain at 2.8 ft bgs.
			(2.8-3.0)	SAND, black, medium grained, moist.	SM		
			(3.0-4.5)	SAND and ASH, gray to black, fine grained, laminated.			Petroleum staining observed at 2.8 ft bgs. Sample collected for DRO and TN EPH laboratory analysis.
TP-17	5/26/2004	5.0	(0.0-0.1)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		
			(0.1-5)	SAND, light brown to gray, medium grained.	SM		

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Location ID	Date	Maximum Depth (ft bgs)	Depth Interval (ft bgs)	Lithologic Description	USCS Classification		Comments
Test Pit ID							
TP-18	5/26/2004	5.5	(0.0-0.4)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		SAND, grey, medium grained, truncates at western edge. ASH layers and petroleum stained SAND truncates on the western edge to SAND, light brown to orange-brown.
			(0.4-1.9)	SAND, brown to gray, medium grained.	SM		
			(1.9-3.8)	SAND, light brown to black, medium grained.	SM		
			(3.8-4)	SAND, black, medium grained, moist.	SM		
			(4-4.8)	SAND and ASH, gray and black, silt to fine grained, laminated.			
			(4.8-5.5)	SAND, orange-brown, medium grained.	SM		
TP-19	5/26/2004	6.0	(0.0-0.6)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		
			(0.6-1.2)	SAND, brown, gray to black, medium grained, visible cross bedding.	SM		
			(1.2-1.8)	SAND, light gray to white, medium grained.	SM		
			(1.8-6)	SAND, orange-brown to gray to black, medium grained, visible cross bedding.	SM		
TP-20	5/26/2004	5.0	(0.0-0.4)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		Groundwater observed at approximately 4.5 ft bgs.
			(0.4-2.3)	SAND, dark brown to gray, medium grained.	SM		Visible petroleum sheen observed in groundwater.
			(2.3-3.1)	SAND and ASH, black, silt to fine grained.			
			(3.1-3.3)	SAND, black, medium grained, moist.	SM		Petroleum staining observed.
			(3.3-5)	SAND and ASH, black and gray, laminated.			
Soil Boring ID.							
SB-1	5/27/2004	4.0	(0.0-0.6)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		
			(0.6-1.0)	SAND, gray, fine to medium grained.	SM		
			(1.0-2.6)	SAND, light brown to orange-brown, medium grained.	SM		
			(2.6-3.0)	SAND, dark brown, medium grained.	SM		
			(3.0-4.0)	SAND, black, medium grained.	SM		
SB-2	5/27/2004	6	(0.0-0.6)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		
			(0.6-1.0)	SAND, gray to black, medium fine grained.	SM		
			(1.0-2.0)	SAND, black to brown, fine to medium grained.	SM		
			(2.0-4.0)	SAND and ASH, gray to brown, silt to fine grained, moist.			
			(4.0-4.25)	SAND and ASH, gray to white, medium grained.			
			(4.25-5.5)	SAND, gray to white, medium grained.	SM		
			(5.5-6.0)	ASH, gray, silty, wet, no odor.			
SB-3	5/27/2004	3.2	(0.0-0.3)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		
			(0.3-2.0)	SAND, brown, medium grained.	SM		
			(2.0-3.0)	SAND, light brown to gray, medium grained.	SM		
			(3.0-3.2)	SAND, black, medium grained.	SM		
SB-4	5/27/2004	3	(0.0-0.6)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		
			(0.6-1.0)	SAND, brown, medium grained, trace organics.	SM		
			(1.0-2.5)	SAND, light brown to gray, medium grained, trace fine gravel.	SM		
			(2.5-3.0)	SAND, orange-brown, medium grained.	SM		
SB-5	5/27/2004	3.9	(0.0-0.6)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		
			(0.6-3.0)	SAND, white to gray, medium grained.	SM		
			(3.0-3.9)	SAND, dark brown to black, fine to medium grained, wet.	SM		

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Location ID / Test Pit ID	Date	Maximum Depth (ft bgs)	Depth Interval (ft bg s)	Lithologic Description	USCS Classification		Comment
SB-6	5/27/2004	5	(0.0-0.6)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		
			(0.6-2.0)	SAND, brown, medium grained.	SM		
			(2.0-4.5)	SAND, black, medium grained, moist.	SM		Petroleum staining observed.
			(4.5-5)	ASH, black, silty.			Petroleum staining observed.
SB-7	5/27/2004	4.5	(0.0-0.5)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		
			(0.5-1.0)	SAND and ASH, black, silt to fine grained.			
			(1.0-1.7)	SAND and ASH, black and gray, silt to fine grained, laminated.			
			(1.7-2.0)	SAND, light gray to brown, medium grained.	SM		
			(2.0-4.5)	SAND, light gray, medium grained.	SM		
SB-8	5/27/2004	5.2	(0.0-0.4)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		
			(0.4-0.8)	SAND and ASH, black, silt to fine grained.			
			(0.8-1.5)	SAND and ASH, black and gray, fine grained, laminated.			
			(1.5-2.5)	ASH, gray, silty.			
			(2.5-3.2)	SAND and ASH, black and gray, silt to fine grained, laminated.			
			(3.2-4.8)	SAND and ASH, black, silt to fine grained.			
			(4.8-5.2)	SAND, brown to orange-brown, medium grained.	SM		
SB-9	5/27/2004	4.5	(0.0-0.6)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		
			(0.6-1.0)	SAND, light brown, fine to medium grained.	SM		
			(1.0-1.5)	SAND, light to dark brown, medium grained.	SM		
			(1.5-3.5)	SAND and ASH, black and gray, silt to fine grained.			
			(3.5-4.0)	ASH, black, silty.			
			(4.0-4.5)	SAND, dark brown, medium grained.	SM		
SB-10	6/9/2004	4.0	(0.0-0.4)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		
			(0.4-2.3)	SAND, dark brown to gray, medium grained.	SM		
			(2.3-3.1)	SAND and ASH, black, silt to fine grained.			
			(3.1-3.5)	SAND, black, medium grained, moist.	SM		Visible petroleum sheen observed in groundwater.
			(3.5-4.0)	SAND, dark gray to black, silt to fine grained, wet.	SM		Soil sample collected for laboratory analysis.
SB-11	6/9/2004	4.5	(0.0-0.4)	Topsoil, brown Sand with Clay and organic matter, roots, moist.	Pt		
			(0.4-1.8)	SAND and ASH, black, silt to fine grained.			
			(1.8-3.9)	SAND, light brown to black, medium grained.	SM		Visible petroleum sheen observed in groundwater.
			(4.0-4.5)	SAND, dark gray to black, fine grained, wet.	SM		Soil sample collected for laboratory analysis.
SB-12	6/9/2004	4.0	(0.0-2.0)	SAND, light brown to light gray, fine to medium grained.	SM		
			(2.0-4.0)	SAND and ASH, light gray, fine grained with trace silts, wet.			
SB-13	6/9/2004	4.0	(0.0-1.5)	SAND, brown to light brown, fine grained.	SM		
			(1.5-2.0)	SAND and ASH, gray, silt to fine grained, damp.			
			(2.0-4.0)	SAND, light brown to brown, fine to medium grained.	SM		
SB-14	6/9/2004	4.0	(0.0-1.0)	SAND, dark gray, fine to medium grained with trace silts.	SM		
			(1.0-4.0)	SAND, light brown to tan, fine to medium grained, damp to wet.	SM		
SB-15	6/9/2004	4.2	(0.0-4.2)	SAND, light brown, fine to medium grained, loose, damp to wet.	SM		
SB-16	6/9/2004	4.0	(0.0-3.5)	SAND and ASH, light gray to gray, silt to fine grained, wet			
			(3.5-4.0)	SAND, brown, fine to medium grained, trace fine gravel, wet.	SM		
SB-17	6/9/2004	4.0	(0.0-4.2)	SAND and ASH, gray, mottled brown, silt to fine grained.			
SB-18	6/9/2004	4.0	(0.0-1.5)	SAND and ASH, gray, silt to fine grained.			
			(1.5-4.0)	SAND, light gray, fine to medium grained, trace coarse grains.	SM		

Table 1
Test Pit and Soil Boring Descriptions for the Former Ash Disposal Area
Progress Energy L.V. Sutton Electric Steam Plant
Wilmington, North Carolina

Location ID / Test Pit ID	Date	Maximum Depth Explored (ft bgs)	Depth Interval (ft bgs)	Lithologic Description	USCS Classification		Comments
Surface Soil ID.							
SF-1	6/9/2004	1.2	(0.0-1.2)	SAND, dark brown to black, fine to medium grained, damp to wet.	SM		Surface soil sample collected at 0.8'-1.2', Petroleum staining observed.

Notes:

- Indicates ash was observed during test pitting or hand augering.
- Indicates a sand and ash mix was observed during test pitting or hand augering.

TP: "Test Pits" performed with a backhoe.
SB: "Soil borings" advanced with a 2-inch stainless steel hand auger.
SF: Surface soil sample .
USCS: Unified Soil Classification System.
1. Based on field observation.
TP-3, TP-11, and TP-12 samples were archived.

Table 2
Well and Piezometer Construction Details - June 2004
Phase I Remedial Investigation - Former Ash Disposal Area
Progress Energy L.V. Sutton Electric Steam Plant
Wilmington, North Carolina

Well/Piezometer	Completion Date	Well Diameter (inches)	Screen Interval (ft bgs)	Total Boring Depth (ft bgs)	TOC/Meas. Pt. Elevation (ft msl)	Depth to Water (ft btoc)	Depth to Groundwater (ft bgs)	Water Level Elevation (ft msl)	Groundwater Unit Type
Monitoring Wells									
MW-13	5/25/04	2	3 - 13	13.0	18.21	8.96	5.84	9.25	Shallow
MW-14	5/25/04	2	1 - 11	11.0	14.15	5.16	1.97	8.99	Shallow
MW-15	5/25/04	2	1 - 11	11.0	11.47	2.94	0.00	8.53	Shallow
MW-16	6/7/04	2	2 - 12	12.0	16.91	7.60	4.80	9.31	Shallow
Piezometer									
PZ-10	5/25/04	2	1 - 11	11.0	12.82	4.31	1.64	8.51	Shallow

Notes:
1. Surveyed elevations based on TWT survey conducted in June 2004.
ft bgs = Feet below ground surface.
ft msl = Feet above mean sea level.
ft btoc = Feet below top of casing.
TOC = Top of casing.

Table 3
Survey Data - June 2004
Phase I Remedial Investigation - Former Ash Disposal Area
Progress Energy L.V. Sutton Electric Steam Plant
Wilmington, North Carolina

Well Designation	Northing	Easting	Measuring Point Elevation (ft msl)	Ground Surface Elevation (ft msl)	Stick-Up Height (ft)
Monitoring Wells					
MW-13	197948.14	2305008.16	15.09	18.21	3.12
MW-14	197252.17	2306178.43	10.96	14.15	3.19
MW-15	196475.65	2306044.01	8.53	11.47	2.94
MW-16	196975.93	2306753.16	14.11	16.91	2.80
Piezometer					
PZ-10	196897.50	2306271.49	10.15	12.82	2.67
Surface Water/Sediment					
SW-1/SD-1	196378.52	2302994.45	-1.00	NA	NA
SW-2/SD-2	193800.36	2304984.17	-1.00	NA	NA

Notes:
Surveyed elevations based on TWT survey conducted in June 2004.
ft msl = feet above mean sea level.
NA = Not applicable.
SW = Surface-water
1. SW-1/SW-2 elevation is feet below mean sea level.

Table 4
Stabilized Field Parameter Measurements - June 2004
Phase I Remedial Investigation - Former Ash Disposal Area
Progress Energy L.V. Sutton Electric Steam Plant
Wilmington, North Carolina

Sample Designation	pH (Std. Units)	Specific Conductance (uS/cm)	Temperature (°C)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTUs)
MW-13	6.73	552	22.60	0.32	-197	1.2
MW-14	6.48	582	26.39	0.22	-181	5.0
MW-15	6.82	281	24.20	2.09	-100	1.5
MW-16	6.44	195	23.60	0.28	-125	3.4
SW-1	6.24	136	29.50	4.93	147	16.0
SW-2	6.12	161	29.36	4.68	186	0.0

Notes:
Field parameter measurement collected utilizing an Horiba U-22 water quality meter.
ORP = Oxidation-reduction potential.
uS = Microsiemens.
°C = Degrees centigrade.
mg/L = Milligrams per liter.
mV = Millivolts.
NTU = Nephelometric turbidity units.
SW = Surface-water sample location.

Table 5
Summary of Analytes Detected in Groundwater
Phase I Remedial Investigation
Progress Energy L.V. Sutton Electric Steam Plant
Wilmington, North Carolina

Sample ID Date Collected	RGs	MW-10 05/2004	MW-11 05/2004	MW-12 05/2004	MW-13 05/2004
Volatile Organic Compounds by USEPA Method 8260B					
Acetone	700	**3.3**	**6.6**	**5.5 [6.2]**	2.5 U
Semi-Volatile Organic Compounds by USEPA Method 8270C					
None Detected	- -	- -	- -	- -	- -
HSL Metals by USEPA Method 6010B					
Antimony	- -	1.9 U*	1.9 U*	1.9 U* [2.1 B*]	**2.8 B***
Arsenic	10	[illegible]	[illegible]	[illegible]	**3.5 B***
Nickel	100	0.7 U*	0.72 B*	0.7 U* [0.70 U]	**0.93 B***
Thallium	- -	3.2 UN*	3.2 UN*	3.2 UN* [3.2 U]	**4.7 BN***

Notes:
All concentrations in micrograms per liter (ug/L).
RGs based on NCAC 2L Groundwater Standards.
HSL: Hazardous Substance List.
Bold values indicates that the constituent was detected.
Shaded values indicates that the constituent exceeded the RGs.

Organic Laboratory Qualifiers:
U: This flag indicates the analyte was analyzed for but not detected.

Inorganic Laboratory Qualifiers:
U: This flag indicates the analyte was analyzed for but not detected.
B: The analyte was less than the CRDL but greater than or equal to the IDL.
N: This flag indicates the sample spike recovery is outside of control limits.
*: This flag is used for duplicate analysis when the sample and the sample duplicate results are not within the control limits.

Table 6
Summary of Analytes Detected in Soil
Phase I Remedial Investigation
Progress Energy L.V. Sutton Electric Steam Plant
Wilmington, North Carolina

[redacted]						
Volatile Organic Compounds by USEPA Method 8260B						
1,1,1-Trichloroethane	400000	ug/kg	1.8 J	4.6 U [4.5 U]	5 U	NA
2-Butanone	1460000	ug/kg	17 U	11 U [11 U]	26 J	NA
Acetone	320000	ug/kg	25	11 U [35]	210 J	NA
Isopropylbenzene	--	ug/kg	4.8 J	4.6 U [2.5 J]	6.6 J	NA
Methylcyclohexane	--	ug/kg	6.6 U	4.6 U [4.5 U]	12 J	NA
Toluene	3200000	ug/kg	6.6 U	4.6 U [0.62 J]	2 J	NA
Xylene (total)	54000	ug/kg	5.9 J	14 U [3.3 J]	11 J	NA
Semi-Volatile Organic Compounds by USEPA Method 8270C						
2-Methylnaphthalene	11200	ug/kg	520 U	49 J [83 J]	5,800 U	NA
Atrazine	--	ug/kg	520 U	83 J [1,000 U]	5,800 U	NA
Benzo(a)anthracene	620	ug/kg	520 U	610 U [120 J]	5,800 U	NA
Benzo(a)pyrene	62	ug/kg	520 U	[redacted]	5,800 U	NA
Caprolactam	--	ug/kg	520 U	610 U [1,000 U]	2,600 J	NA
Chrysene	62000	ug/kg	520 U	230 J [330 J]	1,500 J	NA
Di-n-octyl phthalate	480000	ug/kg	120 J	610 U [1,000 U]	5,800 U	NA
Fluoranthene	460000	ug/kg	520 U	48 J [100 J]	5,800 U	NA
Fluorene	520000	ug/kg	520 U	290 J [500 J]	5,800 U	NA
N-Nitrosodiphenylamine	99000	ug/kg	520 U	610 U [970 J]	1,200 J	NA
Phenanthrene	--	ug/kg	520 U	1,100 [1,900]	5,800 U	NA
Pyrene	460000	ug/kg	520 U	240 J [310 J]	840 J	NA
HSL Metals by USEPA Method 6010B / 7470A (Hg only)						
Arsenic	4.4	mg/kg	[redacted]	1.9 [2]	1.6	NA
Beryllium	30	mg/kg	2.7	0.22 B [0.2 B]	0.13 B	NA
Cadmium	7.4	mg/kg	0.22 B	0.05 U [0.05 U]	0.05 U	NA
Chromium III	24000	mg/kg	16.7	2.9 [3]	2.3	NA
Copper	580	mg/kg	38.1	2.7 [2.6]	2.7	NA
Lead	400	mg/kg	11.4	1.6 [1.6]	4.8	NA
Mercury	4.6	mg/kg	0.13	0.018 U [0.02 U]	0.02 U	NA
Nickel	320	mg/kg	21.3	2.5 B [2.3 B]	5	NA
Selenium	78	mg/kg	2.6	0.29 B [0.43 B]	0.28 U	NA
Silver	78	mg/kg	0.18 B	0.05 U [0.09 B]	0.06 B	NA
Thallium	1.04	mg/kg	[redacted]	0.38 U [0.38 U]	0.38 U	NA
Zinc	4600	mg/kg	32.1	2.8 U [2.9 U]	4.2	NA
Additional Parameters by USEPA Method 8015B						
DRO	--	mg/kg	NA	NA	NA	7,300
TN-EPH	--	mg/kg	NA	NA	NA	31,000 B

Notes:
ug/kg: micrograms per kilogram.
mg/kg: milligrams per kilogram.
RGs: Soil Remediation Goals, Inactive Hazardous Sites Branch, updated August 2003.
DRO: Diesel Range Organics.
TN-EPH: Tennessee Extractable Petroleum Hydrocarbons.
TP: Test pit
Shaded/Bolded values indicates that the constituent exceeded health-based soil RGs.
SF: Surface soil sample
NA: Not analyzed.
[ ]: Bracketed values are duplicate sample results.

Organic Laboratory Qualifiers:
U: This flag indicates the analyte was analyzed for but not detected.
J: This flag indicates an estimated value.

Inorganic Laboratory Qualifiers:
U: This flag indicates the analyte was analyzed for but not detected.
B: The analyte was less than the CRDL but greater than or equal to the IDL.
N: This flag indicates the sample spike recovery is outside of control limits.
*: This flag is used for duplicate analysis when the sample and the sample duplicate results are not within the control limits.

Table 7
Summary of Analytes Detected in Sediment
Phase I Remedial Investigation
Progress Energy L.V. Sutton Electric Steam Plant
Wilmington, North Carolina

Sample ID Sample Location Date Collected	Units	RGs	SD01 Cape Fear River upstream 6/9/2010	SD02 Cape Fear River downstream 6/9/2010
Volatile Organic Compounds by USEPA Method 8260B				
1,2,4-Trichlorobenzene	ug/kg	130,000	13 JB [15 U]	8.6 U
Methylene Chloride	ug/kg	8,900	5.4 J [15 U]	2.8 JB
Semi-Volatile Organic Compounds By USEPA Method 8270C				
None Detected	--		-- [--]	--
HSL Metals By USEPA Methods 6010B / 7470A (Mercury only)				
Antimony	mg/kg	6.2	1.7 BN [1.6 BN]	0.58 BN
Arsenic	mg/kg	4.4 (7.24)	1.6	0.7 B
Beryllium	mg/kg	30	1 B [0.89 B]	0.45 B
Cadmium	mg/kg	1	0.5 B [0.45 B]	0.09 B
Chromium	mg/kg	52.3	30.2 [28.8]	11.7
Copper	mg/kg	18.7	16.1 [15.4]	4.2
Lead	mg/kg	30.2	18.6 [17.7]	5.6
Mercury	mg/kg	0.13 {4.6}	0.22 [0.2]	0.056 B
Nickel	mg/kg	15.9	10.4 B [10.4 B]	3.2 B
Zinc	mg/kg	124	62.3 [65.2]	14.6

Notes:
ug/kg: micrograms per kilogram.
mg/kg: milligrams per kilogram.
RGs shown are the more stringent of the health-based Soil RGs or sediment ESLs.
Shaded/Bolded values indicates that the constituent exceeded the RGs.
HSL: Hazardous Substance List.
[ ]: Bracketed values are duplicate sample results.
( ): Ecological Screening Levels (ESL) based on USEPA Region 4 Division of Waste Management Division.
{ }: Soil RG value based on Inactive Hazardous Sites Branch, updated August 2003.

Organic Laboratory Qualifiers:
U: This flag indicates the analyte was analyzed for but not detected.
J: This flag indicates an estimated value.
B: The analyte was found in the associated blank.

Inorganic Laboratory Qualifiers:
B: The analyte was less than the CRDL but greater than or equal to the IDL.
N: This flag indicates the sample spike recovery is outside of control limits.
*: This flag is used for duplicate analysis when the sample and the sample duplicate results are not within the control limits.

Table 8
Summary of Analytes Detected in Surface Water
Phase I Remedial Investigation
Progress Energy L.V. Sutton Electric Steam Plant
Wilmington, North Carolina

[redacted]	[redacted]	[redacted]
Volatile Organic Compounds by USEPA Method 8260B		
Chloroform	0.15 J [0.14 J]	0.16 J
Chloromethane	0.15 [0.13J]	0.50 U
Methyl-tert-butyl ether	0.20 J [0.18 J]	0.23 J
Methylene Chloride	0.24 U [0.22 U]	0.37 JB
Semi-Volatile Organic Compounds by USEPA Method 8270C		
None-Detected		
HSL Metals by USEPA Method 6010B		
Antimony	8.7 B [2.6 B]	2.1 B
Copper	3 B [2.8 B]	3.3 B
Chromium	0.80 U [1.7 B]	0.80 U
Lead	1.8 B [1.5 B]	1.3 U
Nickel	2.6 B [0.96 B]	2.1 B
Silver	0.40 U [0.40 U]	0.41 B
Zinc	23.3 [17.8 B]	13.2 B

Notes:
All concentrations in micrograms per liter (ug/L).
HSL: Hazardous Substance List.

Organic Laboratory Qualifiers:
U: This flag indicates the analyte was analyzed for but not detected.
J: This flag indicates an estimated value.
B: The analyte was found in the associated method blank.

Inorganic Laboratory Qualifiers:
U: This flag indicates the analyte was analyzed for but not detected.
B: The analyte was less than the CRDL but greater than or equal to the IDL.

Table 9
Summary of Quality Assurance and Quality Control Analytical Results
Phase I Remedial Investigation
Progress Energy L.V. Sutton Electric Steam Plant
Wilmington, North Carolina

Sample ID / Date Collected	RG	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Volatile Organic Compounds by USEPA Method 8260B						
2-Hexanone	280	13 U	**0.5 J**	2.5 U	13 U	**0.5 J**
Chloromethane	2.6	5 U	0.5 U	**0.28 J**	5 U	[illegible]
Dichlorodifluoromethane	- -	5 U	0.5 U	0.50 U	5 U	**0.65**
Methylene Chloride	5	**1.7 JB**	**0.4 J**	**0.44 J**	**1.5 JB**	**0.38 J**
Toluene	1000	5 U	**0.3 J**	1.5 U	5 U	**1.1**
Semi-Volatile Organic Compounds by USEPA Method 8270C						
None Detected	- -	- -	- -	- -	NA	NA
HSL Metals by USEPA Method 6010B						
Antimony	- -	**2.5 B**	1.9 U*	1.9 U	NA	NA
Chromium	50	0.8 U	**1.5 B***	0.80 U	NA	NA
Copper	1000	1.3 U	**1.6 B***	**1.4 B**	NA	NA
Thallium	- -	**4.2 B**	3.2 UN*	3.2 U	NA	NA
Zinc	2100	1.5 U	**13 B***	10.0 B	NA	NA

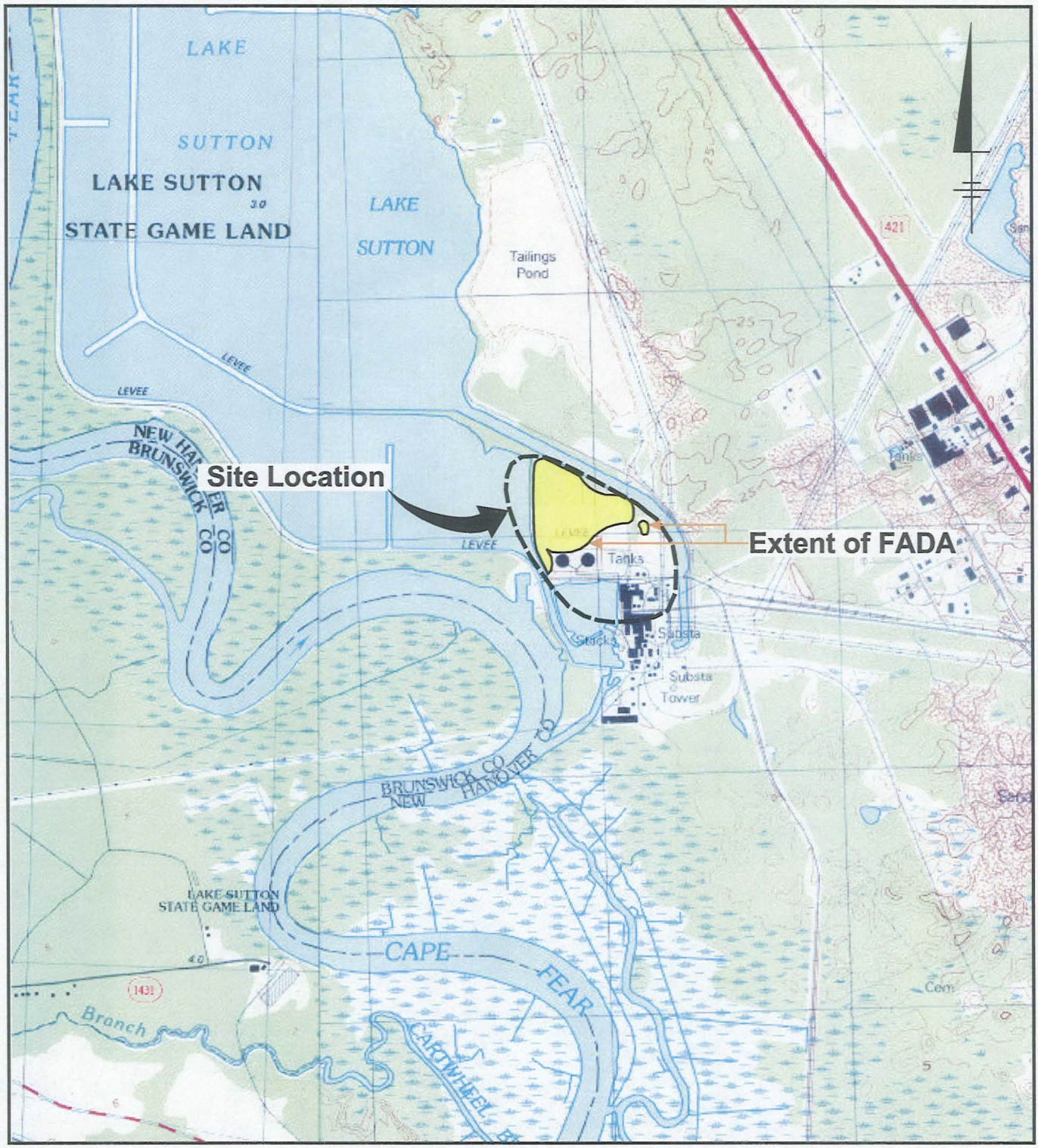
Notes:
All concentrations are in micrograms per liter.
Remediation Goals (RGs) based on NCAC 2L Groundwater Standards.
NA: Not analyzed.
EB: Equipment Rinsate Blank.
TB&TW: VOC Trip Blank.

Organic Laboratory Qualifiers:
U: This flag indicates the analyte was analyzed for but not detected.
J: This flag indicates an estimated value.
B: The analyte was found in the associated method blank.

Inorganic Laboratory Qualifiers:
U: This flag indicates the analyte was analyzed for but not detected.
B: The analyte was less than the CRDL but greater than or equal to the IDL.
N: This flag indicates the sample spike recovery is outside of control limits.
*: This flag is used for duplicate analysis when the sample and the sample duplicate results are not within the control limits.

Figures

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REFERENCE: BASE MAP USGS 7.5 MIN. QUADS., CASTLE HAYNE, NC, 1997, AND LELAND, NC, 1997.

2000' 0 2000'

Approximate Scale: 1" = 2000'



Area Location

PROGRESS ENERGY
L. V. SUTTON STEAM ELECTRIC PLANT, WILMINGTON, N.C.

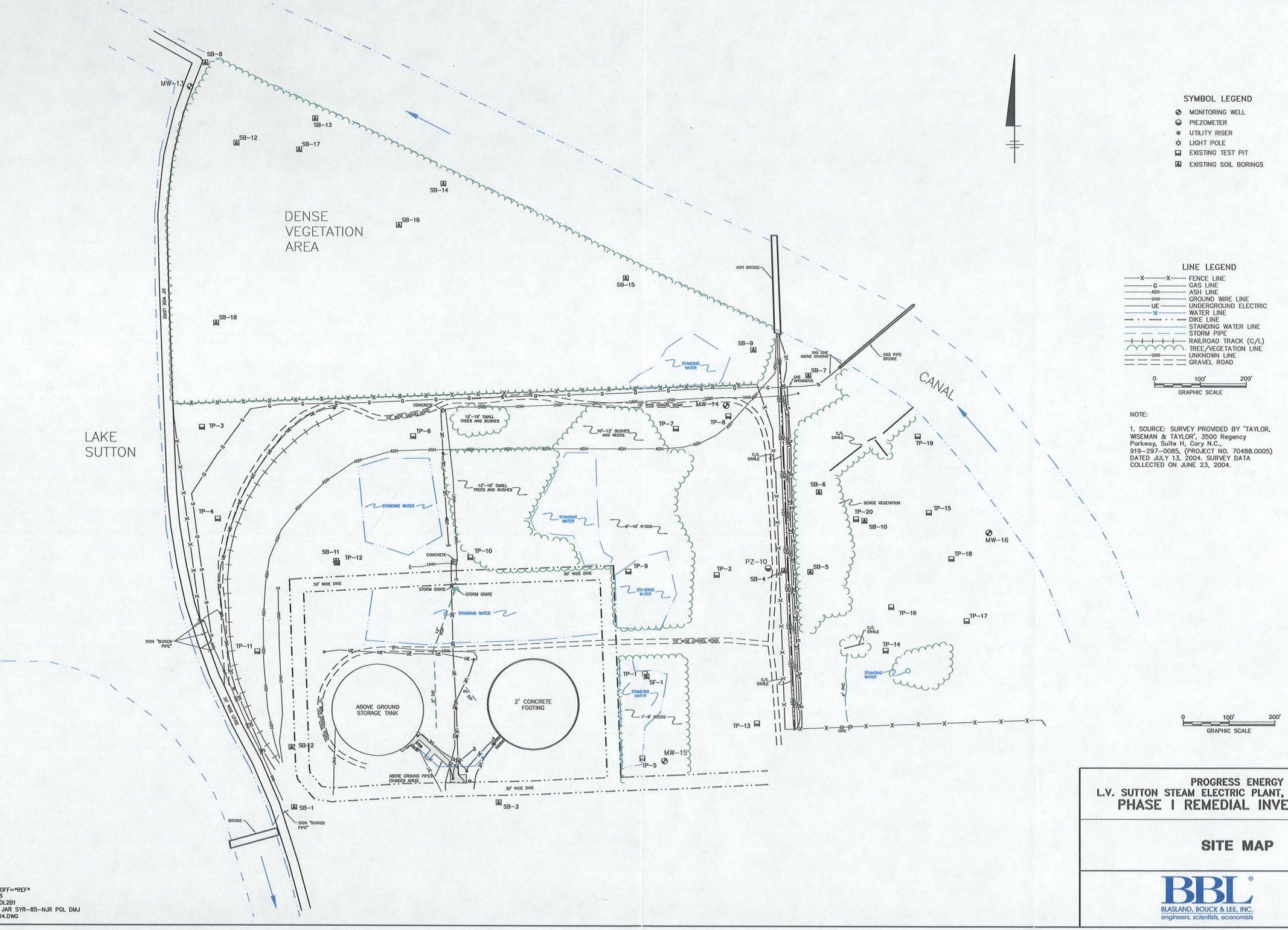
PHASE I REMEDIAL INVESTIGATION - FORMER ASH DISPOSAL AREA

SITE LOCATION MAP

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FIGURE 1

08/25/04 TAM-85 JAR SYR-85 DJH
04010002/04010N03.CDR



SYMBOL LEGEND

- MONITORING WELL
- PIEZOMETER
- UTILITY RISER
- LIGHT POLE
- EXISTING TEST PIT
- EXISTING SOIL BORINGS

LINE LEGEND

- FENCE LINE
- GAS LINE
- ASH LINE
- GROUND WIRE LINE
- UNDERGROUND ELECTRIC
- WATER LINE
- DIKE LINE
- STANDING WATER LINE
- STORM PIPE
- RAILROAD TRACK (C/L)
- TREE/VEGETATION LINE
- UNKNOWN LINE
- GRAVEL ROAD

0 100' 200'
GRAPHIC SCALE

NOTE:

1. SOURCE: SURVEY PROVIDED BY 'TAYLOR, WISEMAN & TAYLOR', 3500 Regency Parkway, Suite H, Cary N.C., 919-297-0085, (PROJECT NO. 70488.0005) DATED JULY 13, 2004. SURVEY DATA COLLECTED ON JUNE 23, 2004.

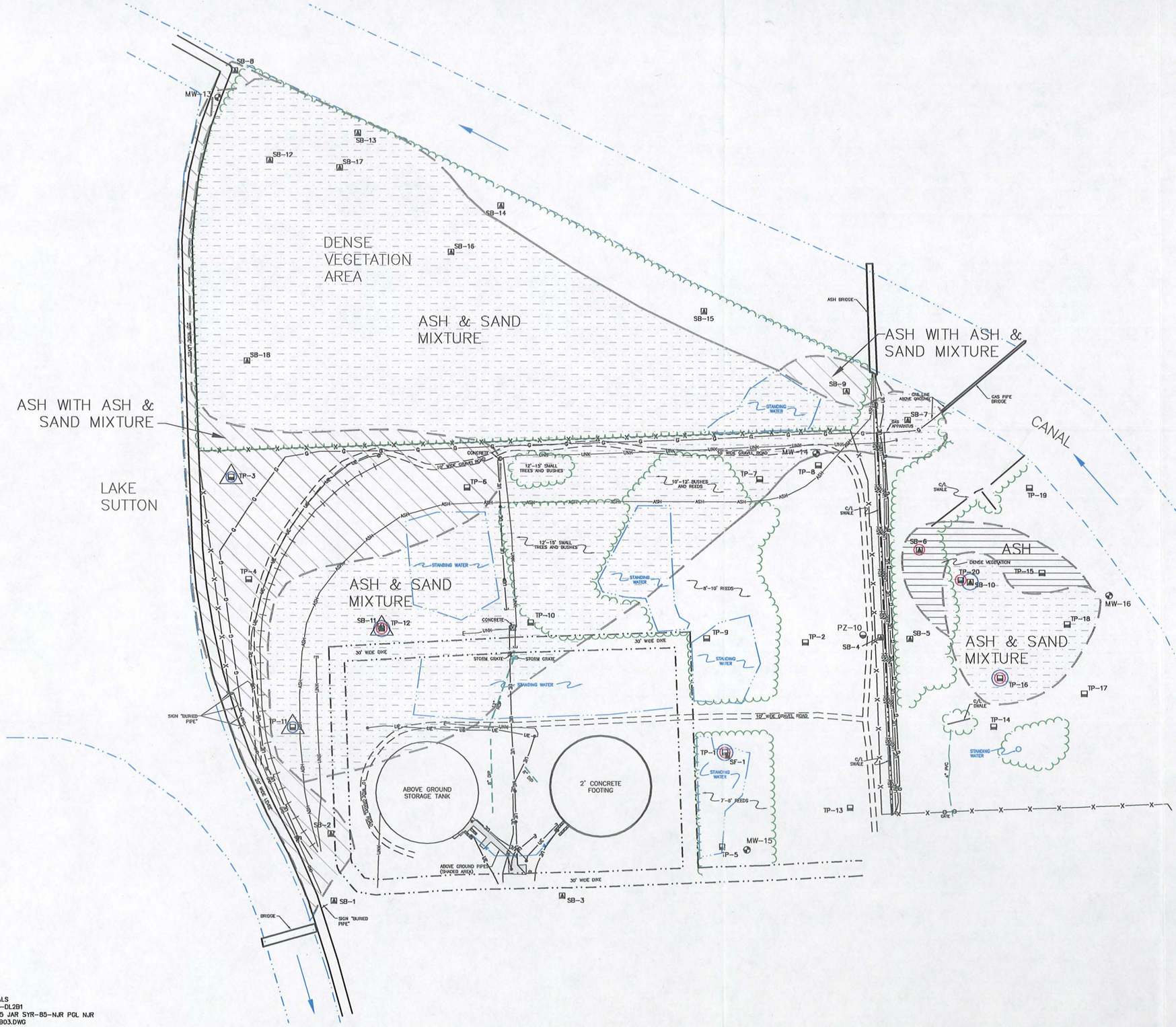
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8/25/04 TAM-85 JAR SYR-85-NJR PGL DMJ
04010001/04010B04.DWG

PROGRESS ENERGY
L.V. SUTTON STEAM ELECTRIC PLANT, WILMINGTON, N.C.
PHASE I REMEDIAL INVESTIGATION

SITE MAP

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FIGURE
2



SYMBOL LEGEND

- MONITORING WELL
- PIEZOMETER
- UTILITY RISER
- LIGHT POLE
- EXISTING TEST PIT
- EXISTING SOIL BORINGS
- SOIL SAMPLE COLLECTED FOR ARCHIVING AND POSSIBLE SPLP ANALYSIS.
- LOCATION WHERE POSSIBLE PETROLEUM MATERIAL WAS OBSERVED.
- SOIL SAMPLE LOCATIONS PER REC REQUIREMENTS
- APPROXIMATE EXTENT OF ASH; ASH & SAND MIXTURE (DASHED WHERE INFERRED)
- DEFINABLE ASH LAYER PRESENT WITH ALTERNATING LAYERS OF SAND AND ASH MIXTURE
- DEFINABLE ASH LAYER VARYING IN DEPTH AND THICKNESS AND BOUND BY SAND LAYERS
- ALTERNATING LAYERS OF AN ASH & SAND MIXTURE WITH INTERBEDDED SANDS; A DISTINCT ASH LAYER IS NOT PRESENT

LINE LEGEND

- FENCE LINE
- GAS LINE
- ASH LINE
- GROUND WIRE LINE
- UE UNDERGROUND ELECTRIC
- W WATER LINE
- DIKE LINE
- STANDING WATER LINE
- STORM PIPE
- RAILROAD TRACK (C/L)
- TREE/VEGETATION LINE
- UNK UNKNOWN LINE
- GRAVEL ROAD

0 100' 200'
GRAPHIC SCALE

NOTES:

1. DELINEATION BASED ON TEST PIT, SOIL BORING, AND WELL INSTALLATION DURING PHASE I INVESTIGATION (MAY THROUGH JUNE 2004).

2. SOURCE: SURVEY PROVIDED BY 'TAYLOR, WISEMAN & TAYLOR', 3500 Regency Parkway, Suite H, Cary N.C., 919-297-0085, (PROJECT NO. 70488.0005) DATED JULY 13, 2004. SURVEY DATA COLLECTED ON JUNE 23, 2004.

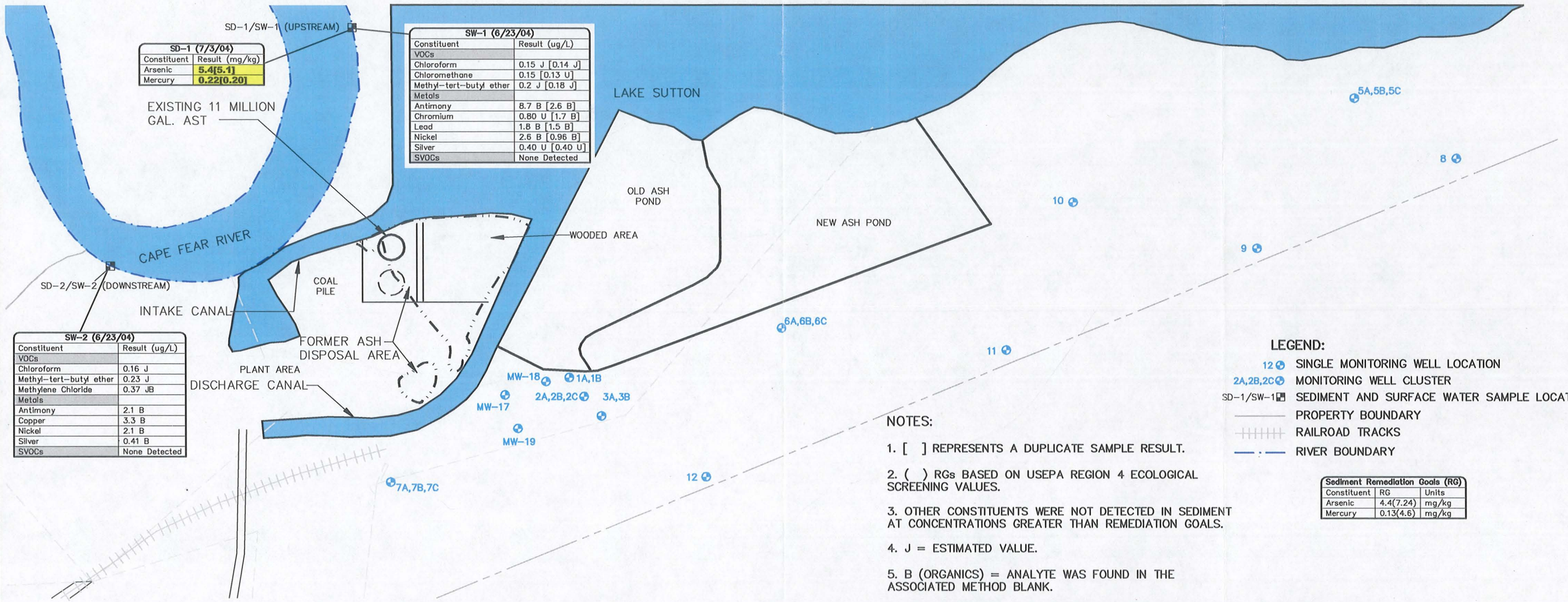
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9/23/04 TAM-B5 JAR SYR-B5-NJR PGL NJR
04010001/04010B03.DWG

PROGRESS ENERGY
L.V. SUTTON STEAM ELECTRIC PLANT, WILMINGTON, N.C.
PHASE I REMEDIAL INVESTIGATION

HORIZONTAL EXTENT OF ASH WITHIN THE FORMER ASH DISPOSAL AREA

BBL BURNS AND BERGER CORPORATION, INC.
Engineers, Scientists, Economists

FIGURE 3



SOURCE: BASE MAP CREATED FROM PROFESSIONAL LAND SURVEY PROVIDED BY HANOVER DESIGN SERVICES, P.A., JOB NO: 3705-95JLW, DRAWN BY: KNW, CREATED: 3/07/95, REVISED: 3/20/95. @ A SCALE OF 1"=600'.
X: (XREF)
P: PAGESET/PLT-DL
9/30/04 SYR-B5 DMJ NJR
04010D02\04010C05.DWG

NOTES:

1. [ ] REPRESENTS A DUPLICATE SAMPLE RESULT.

2. ( ) RGs BASED ON USEPA REGION 4 ECOLOGICAL SCREENING VALUES.

3. OTHER CONSTITUENTS WERE NOT DETECTED IN SEDIMENT AT CONCENTRATIONS GREATER THAN REMEDIATION GOALS.

4. J = ESTIMATED VALUE.

5. B (ORGANICS) = ANALYTE WAS FOUND IN THE ASSOCIATED METHOD BLANK.

6. B (INORGANICS) = ANALYTE WAS LESS THAN THE CRDL BUT GREATER THAN OR EQUAL TO THE IDL.

7. VOCs = VOLATILE ORGANIC COMPOUNDS.

8. SVOCs = SEMI-VOLATILE ORGANIC COMPOUNDS.

9. mg/kg = MILLIGRAMS PER KILOGRAM.

10. ug/L = MICROGRAMS PER LITER.

11. SHADED AND BOLD RESULTS EXCEED SEDIMENT REMEDIATION GOALS.

HISTORICAL NOTES:

1. SOME MAP FEATURES IDENTIFIED BY 1993 USGS AERIAL PHOTOGRAPH PROVIDED BY WWW.TERRASERVER.USA.COM.

SURVEY NOTES:

1. SITE SURVEYED IN MARCH 1995 AND JUNE 23, 2004.
2. PROPERTY LINES TAKEN FROM RECORD INFORMATION.
3. ALL DISTANCES ARE HORIZONTAL.
4. COORDINATES ARE RELATIVE TO N.C. GRID (N.A.D. 1983).

LEGEND:

- 12 SINGLE MONITORING WELL LOCATION
- 2A,2B,2C MONITORING WELL CLUSTER
- SD-1/SW-1 SEDIMENT AND SURFACE WATER SAMPLE LOCATION
- PROPERTY BOUNDARY
- RAILROAD TRACKS
- RIVER BOUNDARY

Sediment Remediation Goals (RG)		
Constituent	RG	Units
Arsenic	4.4(7.24)	mg/kg
Mercury	0.13(4.6)	mg/kg

0' 1000' 2000'

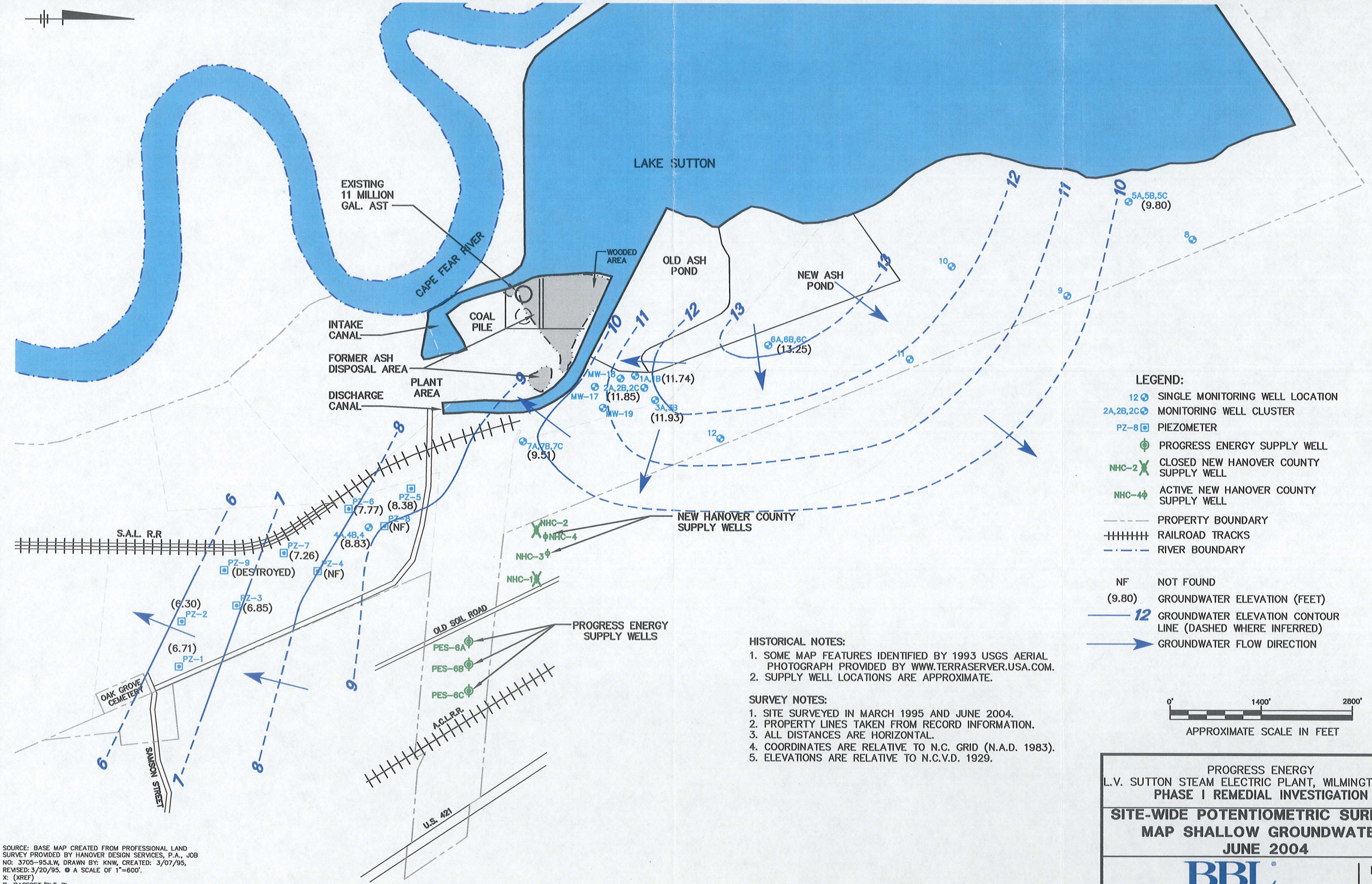
APPROXIMATE SCALE IN FEET

PROGRESS ENERGY
L.V. SUTTON STEAM ELECTRIC PLANT, WILMINGTON, N.C.
PHASE I REMEDIAL INVESTIGATION
FORMER ASH DISPOSAL AREA

SEDIMENT AND SURFACE WATER QUALITY MAP

BBL BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists

FIGURE 4



HISTORICAL NOTES:

1. SOME MAP FEATURES IDENTIFIED BY 1993 USGS AERIAL PHOTOGRAPH PROVIDED BY WWW.TERRASERVER.USA.COM.
2. SUPPLY WELL LOCATIONS ARE APPROXIMATE.

SURVEY NOTES:

1. SITE SURVEYED IN MARCH 1995 AND JUNE 2004.
2. PROPERTY LINES TAKEN FROM RECORD INFORMATION.
3. ALL DISTANCES ARE HORIZONTAL.
4. COORDINATES ARE RELATIVE TO N.C. GRID (N.A.D. 1983).
5. ELEVATIONS ARE RELATIVE TO N.C.V.D. 1929.

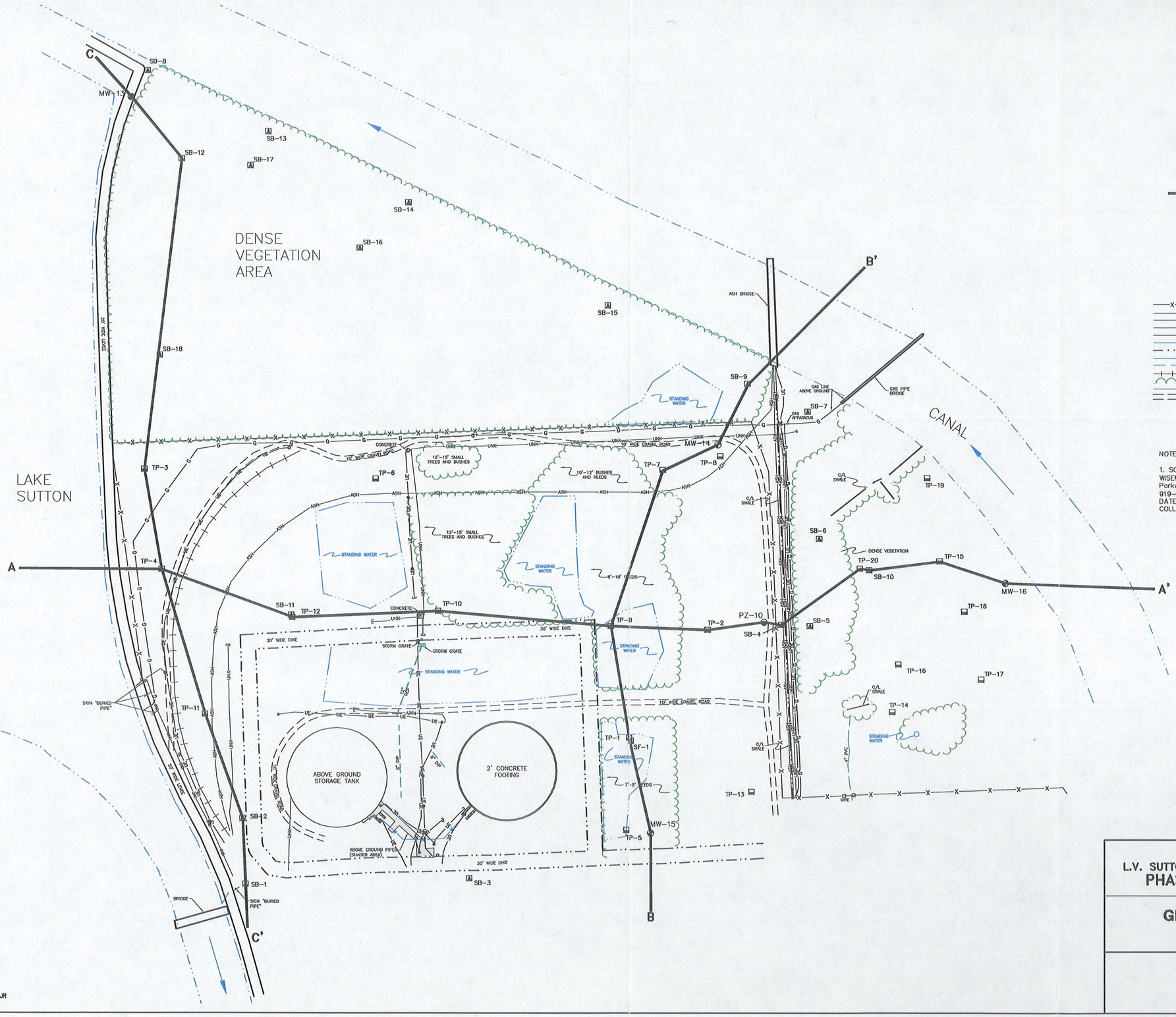
SOURCE: BASE MAP CREATED FROM PROFESSIONAL LAND SURVEY PROVIDED BY HANOVER DESIGN SERVICES, P.A., JOB NO: 3705-95JLW, DRAWN BY: KNW, CREATED: 3/07/95, REVISED: 3/20/95. @ A SCALE OF 1"=600'.
X: (XREF)
P: PAGESET/PLT-BL
9/2/04 BOC-85-MJS TAM-85 JAR SYR-85 NJR DMJ NJR
04010002\04010W23.DWG

PROGRESS ENERGY
L.V. SUTTON STEAM ELECTRIC PLANT, WILMINGTON, N.C.
PHASE I REMEDIAL INVESTIGATION

SITE-WIDE POTENTIOMETRIC SURFACE MAP SHALLOW GROUNDWATER, JUNE 2004

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FIGURE
5



SYMBOL LEGEND

- MONITORING WELL
- PIEZOMETER
- UTILITY RISER
- LIGHT POLE
- EXISTING TEST PIT
- EXISTING SOIL BORINGS
- GEOLOGIC CROSS-SECTION LINE

LINE LEGEND

- FENCE LINE
- GAS LINE
- ASH LINE
- GROUND WIRE LINE
- UNDERGROUND ELECTRIC
- WATER LINE
- DIKE LINE
- STANDING WATER LINE
- STORM PIPE
- RAILROAD TRACK (C/L)
- TREE/VEGETATION LINE
- UNKNOWN LINE
- GRAVEL ROAD

0 100' 200'

GRAPHIC SCALE

NOTE:

1. SOURCE: SURVEY PROVIDED BY 'TAYLOR, WISEMAN & TAYLOR', 3500 Regency Parkway, Suite H, Cary N.C., 919-297-0085, (PROJECT NO. 70488.0005) DATED JULY 13, 2004. SURVEY DATA COLLECTED ON JUNE 23, 2004.

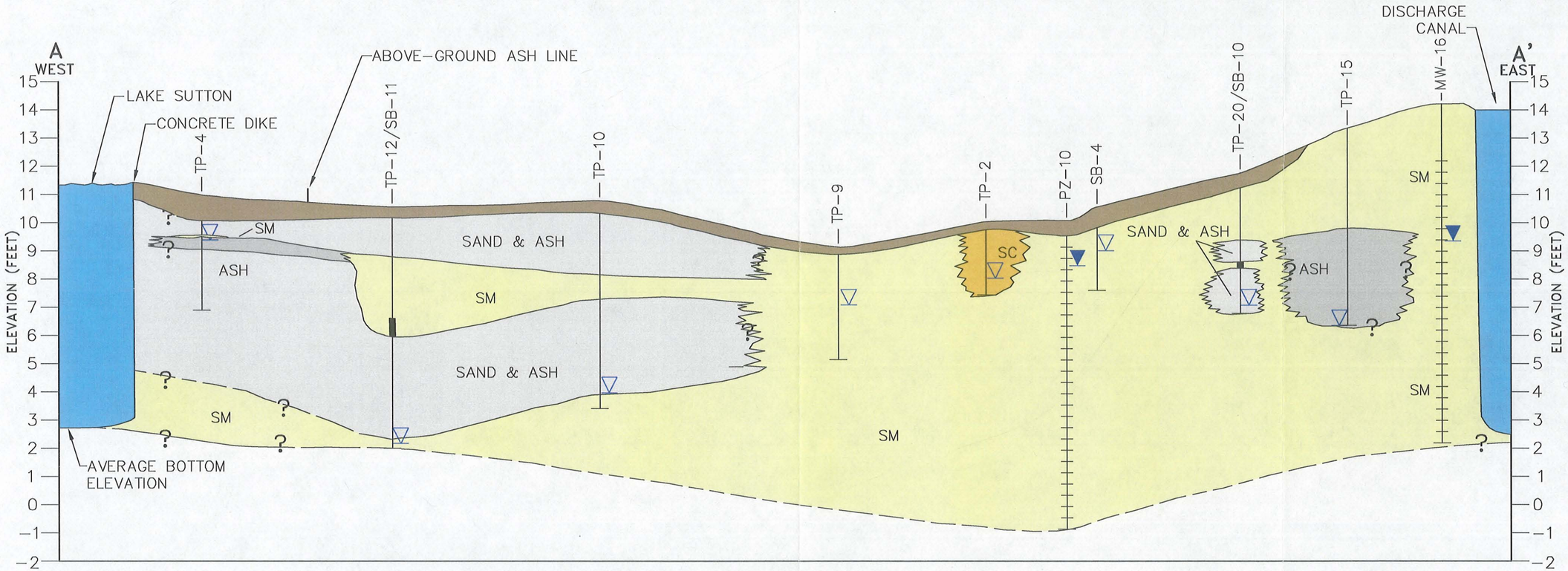
X: (XREF)
L: (LAYER)
T: SAMPLE_LOCALS
P: PAGESET/PLT-DL2B1
9/2/04 TAM-85 JAR SYR-85-NJR PGL NJR
04010001/04010B02.DWG

PROGRESS ENERGY
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PHASE I REMEDIAL INVESTIGATION

GEOLOGIC CROSS-SECTION LOCATION MAP

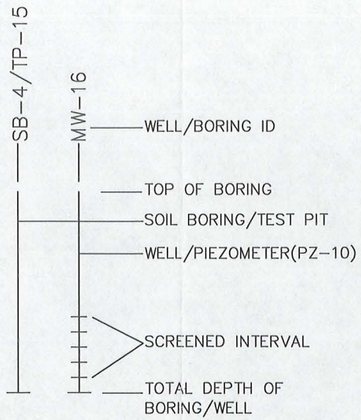
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FIGURE 6



LEGEND:

- (SM) SILTY SANDS, SAND–SILT MIXTURE
- (SC) CLAYEY SANDS, SAND–CLAY MIXTURE
- SAND AND ASH MIXTURE
- ASH, GRAY, SILT TO CLAY SIZED PARTICLES
- (Pt) SOILS WITH HIGH ORGANIC CONTENT
- PETROLEUM–IMPACTED SOIL OBSERVED (SOIL SAMPLE COLLECTED FOR LABORATORY ANALYSIS)
- ▽ DEPTH–TO–WATER OBSERVED IN BOREHOLE/TEST PIT (MAY NOT BE FULLY EQUILIBRATED)
- ▼ STATIC DEPTH–TO–WATER (GROUNDWATER ELEVATIONS BASED ON JUNE 22, 2004 GAUGING EVENT)



NOTES:

1. DASHED WHERE INFERRED.
2. SURVEY DATA PROVIDED BY TAYLOR, WISEMAN & TAYLOR (PROJECT NO. 70488.0005) DATED JULY 13, 2004. SURVEY DATA COLLECTED ON JUNE 23, 2004.

VERTICAL EXAGGERATION: 40X

0 160' 320'

HORIZONTAL SCALE

0 4' 8'

VERTICAL SCALE

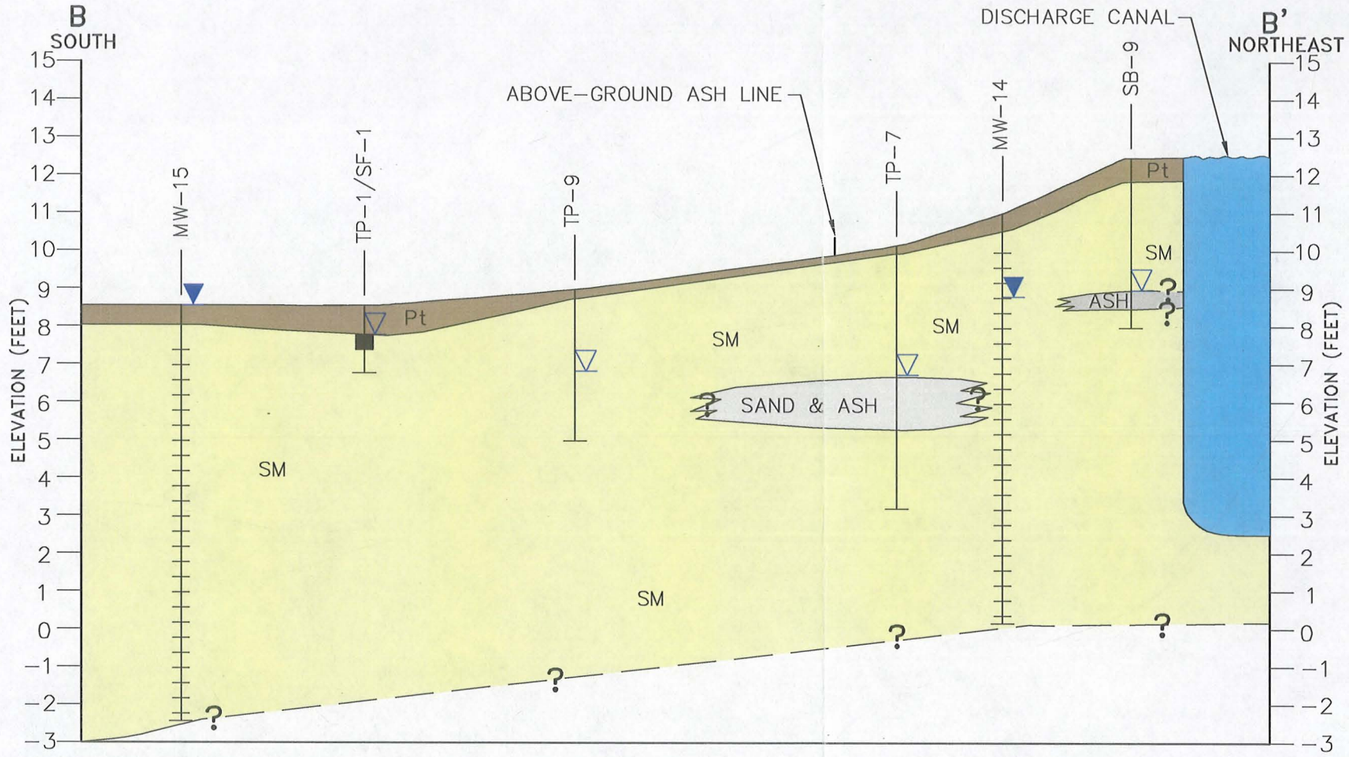
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L.V. SUTTON STEAM ELECTRIC PLANT, WILMINGTON, N.C.
PHASE I REMEDIAL INVESTIGATION

GEOLOGIC CROSS-SECTION A - A'

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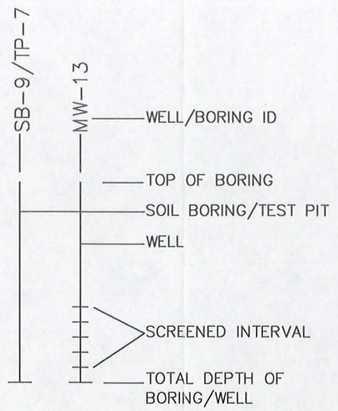
FIGURE 7

X: (XREF)
L: (LAYER) ON= * OFF=*REF*
P: PAGESET/PLT-DL2B1
9/3/04 SYR-BS-NJR-PGL DMJ
04010001/04010V04.DWG



LEGEND:

- (SM) SILTY SANDS, SAND–SILT MIXTURE
- SAND AND ASH MIXTURE
- ASH, GRAY, SILT TO CLAY SIZED PARTICLES
- (Pt) SOILS WITH HIGH ORGANIC CONTENT
- PETROLEUM–IMPACTED SOIL OBSERVED (SOIL SAMPLE COLLECTED FOR LABORATORY ANALYSIS)
- DEPTH–TO–WATER OBSERVED IN BOREHOLE/TEST PIT (MAY NOT BE FULLY EQUILIBRATED)
- STATIC DEPTH–TO–WATER (GROUNDWATER ELEVATIONS BASED ON JUNE 22, 2004 GAUGING EVENT)



NOTES:

1. DASHED WHERE INFERRED.

2. SURVEY DATA PROVIDED BY TAYLOR, WISEMAN & TAYLOR (PROJECT NO. 70488.0005) DATED JULY 13, 2004. SURVEY DATA COLLECTED ON JUNE 23, 2004.

VERTICAL EXAGGERATION: 40X

0 160' 320'

HORIZONTAL SCALE

0 4' 8'

VERTICAL SCALE

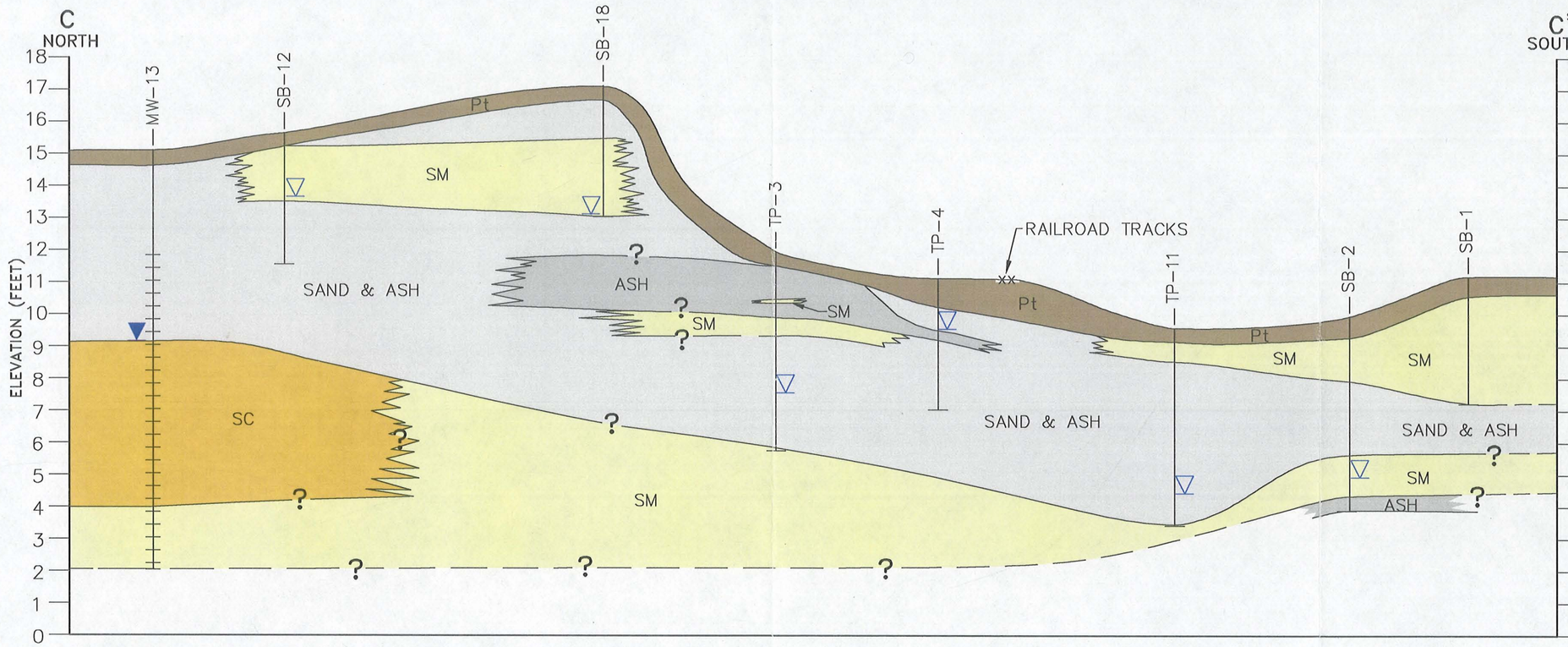
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L.V. SUTTON STEAM ELECTRIC PLANT, WILMINGTON, N.C.
PHASE I REMEDIAL INVESTIGATION

GEOLOGIC CROSS-SECTION B - B'

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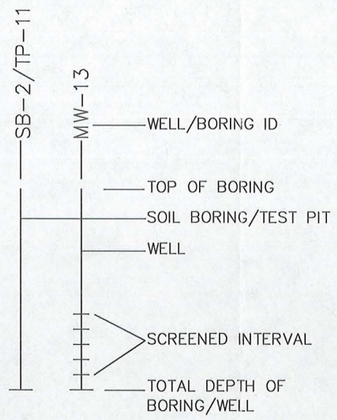
FIGURE 8

X: (XREF)
L: (LAYER)
P: PAGESET/PLT-DL2B1
9/3/04 SYR-85-N.R-PGL
04010001/04010V07.DWG



LEGEND:

- (SM) SILTY SANDS, SAND–SILT MIXTURE
- (SC) CLAYEY SANDS, SAND–CLAY MIXTURE
- SAND AND ASH MIXTURE
- ASH, GRAY, SILT TO CLAY SIZED PARTICLES
- (Pt) SOILS WITH HIGH ORGANIC CONTENT
- ▽ DEPTH–TO–WATER OBSERVED IN BOREHOLE/TEST PIT (MAY NOT BE FULLY EQUILIBRATED)
- ▼ STATIC DEPTH–TO–WATER (GROUNDWATER ELEVATIONS BASED ON JUNE 22, 2004 GAUGING EVENT)



NOTES:

1. DASHED WHERE INFERRED.
2. SURVEY DATA PROVIDED BY TAYLOR, WISEMAN & TAYLOR (PROJECT NO. 70488.0005) DATED JULY 13, 2004. SURVEY DATA COLLECTED ON JUNE 23, 2004.

VERTICAL EXAGGERATION: 40X

0 160' 320'
HORIZONTAL SCALE

0 4' 8'
VERTICAL SCALE

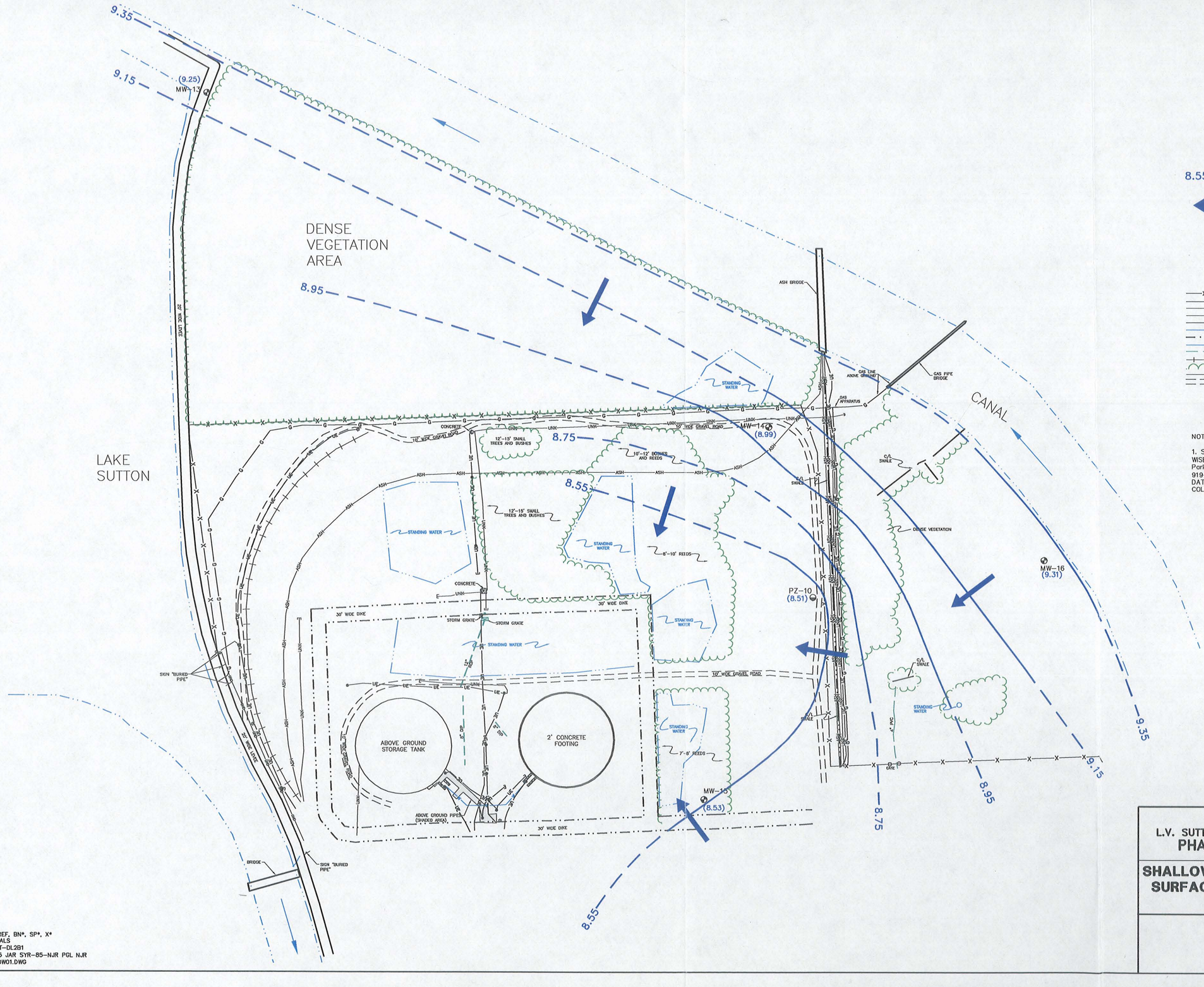
PROGRESS ENERGY
L.V. SUTTON STEAM ELECTRIC PLANT, WILMINGTON, N.C.
PHASE I REMEDIAL INVESTIGATION

GEOLOGIC CROSS-SECTION C - C'

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FIGURE 9

X: (XREF)
L: (LAYER)
P: PAGESET/PLT-DL2B1
9/3/04 SYR-BS-NJR DMJ NJR
04010001/04010V06.DWG



SYMBOL LEGEND

- MONITORING WELL
- PIEZOMETER
- UTILITY RISER
- LIGHT POLE
- (9.31) GROUNDWATER ELEVATION
- 8.55 GROUNDWATER ELEVATION CONTOUR LINE (DASHED WHERE INFERRED) CONTOUR INTERVAL = 0.20 FT.
- DIRECTION OF GROUNDWATER FLOW

LINE LEGEND

- FENCE LINE
- GAS LINE
- ASH LINE
- GND GROUND WIRE LINE
- UE UNDERGROUND ELECTRIC
- W WATER LINE
- DIKE LINE
- STANDING WATER LINE
- STORM PIPE
- RAILROAD TRACK (C/L)
- TREE/VEGETATION LINE
- UNK UNKNOWN LINE
- GRAVEL ROAD

0 100' 200'
GRAPHIC SCALE

NOTE:

1. SOURCE: SURVEY PROVIDED BY 'TAYLOR WISEMAN & TAYLOR', 3500 Regency Parkway, Suite H, Cary N.C., 919-297-0085, (PROJECT NO. 70488.0005) DATED JULY 13, 2004. SURVEY DATA COLLECTED ON JUNE 23, 2004.

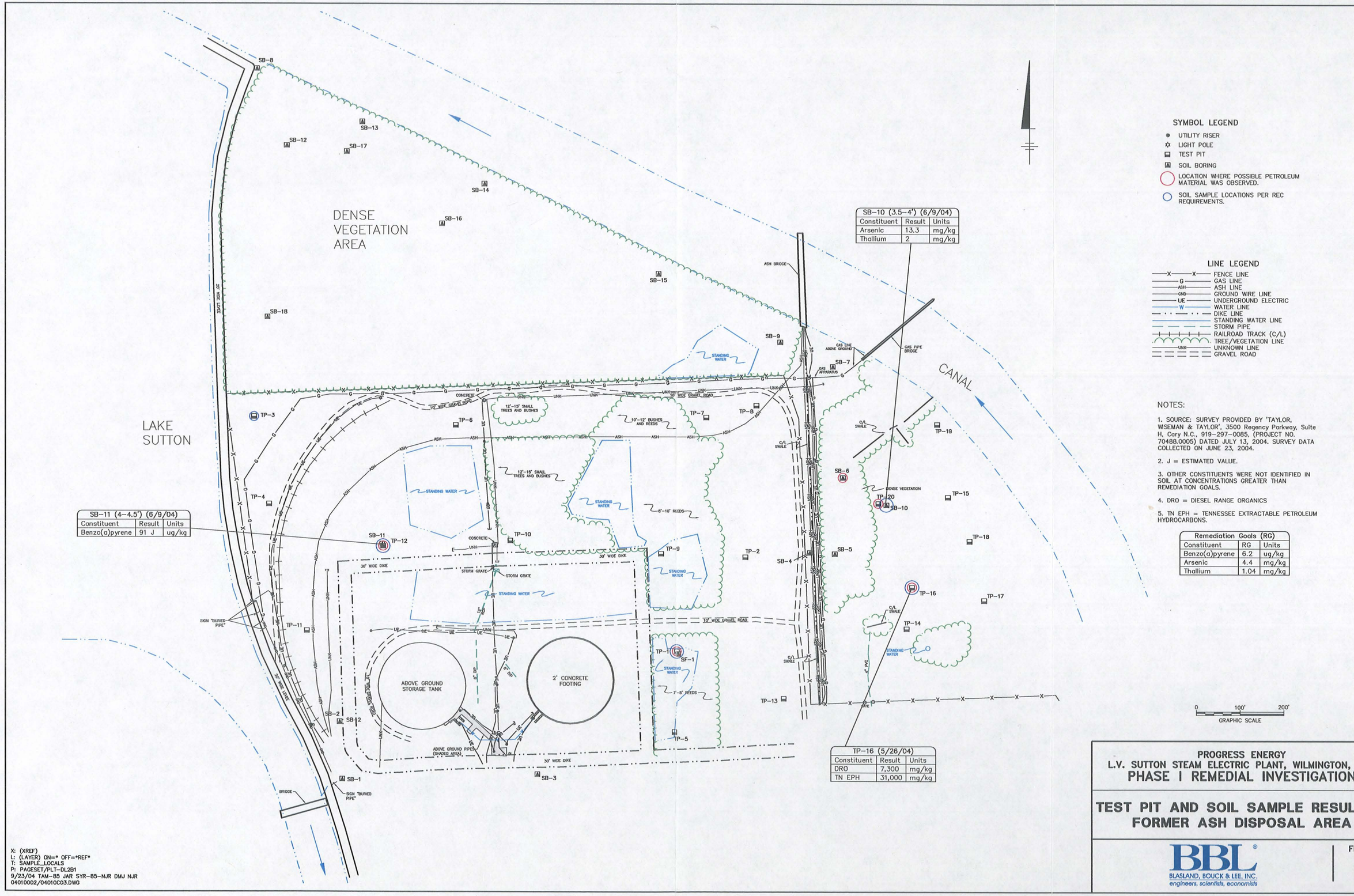
PROGRESS ENERGY
L.V. SUTTON STEAM ELECTRIC PLANT, WILMINGTON, N.C.
PHASE I REMEDIAL INVESTIGATION

SHALLOW GROUNDWATER POTENTIOMETRIC SURFACE MAP - FORMER ASH DISPOSAL AREA - JUNE 22, 2004

BBL BARNARD BRADLEY LAWLESS ENGINEERS, INC.

FIGURE 10

X: (XREF)
L: ON=*, OFF=REF, BN*, SP*, X*
T: SAMPLE_LOCALS
P: PAGESET/PLT-DL2B1
9/2/04 TAM-85 JAR SYR-85-NJR PGL NJR
04010001/04010W01.DWG



SB-10 (3.5-4') (6/9/04)		
Constituent	Result	Units
Arsenic	13.3	mg/kg
Thallium	2	mg/kg

SB-11 (4-4.5') (6/9/04)		
Constituent	Result	Units
Benzo(a)pyrene	91 J	ug/kg

TP-16 (5/26/04)		
Constituent	Result	Units
DRO	7,300	mg/kg
TN EPH	31,000	mg/kg

SYMBOL LEGEND

- UTILITY RISER
- LIGHT POLE
- TEST PIT
- SOIL BORING
- LOCATION WHERE POSSIBLE PETROLEUM MATERIAL WAS OBSERVED.
- SOIL SAMPLE LOCATIONS PER REC REQUIREMENTS.

LINE LEGEND

- FENCE LINE
- GAS LINE
- ASH LINE
- GROUND WIRE LINE
- UNDERGROUND ELECTRIC
- WATER LINE
- DIKE LINE
- STANDING WATER LINE
- STORM PIPE
- RAILROAD TRACK (C/L)
- TREE/VEGETATION LINE
- UNKNOWN LINE
- GRAVEL ROAD

NOTES:

1. SOURCE: SURVEY PROVIDED BY 'TAYLOR, WISEMAN & TAYLOR', 3500 Regency Parkway, Suite H, Cary N.C., 919-297-0085, (PROJECT NO. 70488.0005) DATED JULY 13, 2004. SURVEY DATA COLLECTED ON JUNE 23, 2004.

2. J = ESTIMATED VALUE.

3. OTHER CONSTITUENTS WERE NOT IDENTIFIED IN SOIL AT CONCENTRATIONS GREATER THAN REMEDIATION GOALS.

4. DRO = DIESEL RANGE ORGANICS

5. TN EPH = TENNESSEE EXTRACTABLE PETROLEUM HYDROCARBONS.

Remediation Goals (RG)		
Constituent	RG	Units
Benzo(a)pyrene	6.2	ug/kg
Arsenic	4.4	mg/kg
Thallium	1.04	mg/kg

0 100' 200'
GRAPHIC SCALE

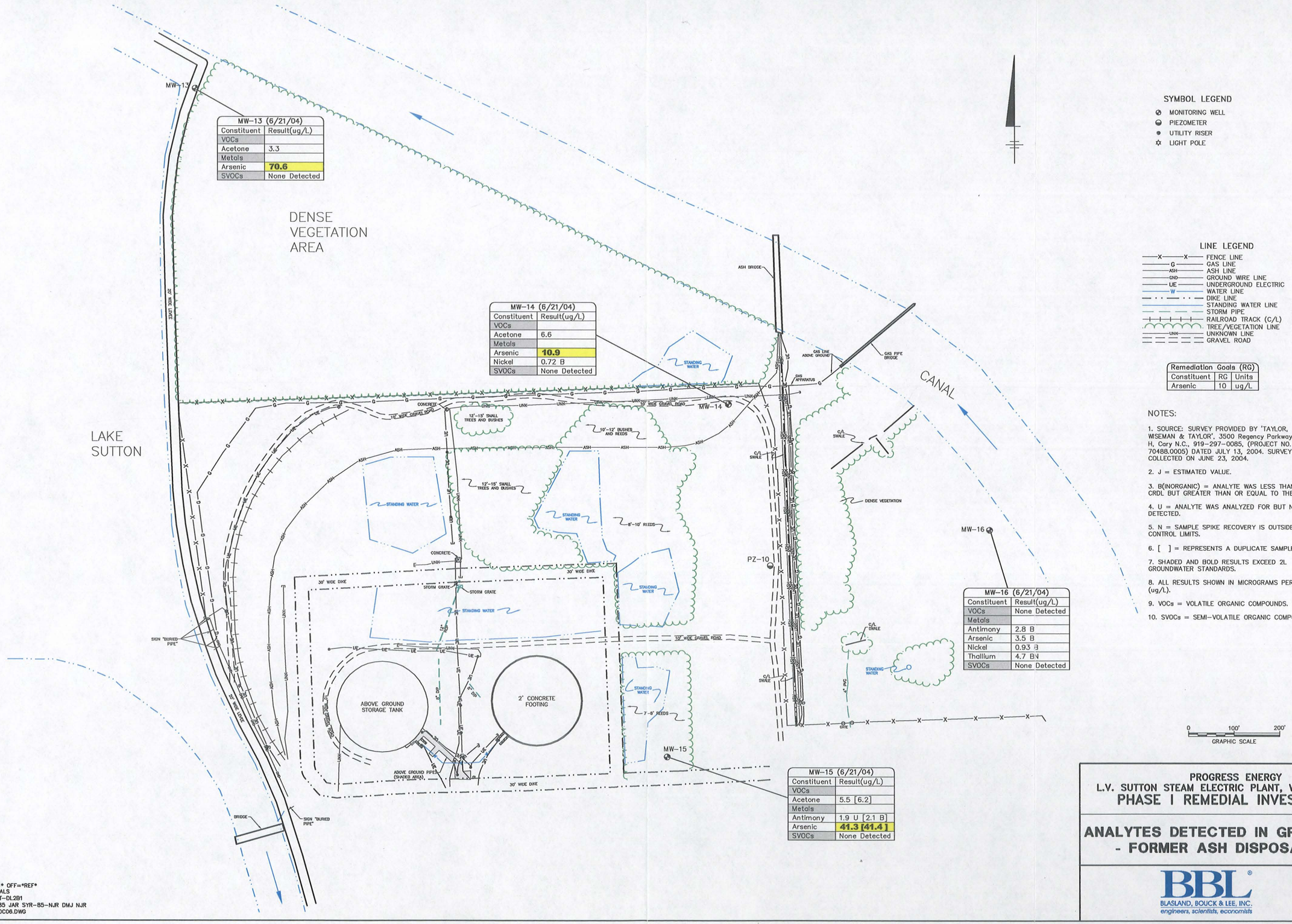
X: (XREF)
L: (LAYER) ON=* OFF=*REF*
T: SAMPLE_LOCALS
P: PAGESET/PLT-DL2B1
9/23/04 TAM-85 JAR SYR-85-NJR DMJ NJR
04010002/04010C03.DWG

PROGRESS ENERGY
L.V. SUTTON STEAM ELECTRIC PLANT, WILMINGTON, N.C.
PHASE I REMEDIAL INVESTIGATION

TEST PIT AND SOIL SAMPLE RESULTS - FORMER ASH DISPOSAL AREA

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engineers, scientists, economists

FIGURE
11



SYMBOL LEGEND

- MONITORING WELL
- PIEZOMETER
- UTILITY RISER
- LIGHT POLE

LINE LEGEND

- FENCE LINE
- GAS LINE
- ASH LINE
- GROUND WIRE LINE
- UNDERGROUND ELECTRIC
- WATER LINE
- DIKE LINE
- STANDING WATER LINE
- STORM PIPE
- RAILROAD TRACK (C/L)
- TREE/VEGETATION LINE
- UNKNOWN LINE
- GRAVEL ROAD

Remediation Goals (RG)		
Constituent	RG	Units
Arsenic	10	ug/L

NOTES:

1. SOURCE: SURVEY PROVIDED BY 'TAYLOR, WISEMAN & TAYLOR', 3500 Regency Parkway, Suite H, Cary N.C., 919-297-0085, (PROJECT NO. 70488.0005) DATED JULY 13, 2004. SURVEY DATA COLLECTED ON JUNE 23, 2004.
2. J = ESTIMATED VALUE.
3. B(INORGANIC) = ANALYTE WAS LESS THAN THE CRDL BUT GREATER THAN OR EQUAL TO THE IDL.
4. U = ANALYTE WAS ANALYZED FOR BUT NOT DETECTED.
5. N = SAMPLE SPIKE RECOVERY IS OUTSIDE OF CONTROL LIMITS.
6. [ ] = REPRESENTS A DUPLICATE SAMPLE.
7. SHADED AND BOLD RESULTS EXCEED 2L GROUNDWATER STANDARDS.
8. ALL RESULTS SHOWN IN MICROGRAMS PER LITER (ug/L).
9. VOCs = VOLATILE ORGANIC COMPOUNDS.
10. SVOCs = SEMI-VOLATILE ORGANIC COMPOUNDS.

X: (XREF)
L: (LAYER) ON=* OFF=*REF*
T: SAMPLE_LOCALS
P: PAGESET/PLT-DL2B1
9/23/04 TAM-85 JAR SYR-85-NJR DMJ NJR
04010002/04010C06.DWG

PROGRESS ENERGY
L.V. SUTTON STEAM ELECTRIC PLANT, WILMINGTON, N.C.
PHASE I REMEDIAL INVESTIGATION

ANALYTES DETECTED IN GROUNDWATER - FORMER ASH DISPOSAL AREA

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FIGURE 12

Appendicies

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Appendix A

Soil Boring Logs and Well Construction Records

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Date Start/Finish: 5/25/04
Drilling Company: Geologic Exploration
Driller's Name: Mike McConahey
Drilling Method: HSA
Bit Size: NA
Auger Size: 4.25-inch I.D.
Rig Type: B-61 Mobile Rig
Sampling Method: 24-inch splitspoon

Northing: 197948.14
Easting: 2305008.16
Casing Elevation: 18.21 ft

Borehole Depth: 13 ft bls
Surface Elevation: 15.09 ft

Logged by: Daniel C.H. Peterman

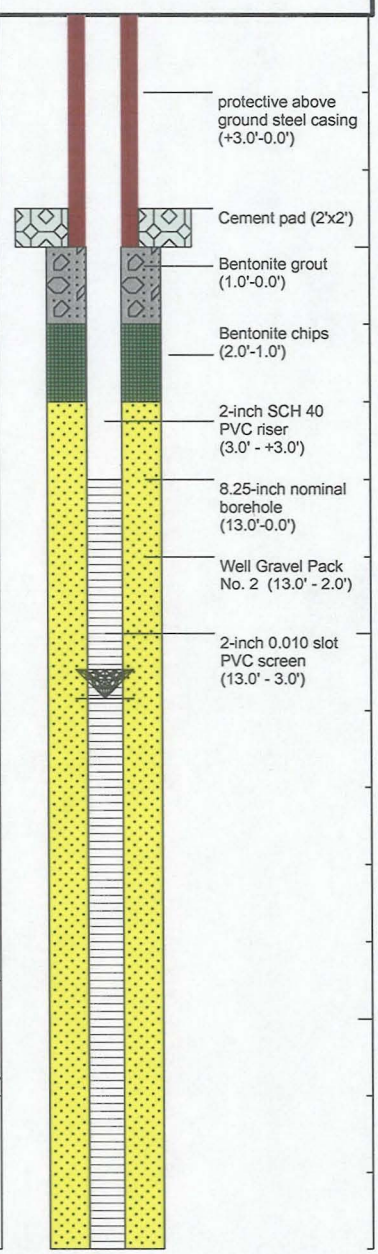
Well/Boring ID: MW-13 (FADA)

Client: Progress Energy Carolinas Inc.

Location: Progress Energy L.V. Sutton Steam Electric Plant
Wilmington, NC

DEPTH	ELEVATION	Samp. Interval (ft bgs)	Recovery (inches)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Iron Staining	Geologic Column	Stratigraphic Description
0	15								Topsoil, trace coarse gravel, low organic content, dry to slightly damp, no odors.
						0.0			SAND and ASH, dark grey, silt to fine grained, very loose, slightly damp to damp, no odor.
						0.0			
			19	2 2 1 3	3	0.0			SAND and ASH, dark grey, silt to fine grained, very loose, slightly damp to damp, no odor.
5	10								clayey SAND (SC), dark grey, fine grained, low plasticity, very soft, wet, no odor.
			24	3 1 4 5	5	0.0			clayey SAND (SC), dark grey, fine grained, low plasticity, medium soft, wet, no odor.
10	5								SAND (SM), grey, mottled tan, fine grained, loose, wet, no odor.
			19	5 4 5 4	9	0.0			SAND (SM), dark brown, fine grained, loose, saturated, organic sulphur odor.
									Boring terminated at 13.0 ft bls

Well/Boring Construction



BBL
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engineers & scientists

Remarks:
HSA: Hollow Stem Auger
NA: Not Applicable
ft bls: feet below land surface
Air Monitoring Equipment: PID, V-RAE, and PDR-1000
PID: Photoionization Detector
V-RAE: Multi-Gas meter
PDR-1000: Particulate meter

Water Level Data

Date	Depth	Elev.
6/22/04	8.96	9.25

Depth measured from top of casing

Project: 04010
Data File:MW-13

Template:boring_wellWL2003.ldf
Date: 06/01/04

WELL CONSTRUCTION RECORD

North Carolina – Department of Environmental and Natural Resources – Division of Water Quality – Groundwater Section

WELL CONTRACTOR (INDIVIDUAL) NAME (print) MIKE MCCONAHEY CERTIFICATION # 2402

WELL CONTRACTOR COMPANY NAME GEOLOGIC EXPLORATION, INC. PHONE # (704) 872-7686

STATE WELL CONSTRUCTION PERMIT# (if applicable) ASSOCIATED WQ PERMIT# (if applicable)

1. WELL USE (Check Applicable Box): Residential ☐ Municipal/Public ☐ Industrial ☐ Agricultural ☐
Monitoring ☒ Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, list Use

2. WELL LOCATION:
Nearest Town: WILMINGTON County NEW HANOVER
HWY 421/801 SUTTON STEAM PLANT ROAD
(Street Name, Numbers, Community, Subdivision, Lot No., Zip Code)

Topographic/Land setting
☐ Ridge ☐ Slope ☐ Valley ☒ Flat
(check appropriate box)
Latitude/longitude of well location
(degrees/minutes/seconds)
Latitude/longitude source: ☐ GPS ☐ Topographic map
(check box)

3. OWNER: PROGRESS ENERGY CAROLINAS, INC.
Address 801 SUTTON STEAM PLANT ROAD
(Street or Route No.)
WILMINGTON NC 28401
City or Town State Zip Code
( )
Area Code – Phone Number

4. DATE DRILLED 05/25/04
5. TOTAL DEPTH: 13.0 FEET
6. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒
7. STATIC WATER LEVEL Below Top of Casing: 2.0 FT.
(Use "+" if Above Top of Casing)
8. TOP OF CASING IS 2.5 FT. Above Land Surface*
*Top of casing terminated at/or below land surface requires a variance in accordance with 15A NCAC 2C .0118.
9. YIELD (gpm): N/A METHOD OF TEST N/A
10. WATER ZONES (depth): N/A
11. DISINFECTION: Type N/A Amount
12. CASING:

	Depth			Diameter	Wall Thickness or Weight/Ft.	Material
From	0.0	To 3.0	Ft	2 INCH	SCH 40	PVC
From		To	Ft.			
From		To	Ft.			

13. Grout:

	Depth			Material	Method
From	0.0	To 1.0	Ft.	Portland Bentonite	Slurry
From		To	Ft.		

14. SCREEN:

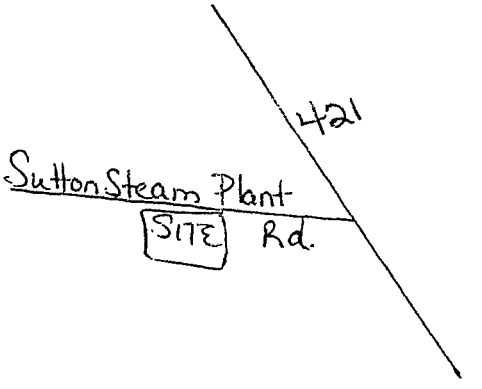
	Depth			Diameter		Slot Size		Material
From	3.0	To 13.0	Ft.	2.0	in.	.010	in	PVC
From		To	Ft.		in.		in	

15. SAND/GRAVEL PACK:

	Depth			Size	Material
From	2.0	To 13.0	Ft.	20-40	FINE SILICA SAND
From		To	Ft.		

DEPTH From	DEPTH To	DRILLING LOG Formation Description
0.0	1.0	WEEDS/TOPSOIL
1.0	5.0	BROWN/BLACK SILTY SAND
5.0	13.0	WHITE/TAN SILTY SAND

LOCATION SKETCH
Show direction and distance in miles from at least two State Roads or County Roads, inculed the road numbers and common road names.



16. REMARKS: MW-13 BENTONITE SEAL FROM 1.0 TO 2.0 FEET

I DO HEARBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER

Mike McConahey 5/31/04
SIGNATURE OF PERSON CONSTRUCTING THE WELL DATE

Submit the original to the Division of Water Quality, Groundwater Section, 1636 Mail Service Center – Raleigh, NC 27699-1636 Phone No. (919) 733-3221, within 30 days.

GW-1 REV. 07/2001

Date Start/Finish: 5/25/04
Drilling Company: Geologic Exploration
Driller's Name: Mike McConahey
Drilling Method: HSA
Bit Size: NA
Auger Size: 4.25-inch I.D.
Rig Type: B-61 Mobile Rig
Sampling Method: 24-inch splitspoon

Northing: 19725217
Easting: 230617843
Casing Elevation: 14.15 ft

Borehole Depth: 11.0 ft bls
Surface Elevation: 10.96 ft

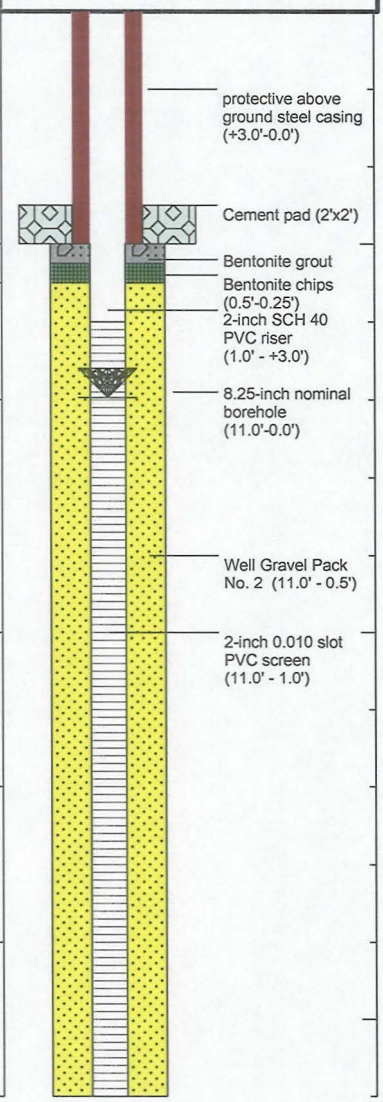
Logged by: Daniel C.H. Peterman

Well/Boring ID: MW-14 (FADA)

Client: Progress Energy Carolinas Inc.

Location: Progress Energy L.V. Sutton Steam Electric Plant
Wilmington, NC

DEPTH	ELEVATION	Samp. Interval (ft bgs)	Recovery (inches)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Iron Staining	Geologic Column	Stratigraphic Description
0	10					0.0			Topsoil, high organic content, damp, no odor.
									SAND (SM), gray, mottled white, fine grained, loose, damp, no odor.
						0.0			SAND (SM), gray, mottled white, fine grained, loose, wet, no odor.
5	5		21	4 5 4 4	9	0.0			SAND (SM), light gray, mottled white, fine to medium grained, loose, wet, no odor.
									SAND (SM), light gray, mottled white, fine to medium grained, loose, wet, no odor.
10	0		24	5 4 6 4	10	0.0			SAND (SM), dark brown, fine to medium grained, medium dense, saturated, no odor.
									Boring terminated at 11.0 ft bls



BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Remarks:
HSA: Hollow Stem Auger
NA: Not Applicable
ft bls: feet below land surface
Air Monitoring Equipment: PID, V-RAE, and PDR-1000
PID: Photoionization Detector
V-RAE: Multi-Gas meter
PDR-1000: Particulate meter

Water Level Data

Date	Depth	Elev.
6/22/04	5.16 ft	8.99

Depth measured from top of casing

WELL CONSTRUCTION RECORD

North Carolina – Department of Environmental and Natural Resources – Division of Water Quality – Groundwater Section

WELL CONTRACTOR (INDIVIDUAL) NAME (print) MIKE MCCONAHEY CERTIFICATION # 2402

WELL CONTRACTOR COMPANY NAME GEOLOGIC EXPLORATION, INC. PHONE # (704) 872-7686

STATE WELL CONSTRUCTION PERMIT# (if applicable) _____ ASSOCIATED WQ PERMIT# (if applicable) _____

1. WELL USE (Check Applicable Box): Residential ☐ Municipal/Public ☐ Industrial ☐ Agricultural ☐
Monitoring ☒ Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, list Use _____

2. WELL LOCATION:
Nearest Town: WILMINGTON County NEW HANOVER
HWY 421/801 SUTTON STEAM PLANT ROAD
(Street Name, Numbers, Community, Subdivision, Lot No., Zip Code)

Topographic/Land setting
☐ Ridge ☐ Slope ☐ Valley ☒ Flat
(check appropriate box)
Latitude/longitude of well location
_____
(degrees/minutes/seconds)
Latitude/longitude source: ☐ GPS ☐ Topographic map
(check box)

3. OWNER: PROGRESS ENERGY CAROLINAS, INC.
Address 801 SUTTON STEAM PLANT ROAD
(Street or Route No.)
WILMINGTON NC 28401
City or Town State Zip Code
( )
Area Code – Phone Number

4. DATE DRILLED 05/25/04
5. TOTAL DEPTH: 11.0 FEET
6. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒
7. STATIC WATER LEVEL Below Top of Casing: 2.0 FT.
(Use "+" if Above Top of Casing)
8. TOP OF CASING IS 2.5 FT. Above Land Surface*
*Top of casing terminated at/or below land surface requires a variance in accordance with 15A NCAC 2C .0118.
9. YIELD (gpm): N/A METHOD OF TEST N/A
10. WATER ZONES (depth): N/A
11. DISINFECTION: Type N/A Amount _____
12. CASING:

	Depth			Diameter	Wall Thickness or Weight/Ft.	Material
From	0.0	To	1.0 Ft	2 INCH	SCH 40	PVC
From		To	Ft.			
From		To	Ft.			

13. Grout:

	Depth			Material	Method
From		To	Ft.	Portland Bentonite	Slurry
From		To	Ft.		

14. SCREEN:

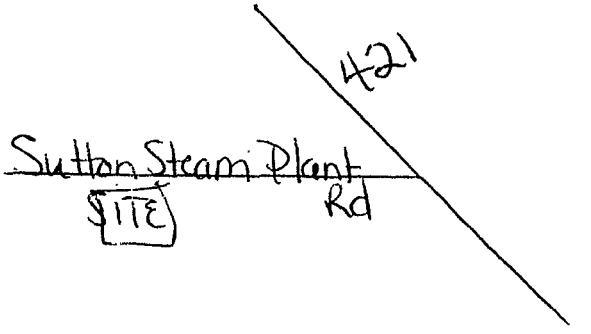
	Depth			Diameter		Slot Size		Material
From	1.0	To	11.0 Ft.	2.0	in.	.010	in	PVC
From		To	Ft.		in.		in	

15. SAND/GRAVEL PACK:

	Depth			Size	Material
From	0.5	To	11.0 Ft.	20-40	FINE SILICA SAND
From		To	Ft.		

DEPTH From	DEPTH To	DRILLING LOG Formation Description
0.0	1.0	GRASS/TOPSOIL
1.0	5.0	GREY/BLACK SILTY SAND
5.0	11.0	GREY/TAN SILTY SAND

LOCATION SKETCH
Show direction and distance in miles from at least two State Roads or County Roads, inculed the road numbers and common road names.



16. REMARKS: MW-14 BENTONITE SEAL FROM 0.0 TO 0.5 FEET

I DO HEARBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER

Mike McConahey 5/31/04
SIGNATURE OF PERSON CONSTRUCTING THE WELL DATE

Submit the original to the Division of Water Quality, Groundwater Section, 1636 Mail Service Center – Raleigh, NC 27699-1636 Phone No. (919) 733-3221, within 30 days.

GW-1 REV. 07/2001

Date Start/Finish: 5/25/04
Drilling Company: Geologic Exploration
Driller's Name: Mike McConahey
Drilling Method: HSA
Bit Size: NA
Auger Size: 4.25 I.D.
Rig Type: B-61 Mobile Rig
Sampling Method: 24-inch splitspoon

Northing: 19647565
Easting: 230604401
Casing Elevation: 11.47 ft

Borehole Depth: 11.0 ft bls
Surface Elevation: 8.53 ft

Logged by: Daniel C.H. Peterman

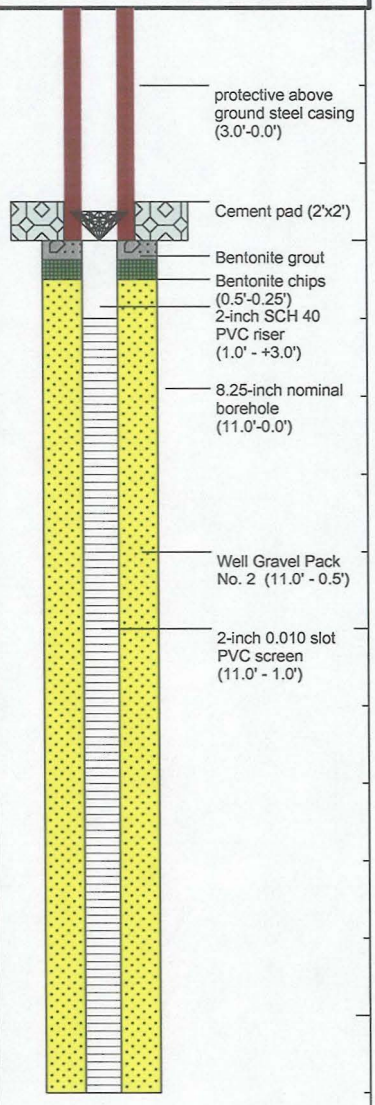
Well/Boring ID: MW-15 (FADA)

Client: Progress Energy Carolinas Inc.

Location: Progress Energy L.V. Sutton Steam Electric Plant
Wilmington, NC

DEPTH / ELEVATION	Samp. Interval (ft bgs)	Recovery (inches)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Iron Staining	Geologic Column	Stratigraphic Description
0 / 10								
0 / 0					0.0			Topsoil, high organic content, slightly damp to damp, no odor.
								SAND (SM), gray, fine to medium grained, loose, moist to wet, no odor.
5 / 5					0.0			SAND (SM), gray, fine to medium grained, loose, saturated, no odor.
		24	5 2 4 5	6	0.0			SAND (SM), light gray, mottled white, fine to medium grained, loose, saturated, no odor.
10 / 0								SAND (SM), dark brown, fine grained, loose, saturated, no odor.
		24	4 3 4 5	7	0.0			
								SAND (SM), tan, fine grained, loose, saturated, no odor.
								Boring terminated at 12.0 ft bls

Well/Boring Construction



BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Remarks:
HSA: Hollow Stem Auger
NA: Not Applicable
ft bls: feet below land surface
Air Monitoring Equipment: PID, V-RAE, and PDR-1000
PID: Photoionization Detector
V-RAE: Multi-Gas meter
PDR-1000: Particulate meter

Water Level Data

Date	Depth	Elev.
6/22/04	2.94	8.53

Depth measured from top of casing

Project: 04010
Data File:MW-15

Template:boring_wellWL2003.ldf
Date: 06/01/04

WELL CONSTRUCTION RECORD

North Carolina – Department of Environmental and Natural Resources – Division of Water Quality – Groundwater Section

WELL CONTRACTOR (INDIVIDUAL) NAME (print) MIKE MCCONAHEY CERTIFICATION # 2402

WELL CONTRACTOR COMPANY NAME GEOLOGIC EXPLORATION, INC. PHONE # (704) 872-7686

STATE WELL CONSTRUCTION PERMIT# (if applicable) _____ ASSOCIATED WQ PERMIT# (if applicable) _____

1. WELL USE (Check Applicable Box): Residential ☐ Municipal/Public ☐ Industrial ☐ Agricultural ☐
Monitoring ☒ Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, list Use _____

2. WELL LOCATION:
Nearest Town: WILMINGTON County NEW HANOVER
HWY 421/801 SUTTON STEAM PLANT ROAD
(Street Name, Numbers, Community, Subdivision, Lot No., Zip Code)

Topographic/Land setting
☐ Ridge ☐ Slope ☐ Valley ☒ Flat
(check appropriate box)
Latitude/longitude of well location
_____
(degrees/minutes/seconds)
Latitude/longitude source: ☐ GPS ☐ Topographic map
(check box)

3. OWNER: PROGRESS ENERGY CAROLINAS, INC.
Address 801 SUTTON STEAM PLANT ROAD
(Street or Route No.)
WILMINGTON NC 28401
City or Town State Zip Code
( )
Area Code – Phone Number

4. DATE DRILLED 05/25/04
5. TOTAL DEPTH: 11.0 FEET
6. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒
7. STATIC WATER LEVEL Below Top of Casing: 2.0 FT.
(Use "+" if Above Top of Casing)
8. TOP OF CASING IS 2.5 FT. Above Land Surface*
*Top of casing terminated at/or below land surface requires a variance in accordance with 15A NCAC 2C .0118.
9. YIELD (gpm): N/A METHOD OF TEST N/A
10. WATER ZONES (depth): N/A
11. DISINFECTION: Type N/A Amount _____
12. CASING:

	Depth			Diameter	Wall Thickness or Weight/Ft.	Material
From	0.0	To 1.0	Ft	2 INCH	SCH 40	PVC
From		To	Ft.			
From		To	Ft.			

13. Grout:

	Depth			Material	Method
From		To	Ft.	Portland Bentonite	Slurry
From		To	Ft.		

14. SCREEN:

	Depth			Diameter		Slot Size		Material
From	1.0	To 11.0	Ft.	2.0	in.	.010	in	PVC
From		To	Ft.		in.		in	

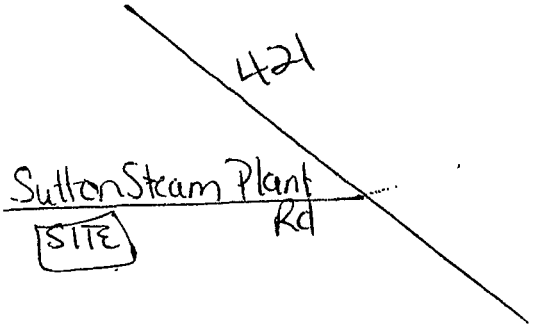
15. SAND/GRAVEL PACK:

	Depth			Size	Material
From	0.5	To 11.0	Ft.	20-40	FINE SILICA SAND
From		To	Ft.		

DEPTH / DRILLING LOG

From	To	Formation Description
0.0	1.0	GRASS/TOPSOIL
1.0	5.0	GREY/BLACK SILTY SAND
5.0	11.0	GREY/TAN SILTY SAND

LOCATION SKETCH
Show direction and distance in miles from at least two State Roads or County Roads, inculed the road numbers and common road names.



16. REMARKS: MW-15 BENTONITE SEAL FROM 0.0 TO 0.5 FEET

I DO HEARBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER

Mike McConahey 5/31/04
SIGNATURE OF PERSON CONSTRUCTING THE WELL DATE

Submit the original to the Division of Water Quality, Groundwater Section, 1636 Mail Service Center – Raleigh, NC 27699-1636 Phone No. (919) 733-3221, within 30 days.

GW-1 REV. 07/2001

Date Start/Finish: 6/07/04
Drilling Company: SAEDACCO
Driller's Name: Rich Lemire
Drilling Method: HSA
Bit Size: NA
Auger Size: 4.25-inch I.D.
Rig Type: B-61 Mobile Rig
Sampling Method: 24-inch splitspoon

Northing: 19697593
Easting: 230675316
Casing Elevation: 16.91 ft

Borehole Depth: 12.0 ft bls
Surface Elevation: 14.11 ft

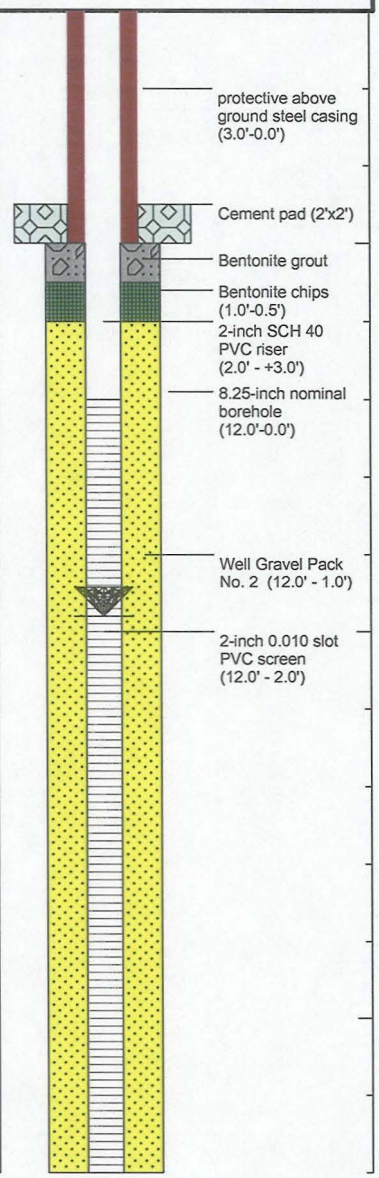
Logged by: Daniel C.H. Peterman

Well/Boring ID: MW-16 (FADA)

Client: Progress Energy Carolinas Inc.

Location: Progress Energy L.V. Sutton Steam Electric Plant
Wilmington, NC

DEPTH	ELEVATION	Samp. Interval (ft bgs)	Recovery (inches)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Iron Staining	Geologic Column	Stratigraphic Description
						2.9			SAND (SM), brown, fine grained, very loose, trace organics, dry, no odor.
0	15					0.0			SAND (SM), white, mottled tan, fine, very loose, dry, no odor.
5	10		24	1 2 2 1	4	0.0			SAND (SM), white, mottled tan, fine, very loose, wet to saturated, no odor.
10	5		24	1 6 6 7	12	0.0			SAND (SM), light gray, mottled white, fine to medium grained, medium dense, saturated, no odor.
									Boring terminated at 12.0 ft bls



BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Remarks:
HSA: Hollow Stem Auger
NA: Not Applicable
ft bls: feet below land surface
Air Monitoring Equipment: PID, V-RAE, and PDR-1000
PID: Photoionization Detector
V-RAE: Multi-Gas meter
PDR-1000: Particulate meter

Water Level Data

Date	Depth	Elev.
06/22/04	7.60	9.31 ft

Depth measured from top of casing

Project: 04010
Data File:MW-16

Template:boring_wellWL2003.ldf
Date: 06/30/04

WELL CONSTRUCTION RECORD

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section

WELL CONTRACTOR (INDIVIDUAL) NAME (print) Rich Lemire CERTIFICATION # 2593

WELL CONTRACTOR COMPANY NAME SAEDACCO PHONE # (803) 548-2180

STATE WELL CONSTRUCTION PERMIT# (if applicable) _____ ASSOCIATED WQ PERMIT# (if applicable) _____

1. WELL USE (Check Applicable Box): Residential ☐ Municipal/Public ☐ Industrial ☐ Agricultural ☐ Monitoring ☒ Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use _____

2. WELL LOCATION:
Nearest Town: Wilmington County Brunswick
801 Sutton Electric Steam Plant Road
(Street Name, Numbers, Community, Subdivision, Lot No., Zip Code)

Topographic/Land setting
☐Ridge ☐Slope ☐Valley ☒Flat
(check appropriate box)
Latitude/longitude of well location
_____
(degrees/minutes/seconds)
Latitude/longitude source: ☐GPS ☐Topographic map
(check box)

3. OWNER: Sutton Steam Plant
Address 801 Sutton Electric Steam Plant
(Street or Route No.)
Wilmington NC
City or Town State Zip Code
(___)-_____
Area code- Phone number

4. DATE DRILLED 6-7-2004
5. TOTAL DEPTH: 12
6. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒
7. STATIC WATER LEVEL Below Top of Casing: 7.6' FT.
(Use "+" if Above Top of Casing)
8. TOP OF CASING IS ~3' FT. Above Land Surface*
*Top of casing terminated at/or below land surface requires a variance in accordance with 15A NCAC 2C .0118.
9. YIELD (gpm): _____ METHOD OF TEST _____
10. WATER ZONES (depth): _____

DEPTH From	To	DRILLING LOG Formation Description
0	12	Tan Sand

11. DISINFECTION: Type _____ Amount _____
12. CASING:

	Depth		Diameter	Wall Thickness or Weight/Ft.	Material
From 0	To 2	Ft.	2"	Sch 40	PVC
From	To	Ft.			
From	To	Ft.			

13. GROUT:

	Depth		Material	Method
From 0.5	To 0	Ft.	Portland Cement	Poured
From	To	Ft.		

14. SCREEN:

	Depth		Diameter		Slot Size		Material
From 2	To 12	Ft.	2"	in.	.010	in.	PVC
From	To	Ft.		in.		in.	

15. SAND/GRAVEL PACK:

	Depth		Size	Material
From 1.0	To 12	Ft.	#2	Sand
From	To	Ft.		

LOCATION SKETCH
Show direction and distance in miles from at least two State Roads or County Roads. Include the road numbers and common road names.

16. REMARKS: Bentonite Seal fro 1.0' to 0.5' MW-16

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER

Ruby D Lemire 6-7-04
SIGNATURE OF PERSON CONSTRUCTING THE WELL DATE

Submit the original to the Division of Water Quality, Groundwater Section, 1636 Mail Service Center - Raleigh, NC 27699-1636 Phone No. (919) 733-3221, within 30 days.

GW-1 REV. 07/2001

Date Start/Finish: 5/25/04
Drilling Company: Geologic Exploration
Driller's Name: Mike McConahey
Drilling Method: HSA
Bit Size: NA
Auger Size: 4.25-inch I.D.
Rig Type: B-61 Mobile Rig
Sampling Method: 24-inch splitspoon

Northing: 19689750
Easting: 230627149
Casing Elevation: 12.82 ft

Borehole Depth: 11.0 ft bls
Surface Elevation: 10.15 ft

Logged by: Daniel C.H. Peterman

Well/Boring ID: PZ-10 (FADA)

Client: Progress Energy Carolinas Inc.

Location: Progress Energy L.V. Sutton Steam Electric Plant
Wilmington, NC

DEPTH	ELEVATION	Samp. Interval (ft bgs)	Recovery (inches)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Iron Staining	Geologic Column	Stratigraphic Description
0	10								Topsoil, trace coarse gravel, low organic content, dry to slightly damp, no odors.
						0.0			SAND (SM), light gray, mottled white, fine to medium grained, trace coarse gravel, loose, slightly damp to damp, no odor.
						0.0			SAND (SM), light gray, fine to medium grained, loose, moist to wet, no odor.
5	5		22	3 3 3 5	6	0.0			SAND (SM), dark gray, fine to medium grained, loose, wet to saturated, no odor.
			24	4 3 5 10	8	0.0			SAND (SM), light gray, fine to medium grained, loose, saturated, no odor.
10	0								Boring terminated at 11.0 ft bls

Well/Boring Construction

- protective above ground steel casing (3.0'-0.0')
- Cement pad (2'x2')
- Bentonite grout
- Bentonite chips (0.5'-0.25')
- 2-inch SCH 40 PVC riser (1.0' - +3.0')
- 8.25-inch nominal borehole (11.0'-0.0')
- Well Gravel Pack No. 2 (11.0' - 0.5')
- 2-inch 0.010 slot PVC screen (11.0' - 1.0')

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Remarks:
HSA: Hollow Stem Auger
NA: Not Applicable
ft bls: feet below land surface
Air Monitoring Equipment: PID, V-RAE, and PDR-1000
PID: Photoionization Detector
V-RAE: Multi-Gas meter
PDR-1000: Particulate meter

Water Level Data

Date	Depth	Elev.
6/22/04	4.31	8.51

Depth measured from top of casing

Project: 04010
Data File:PZ-10

Template:boring_wellWL2003.ldf
Date: 06/01/04

WELL CONSTRUCTION RECORD

North Carolina – Department of Environmental and Natural Resources – Division of Water Quality – Groundwater Section

WELL CONTRACTOR (INDIVIDUAL) NAME (print) MIKE MCCONAHEY CERTIFICATION # 2402

WELL CONTRACTOR COMPANY NAME GEOLOGIC EXPLORATION, INC. PHONE # (704) 872-7686

STATE WELL CONSTRUCTION PERMIT# (if applicable) _____ ASSOCIATED WQ PERMIT# (if applicable) _____

1. WELL USE (Check Applicable Box): Residential ☐ Municipal/Public ☐ Industrial ☐ Agricultural ☐
Monitoring ☐ Recovery ☐ Heat Pump Water Injection ☐ Other ☒ If Other, list Use PIEZOMETER

2. WELL LOCATION:
Nearest Town: WILMINGTON County NEW HANOVER
HWY 421/801 SUTTON STEAM PLANT ROAD
(Street Name, Numbers, Community, Subdivision, Lot No., Zip Code)

Topographic/Land setting
☐ Ridge ☐ Slope ☐ Valley ☒ Flat
(check appropriate box)
Latitude/longitude of well location
_____
(degrees/minutes/seconds)
Latitude/longitude source: ☐ GPS ☐ Topographic map
(check box)

3. OWNER: PROGRESS ENERGY CAROLINAS, INC.
Address 801 SUTTON STEAM PLANT ROAD
(Street or Route No.)
WILMINGTON NC 28401
City or Town State Zip Code
( )
Area Code – Phone Number

4. DATE DRILLED 05/25/04
5. TOTAL DEPTH: 11.0 FEET
6. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒
7. STATIC WATER LEVEL Below Top of Casing: 2.0 FT.
(Use "+" if Above Top of Casing)
8. TOP OF CASING IS 2.5 FT. Above Land Surface*
*Top of casing terminated at/or below land surface requires a variance in accordance with 15A NCAC 2C .0118.
9. YIELD (gpm): N/A METHOD OF TEST N/A
10. WATER ZONES (depth): N/A
11. DISINFECTION: Type N/A Amount _____
12. CASING:

	Depth			Diameter	Wall Thickness or Weight/Ft.	Material
From	0.0	To 1.0	Ft	2 INCH	SCH 40	PVC
From		To	Ft.			
From		To	Ft.			

13. Grout:

	Depth			Material	Method
From		To	Ft.	Portland Bentonite	Slurry
From		To	Ft.		

14. SCREEN:

	Depth			Diameter		Slot Size		Material
From	1.0	To 11.0	Ft.	2.0	in.	.010	in	PVC
From		To	Ft.		in.		in	

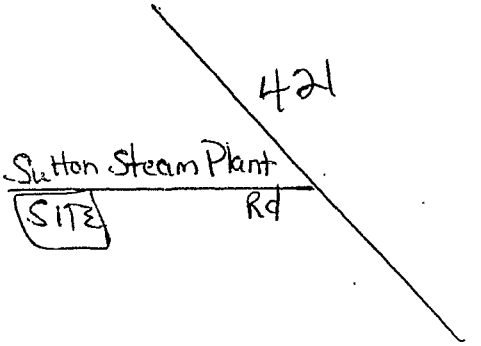
15. SAND/GRAVEL PACK:

	Depth			Size	Material
From	0.5	To 11.0	Ft.	20-40	FINE SILICA SAND
From		To	Ft.		

16. REMARKS: PZ-10 BENTONITE SEAL FROM 0.0 TO 0.5 FEET

DEPTH From	DEPTH To	DRILLING LOG Formation Description
0.0	1.0	GRASS/TOPSOIL
1.0	5.0	GREY/BLACK SILTY SAND
5.0	11.0	GREY/TAN SILTY SAND

LOCATION SKETCH
Show direction and distance in miles from at least two State Roads or County Roads, inculed the road numbers and common road names.



I DO HEARBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER

Mike McConahey 5/31/04
SIGNATURE OF PERSON CONSTRUCTING THE WELL DATE

Submit the original to the Division of Water Quality, Groundwater Section, 1636 Mail Service Center – Raleigh, NC 27699-1636 Phone No. (919) 733-3221, within 30 days.

GW-1 REV. 07/2001

Appendix B

Data Validation Report And Laboratory Data

BBL®
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engineers, scientists, economists

MEMORANDUM

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

To: Dan Peterman **Date:** 9/03/04

From: Melissa Cash **cc:** Dennis Capria

Re: Data Review

Data for samples collected from the Progress Energy-Sutton site in North Carolina during July 2004 were reviewed for quality assurance/quality control compliance. The data report from CompuChem, Inc. of Cary, North Carolina was reviewed. Dioxin data were analyzed by Alta Analytical of Wilmington, North Carolina. Included in the review are data from the following sample delivery group (SDG): 3275. The following summarizes the findings of the QA/QC review:

Metals

- One data set was reviewed, including 4 soil samples.
- Samples were analyzed for metals following EPA method 6000/7000.
- All samples were analyzed within the method-specified holding time.
- Several analytes were detected below the CRDL in the method blanks. Based on the blank content, data have been qualified as non-detect for antimony in all samples and zinc in samples SB-11 4.0-4.5 and SB-90.
- The CRDL recoveries were within control limits.
- The laboratory control sample results were within control limits.
- The calibrations were within control limits.

Volatiles

- One data set was reviewed, including 4 soil samples.
- Samples were analyzed for volatiles following EPA method 8260.
- All samples were analyzed within the method-specified holding time.
- Recovery for one surrogate was above control limits for sample locations SB-11 4.0-4.5 and SF-1 (0.8-1.2). Since all compounds were non-detect in sample SB-11 4.0-4.5, no data have been qualified based on the deviation. Detected sample results for SF-1 (0.8-1.2) have been qualified as estimated.

- The matrix spike/matrix spike duplicate recoveries were below control limits for several compounds and the relative percent difference between recoveries were above control limits for all compounds. Based on the deviations, data have been qualified as estimated for 1,1-dichloroethene, benzene, trichloroethene, toluene, and chlorobenzene in sample SF-1 0.8-1.2.

- Methylene chloride was detected in one method blank. Since associated samples were non-detect for methylene chloride, no data have been qualified based on blank content.

- The laboratory control sample recoveries were within control limits.

- No calibration data was provided.

Semi-Volatiles

- One data set was reviewed, including 4 soil samples.

- Samples were analyzed for volatiles following EPA method 8270.

- All samples were analyzed within the method-specified holding time.

- Recovery for one base-neutral surrogate was below control limits in sample SB-10 3.5-4.0 and SF-1 (0.8-1.2). No data for the listed sample locations have been qualified based on this deviation.

- The matrix spike recovery and the relative percent difference between recoveries were above control limits for 4-nitrophenol. Since the associated sample was non-detect for 4-nitrophenol, no data have been qualified based on the deviations.

- All reported laboratory control sample recoveries were within control limits.

- Bis(2-ethylhexyl) was detected in one method blank. Based on the blank content, data have been qualified as non-detect for the listed compound in samples SB-10 3.5-4.0 and SB-11 4.0-4.5.

- No calibration data was provided.

The data were presented in a reduced deliverables format. Therefore, only a limited data review could be performed. Since no raw data were provided, no verification of compound identification and quantitation could be performed.

Other than for the deviations noted in this review, the reported data quality is within method specifications and the data is considered acceptable for use as reported by the laboratory.

SW846 METALS

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SB-10 3.5-4.0

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix (soil/water): SOIL Lab Sample ID: 327501

Level (low/med): LOW Date Received: 6/10/04

% Solids: 62.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	0.96	B	U	P
7440-38-2	Arsenic	13.3			P
7440-41-7	Beryllium	2.7			P
7440-43-9	Cadmium	0.22	B		P
7440-47-3	Chromium	16.7			P
7440-50-8	Copper	38.1			P
7439-92-1	Lead	11.4			P
7439-97-6	Mercury	0.13			CV
7440-02-0	Nickel	21.3			P
7782-49-2	Selenium	2.6			P
7440-22-4	Silver	0.18	B		P
7440-28-0	Thallium	2.0			P
7440-66-6	Zinc	32.1			P

Color Before: BLACK Clarity Before: Texture: COARSE

Color After: YELLOW Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
SB-11 4.0-4.5

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix (soil/water): SOIL Lab Sample ID: 327502

Level (low/med): LOW Date Received: 6/10/04

% Solids: 80.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	0.28	B	U	P
7440-38-2	Arsenic	1.9			P
7440-41-7	Beryllium	0.22	B		P
7440-43-9	Cadmium	0.05	U		P
7440-47-3	Chromium	2.9			P
7440-50-8	Copper	2.7			P
7439-92-1	Lead	1.6			P
7439-97-6	Mercury	0.018	U		CV
7440-02-0	Nickel	2.5	B		P
7782-49-2	Selenium	0.29	B		P
7440-22-4	Silver	0.05	U		P
7440-28-0	Thallium	0.38	U		P
7440-66-6	Zinc	2.8		U	P

Color Before: BLACK Clarity Before: Texture: COARSE

Color After: YELLOW Clarity After: Artifacts:

Comments:

SW846 METALS

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SB-90

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix (soil/water): SOIL Lab Sample ID: 327503

Level (low/med): LOW Date Received: 6/10/04

% Solids: 80.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	0.49	B	U	P
7440-38-2	Arsenic	2.0			P
7440-41-7	Beryllium	0.20	B		P
7440-43-9	Cadmium	0.05	U		P
7440-47-3	Chromium	3.0			P
7440-50-8	Copper	2.6			P
7439-92-1	Lead	1.6			P
7439-97-6	Mercury	0.020	U		CV
7440-02-0	Nickel	2.3	B		P
7782-49-2	Selenium	0.43	B		P
7440-22-4	Silver	0.09	B		P
7440-28-0	Thallium	0.38	U		P
7440-66-6	Zinc	2.9		U	P

Color Before: BLACK Clarity Before: Texture: COARSE

Color After: YELLOW Clarity After: Artifacts:

Comments:

SW846 METALS

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SF-1 0.8-1.2

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix (soil/water): SOIL Lab Sample ID: 327504

Level (low/med): LOW Date Received: 6/10/04

% Solids: 84.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	0.25	B	U	P
7440-38-2	Arsenic	1.6			P
7440-41-7	Beryllium	0.13	B		P
7440-43-9	Cadmium	0.05	U		P
7440-47-3	Chromium	2.3			P
7440-50-8	Copper	2.7			P
7439-92-1	Lead	4.8			P
7439-97-6	Mercury	0.020	U		CV
7440-02-0	Nickel	5.0			P
7782-49-2	Selenium	0.28	U		P
7440-22-4	Silver	0.06	B		P
7440-28-0	Thallium	0.38	U		P
7440-66-6	Zinc	4.2			P

Color Before: BLACK Clarity Before: Texture: COARSE

Color After: YELLOW Clarity After: Artifacts:

Comments:

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-10 3.5-4.0

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327501

Sample wt/vol: 6.00(g/mL) G Lab File ID: 327501R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 37 Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	6.6	U
74-87-3	Chloromethane	6.6	U
75-01-4	Vinyl Chloride	6.6	U
74-83-9	Bromomethane	6.6	U
75-00-3	Chloroethane	6.6	U
75-69-4	Trichlorofluoromethane	6.6	U
75-35-4	1,1-Dichloroethene	6.6	U
75-15-0	Carbon disulfide	6.6	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	6.6	U
67-64-1	Acetone	25	
75-09-2	Methylene Chloride	6.6	U
156-60-5	trans-1,2-Dichloroethene	6.6	U
1634-04-4	Methyl-tert-butyl ether	6.6	U
75-34-3	1,1-Dichloroethane	6.6	U
156-59-2	cis-1,2-Dichloroethene	6.6	U
78-93-3	2-butanone	17	U
67-66-3	Chloroform	6.6	U
71-55-6	1,1,1-Trichloroethane	1.8	J
56-23-5	Carbon Tetrachloride	6.6	U
71-43-2	Benzene	6.6	U
107-06-2	1,2-Dichloroethane	6.6	U
79-01-6	Trichloroethene	6.6	U
78-87-5	1,2-Dichloropropane	6.6	U
75-27-4	Bromodichloromethane	6.6	U
10061-01-5	cis-1,3-Dichloropropene	6.6	U
108-10-1	4-Methyl-2-pentanone	17	U
108-88-3	Toluene	6.6	U
10061-02-6	trans-1,3-Dichloropropene	6.6	U
79-00-5	1,1,2-Trichloroethane	6.6	U
127-18-4	Tetrachloroethene	6.6	U
591-78-6	2-hexanone	17	U
124-48-1	Dibromochloromethane	6.6	U
106-93-4	1,2-Dibromoethane	6.6	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-10 3.5-4.0

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327501

Sample wt/vol: 6.00(g/mL) G Lab File ID: 327501R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 37 Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-90-7	Chlorobenzene	6.6	U
100-41-4	Ethylbenzene	6.6	U
100-42-5	Styrene	6.6	U
75-25-2	Bromoform	6.6	U
98-82-8	Isopropyl Benzene	4.8	J
79-34-5	1,1,2,2-Tetrachloroethane	6.6	U
541-73-1	1,3-Dichlorobenzene	6.6	U
106-46-7	1,4-Dichlorobenzene	6.6	U
95-50-1	1,2-Dichlorobenzene	6.6	U
96-12-8	1,2-Dibromo-3-Chloropropane	6.6	U
120-82-1	1,2,4-Trichlorobenzene	6.6	U
1330-20-7	Xylene (total)	5.9	J
79-20-9	Methyl acetate	6.6	U
110-82-7	Cyclohexane	6.6	U
108-87-2	Methylcyclohexane	6.6	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SB-10 3.5-4.0

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327501

Sample wt/vol: 6.00 (g/mL) G Lab File ID: 327501R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 37 Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	622-96-8	BENZENE, 1-ETHYL-4-METHYL-	12.55	72	NJ
2.	95-36-3	1,2,4-TRIMETHYLBENZENE	12.62	110	NJ
3.	526-73-8	BENZENE, 1,2,3-TRIMETHYL-	13.00	180	NJ
4.		UNKNOWN	13.27	59	J
5.		UNKNOWN	13.67	80	J
6.		BRANCHED ALKANE	13.91	61	J
7.		BRANCHED ALKANE	14.65	87	J
8.		UNKNOWN	14.72	61	J
9.		CYCLIC ALKANE	15.16	90	J
10.		CYCLIC ALKANE	15.70	75	J
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-11 4.0-4.5

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327502

Sample wt/vol: 6.72(g/mL) G Lab File ID: 327502A59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 19 Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	4.6	U
74-87-3	Chloromethane	4.6	U
75-01-4	Vinyl Chloride	4.6	U
74-83-9	Bromomethane	4.6	U
75-00-3	Chloroethane	4.6	U
75-69-4	Trichlorofluoromethane	4.6	U
75-35-4	1,1-Dichloroethene	4.6	U
75-15-0	Carbon disulfide	4.6	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	4.6	U
67-64-1	Acetone	11	U
75-09-2	Methylene Chloride	4.6	U
156-60-5	trans-1,2-Dichloroethene	4.6	U
1634-04-4	Methyl-tert-butyl ether	4.6	U
75-34-3	1,1-Dichloroethane	4.6	U
156-59-2	cis-1,2-Dichloroethene	4.6	U
78-93-3	2-butanone	11	U
67-66-3	Chloroform	4.6	U
71-55-6	1,1,1-Trichloroethane	4.6	U
56-23-5	Carbon Tetrachloride	4.6	U
71-43-2	Benzene	4.6	U
107-06-2	1,2-Dichloroethane	4.6	U
79-01-6	Trichloroethene	4.6	U
78-87-5	1,2-Dichloropropane	4.6	U
75-27-4	Bromodichloromethane	4.6	U
10061-01-5	cis-1,3-Dichloropropene	4.6	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	4.6	U
10061-02-6	trans-1,3-Dichloropropene	4.6	U
79-00-5	1,1,2-Trichloroethane	4.6	U
127-18-4	Tetrachloroethene	4.6	U
591-78-6	2-hexanone	11	U
124-48-1	Dibromochloromethane	4.6	U
106-93-4	1,2-Dibromoethane	4.6	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-11 4.0-4.5

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327502

Sample wt/vol: 6.72(g/mL) G Lab File ID: 327502A59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 19 Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-90-7	Chlorobenzene	4.6	U
100-41-4	Ethylbenzene	4.6	U
100-42-5	Styrene	4.6	U
75-25-2	Bromoform	4.6	U
98-82-8	Isopropyl Benzene	4.6	U
79-34-5	1,1,2,2-Tetrachloroethane	4.6	U
541-73-1	1,3-Dichlorobenzene	4.6	U
106-46-7	1,4-Dichlorobenzene	4.6	U
95-50-1	1,2-Dichlorobenzene	4.6	U
96-12-8	1,2-Dibromo-3-Chloropropane	4.6	U
120-82-1	1,2,4-Trichlorobenzene	4.6	U
1330-20-7	Xylene (total)	14	U
79-20-9	Methyl acetate	4.6	U
110-82-7	Cyclohexane	4.6	U
108-87-2	Methylcyclohexane	4.6	U

FORM 1

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SB-11 4.0-4.5

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327502

Sample wt/vol: 6.72 (g/mL) G Lab File ID: 327502A59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 19 Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 8

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		LABORATORY ARTIFACT	9.85	20	J
2.		SUBSTITUTED BENZENE	12.48	47	J
3.	611-14-3	BENZENE, 1-ETHYL-2-METHYL-	12.56	510	NJ
4.		SUBSTITUTED BENZENE	12.64	200	J
5.		SUBSTITUTED BENZENE	12.85	75	J
6.	526-73-8	BENZENE, 1,2,3-TRIMETHYL-	13.01	870	NJ
7.		SUBSTITUTED BENZENE	13.40	110	J
8.		UNKNOWN	15.40	46	J
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.
SB-11 4.0-4.5RE

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327502

Sample wt/vol: 6.24(g/mL) G Lab File ID: 327502R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 19 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	4.9	U
74-87-3	Chloromethane	4.9	U
75-01-4	Vinyl Chloride	4.9	U
74-83-9	Bromomethane	4.9	U
75-00-3	Chloroethane	4.9	U
75-69-4	Trichlorofluoromethane	4.9	U
75-35-4	1,1-Dichloroethene	4.9	U
75-15-0	Carbon disulfide	4.9	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	4.9	U
67-64-1	Acetone	33	
75-09-2	Methylene Chloride	1.1	J
156-60-5	trans-1,2-Dichloroethene	4.9	U
1634-04-4	Methyl-tert-butyl ether	4.9	U
75-34-3	1,1-Dichloroethane	4.9	U
156-59-2	cis-1,2-Dichloroethene	4.9	U
78-93-3	2-butanone	12	U
67-66-3	Chloroform	4.9	U
71-55-6	1,1,1-Trichloroethane	4.9	U
56-23-5	Carbon Tetrachloride	4.9	U
71-43-2	Benzene	4.9	U
107-06-2	1,2-Dichloroethane	4.9	U
79-01-6	Trichloroethene	4.9	U
78-87-5	1,2-Dichloropropane	4.9	U
75-27-4	Bromodichloromethane	4.9	U
10061-01-5	cis-1,3-Dichloropropene	4.9	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	2.8	J
10061-02-6	trans-1,3-Dichloropropene	4.9	U
79-00-5	1,1,2-Trichloroethane	4.9	U
127-18-4	Tetrachloroethene	4.9	U
591-78-6	2-hexanone	12	U
124-48-1	Dibromochloromethane	4.9	U
106-93-4	1,2-Dibromoethane	4.9	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-11 4.0-4.5RE

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327502

Sample wt/vol: 6.24(g/mL) G Lab File ID: 327502R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 19 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-90-7	Chlorobenzene	4.9	U
100-41-4	Ethylbenzene	4.9	U
100-42-5	Styrene	4.9	U
75-25-2	Bromoform	4.9	U
98-82-8	Isopropyl Benzene	13	
79-34-5	1,1,2,2-Tetrachloroethane	4.9	U
541-73-1	1,3-Dichlorobenzene	4.9	U
106-46-7	1,4-Dichlorobenzene	4.9	U
95-50-1	1,2-Dichlorobenzene	4.9	U
96-12-8	1,2-Dibromo-3-Chloropropane	4.9	U
120-82-1	1,2,4-Trichlorobenzene	4.9	U
1330-20-7	Xylene (total)	16	
79-20-9	Methyl acetate	4.9	U
110-82-7	Cyclohexane	4.9	U
108-87-2	Methylcyclohexane	4.9	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SB-11 4.0-4.5RE

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327502

Sample wt/vol: 6.24 (g/mL) G Lab File ID: 327502R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 19 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 10 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		SUBSTITUTED BENZENE	12.47	45	J
2.	620-14-4	BENZENE, 1-ETHYL-3-METHYL-	12.55	300	NJ
3.	108-67-8	BENZENE, 1,3,5-TRIMETHYL-	12.63	130	NJ
4.	611-14-3	BENZENE, 1-ETHYL-2-METHYL-	12.84	71	NJ
5.	526-73-8	BENZENE, 1,2,3-TRIMETHYL-	13.00	430	NJ
6.	526-73-8	BENZENE, 1,2,3-TRIMETHYL-	13.41	100	NJ
7.	1074-43-7	BENZENE, 1-METHYL-3-PROPYL-	13.55	12	NJ
8.		SUBSTITUTED BENZENE	13.60	31	J
9.	933-98-2	BENZENE, 1-ETHYL-2,3-DIMETHY	13.94	9.8	NJ
10.		BRANCHED ALKANE	15.18	12	J
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-90

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327503

Sample wt/vol: 6.87(g/mL) G Lab File ID: 327503R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 20 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	4.5	U
74-87-3	Chloromethane	4.5	U
75-01-4	Vinyl Chloride	4.5	U
74-83-9	Bromomethane	4.5	U
75-00-3	Chloroethane	4.5	U
75-69-4	Trichlorofluoromethane	4.5	U
75-35-4	1,1-Dichloroethene	4.5	U
75-15-0	Carbon disulfide	4.5	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	4.5	U
67-64-1	Acetone	35	
75-09-2	Methylene Chloride	4.5	U
156-60-5	trans-1,2-Dichloroethene	4.5	U
1634-04-4	Methyl-tert-butyl ether	4.5	U
75-34-3	1,1-Dichloroethane	4.5	U
156-59-2	cis-1,2-Dichloroethene	4.5	U
78-93-3	2-butanone	11	U
67-66-3	Chloroform	4.5	U
71-55-6	1,1,1-Trichloroethane	4.5	U
56-23-5	Carbon Tetrachloride	4.5	U
71-43-2	Benzene	4.5	U
107-06-2	1,2-Dichloroethane	4.5	U
79-01-6	Trichloroethene	4.5	U
78-87-5	1,2-Dichloropropane	4.5	U
75-27-4	Bromodichloromethane	4.5	U
10061-01-5	cis-1,3-Dichloropropene	4.5	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	0.62	J
10061-02-6	trans-1,3-Dichloropropene	4.5	U
79-00-5	1,1,2-Trichloroethane	4.5	U
127-18-4	Tetrachloroethene	4.5	U
591-78-6	2-hexanone	11	U
124-48-1	Dibromochloromethane	4.5	U
106-93-4	1,2-Dibromoethane	4.5	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-90

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327503

Sample wt/vol: 6.87(g/mL) G Lab File ID: 327503R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 20 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-90-7	Chlorobenzene	4.5	U
100-41-4	Ethylbenzene	4.5	U
100-42-5	Styrene	4.5	U
75-25-2	Bromoform	4.5	U
98-82-8	Isopropyl Benzene	2.5	J
79-34-5	1,1,2,2-Tetrachloroethane	4.5	U
541-73-1	1,3-Dichlorobenzene	4.5	U
106-46-7	1,4-Dichlorobenzene	4.5	U
95-50-1	1,2-Dichlorobenzene	4.5	U
96-12-8	1,2-Dibromo-3-Chloropropane	4.5	U
120-82-1	1,2,4-Trichlorobenzene	4.5	U
1330-20-7	Xylene (total)	3.3	J
79-20-9	Methyl acetate	4.5	U
110-82-7	Cyclohexane	4.5	U
108-87-2	Methylcyclohexane	4.5	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SB-90

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327503

Sample wt/vol: 6.87 (g/mL) G Lab File ID: 327503R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 20 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		SUBSTITUTED BENZENE	12.48	7.3	J
2.	622-96-8	BENZENE, 1-ETHYL-4-METHYL-	12.55	54	NJ
3.	95-63-6	BENZENE, 1,2,4-TRIMETHYL-	12.63	23	NJ
4.	611-14-3	BENZENE, 1-ETHYL-2-METHYL-	12.84	12	NJ
5.	526-73-8	BENZENE, 1,2,3-TRIMETHYL-	13.00	81	NJ
6.		SUBSTITUTED BENZENE	13.60	4.8	J
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SF-1 0.8-1.2

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327504

Sample wt/vol: 5.91(g/mL) G Lab File ID: 327504R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 15 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl Chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	UJ
75-15-0	Carbon disulfide	5.0	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	5.0	U
67-64-1	Acetone	210	J
75-09-2	Methylene Chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl-tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-butanone	26	J
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
56-23-5	Carbon Tetrachloride	5.0	U
71-43-2	Benzene	5.0	UJ
107-06-2	1,2-Dichloroethane	5.0	U
79-01-6	Trichloroethene	5.0	UJ
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	2:0	J
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-hexanone	12	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SF-1 0.8-1.2

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327504

Sample wt/vol: 5.91(g/mL) G Lab File ID: 327504R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 15 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-90-7	Chlorobenzene	5.0	U J
100-41-4	Ethylbenzene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropyl Benzene	6.6	U J
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-Chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
1330-20-7	Xylene (total)	11	J
79-20-9	Methyl acetate	5.0	U
110-82-7	Cyclohexane	5.0	U
108-87-2	Methylcyclohexane	12	U J

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SF-1 0.8-1.2

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327504

Sample wt/vol: 5.91 (g/mL) G Lab File ID: 327504R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 15 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 10 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	611-14-3	BENZENE, 1-ETHYL-2-METHYL-	12.55	300	NJ
2.	526-73-8	BENZENE, 1,2,3-TRIMETHYL-	12.63	200	NJ
3.	17302-28-2	NONANE, 2,6-DIMETHYL-	12.82	230	NJ
4.	526-73-8	BENZENE, 1,2,3-TRIMETHYL-	13.00	320	NJ
5.		CYCLIC ALKANE	13.20	300	J
6.		UNKNOWN	13.48	260	J
7.	493-02-7	NAPHTHALENE, DECAHYDRO-, TRA	13.68	320	NJ
8.		BRANCHED ALKANE	14.18	220	J
9.		BRANCHED ALKANE	14.66	280	J
10.		CYCLIC ALKANE	15.16	310	J
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FORM I VOA-TIC

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-10 3.5-4.0

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327501

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327501JA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 37 decanted: (Y/N) N Date Extracted:06/12/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-52-7	Benzaldehyde	520	U
108-95-2	Phenol	520	U
111-44-4	Bis(2-chloroethyl)ether	520	U
95-57-8	2-Chlorophenol	520	U
95-48-7	2-Methylphenol	520	U
108-60-1	2,2'-oxybis(1-Chloropropane)	520	U
98-86-2	Acetophenone	520	U
106-44-5	4-Methylphenol	520	U
621-64-7	N-Nitroso-di-N-propylamine	520	U
67-72-1	Hexachloroethane	520	U
98-95-3	Nitrobenzene	520	U
78-59-1	Isophorone	520	U
88-75-5	2-Nitrophenol	520	U
105-67-9	2,4-Dimethylphenol	520	U
111-91-1	Bis(2-chloroethoxy)methane	520	U
120-83-2	2,4-Dichlorophenol	520	U
91-20-3	Naphthalene	520	U
106-47-8	4-Chloroaniline	520	U
87-68-3	Hexachlorobutadiene	520	U
105-60-2	Caprolactam	520	U
59-50-7	4-Chloro-3-methylphenol	520	U
91-57-6	2-Methylnaphthalene	520	U
77-47-4	Hexachlorocyclopentadiene	520	U
88-06-2	2,4,6-Trichlorophenol	520	U
95-95-4	2,4,5-Trichlorophenol	520	U
92-52-4	1,1'-Biphenyl	520	U
91-58-7	2-Chloronaphthalene	520	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	520	U
606-20-2	2,6-Dinitrotoluene	520	U
208-96-8	Acenaphthylene	520	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	520	U

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-10 3.5-4.0

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327501

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327501JA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 37 decanted: (Y/N) N Date Extracted: 06/12/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
121-14-2	2,4-Dinitrotoluene	520	U
132-64-9	Dibenzofuran	520	U
84-66-2	Diethylphthalate	520	U
7005-72-3	4-Chlorophenyl-phenylether	520	U
86-73-7	Fluorene	520	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	N-Nitrosodiphenylamine (1)	520	U
101-55-3	4-Bromophenyl-phenylether	520	U
118-74-1	Hexachlorobenzene	520	U
1912-24-9	Atrazine	520	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	520	U
120-12-7	Anthracene	520	U
86-74-8	Carbazole	520	U
84-74-2	Di-n-butylphthalate	520	U
206-44-0	Fluoranthene	520	U
129-00-0	Pyrene	520	U
85-68-7	Butylbenzylphthalate	520	U
91-94-1	3,3'-Dichlorobenzidine	520	U
117-81-7	bis(2-ethylhexyl)Phthalate	520 ~~110~~ JB	U
56-55-3	Benzo(a)anthracene	520	U
218-01-9	Chrysene	520	U
117-84-0	Di-n-octylphthalate	120	J
205-99-2	Benzo(b)fluoranthene	520	U
207-08-9	Benzo(k)fluoranthene	520	U
50-32-8	Benzo(a)pyrene	520	U
193-39-5	Indeno(1,2,3-cd)pyrene	520	U
53-70-3	Dibenzo(a,h)anthracene	520	U
191-24-2	Benzo(g,h,i)perylene	520	U

(1) - Cannot be separated from Diphenylamine

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SB-10 3.5-4.0

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327501

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327501JA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 37 decanted: (Y/N) N Date Extracted:06/12/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.64	950	JB
2.		UNKNOWN	6.36	550	JB
3.	10544-50-0	SULFUR, MOL. (S8)	14.20	220	NJ
4.		UNKNOWN	19.70	310	J
5.		UNKNOWN	19.75	390	J
6.		UNKNOWN	19.83	270	J
7.		UNKNOWN	19.89	230	J
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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-10 3.5-4.0RE

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327501

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327501RA66

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 37 decanted: (Y/N) N Date Extracted: 06/18/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/19/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-52-7	Benzaldehyde	520	U
108-95-2	Phenol	520	U
111-44-4	Bis(2-chloroethyl)ether	520	U
95-57-8	2-Chlorophenol	520	U
95-48-7	2-Methylphenol	520	U
108-60-1	2,2'-oxybis(1-Chloropropane)	520	U
98-86-2	Acetophenone	520	U
106-44-5	4-Methylphenol	520	U
621-64-7	N-Nitroso-di-N-propylamine	520	U
67-72-1	Hexachloroethane	520	U
98-95-3	Nitrobenzene	520	U
78-59-1	Isophorone	520	U
88-75-5	2-Nitrophenol	520	U
105-67-9	2,4-Dimethylphenol	520	U
111-91-1	Bis(2-chloroethoxy)methane	520	U
120-83-2	2,4-Dichlorophenol	520	U
91-20-3	Naphthalene	520	U
106-47-8	4-Chloroaniline	520	U
87-68-3	Hexachlorobutadiene	520	U
105-60-2	Caprolactam	520	U
59-50-7	4-Chloro-3-methylphenol	520	U
91-57-6	2-Methylnaphthalene	520	U
77-47-4	Hexachlorocyclopentadiene	520	U
88-06-2	2,4,6-Trichlorophenol	520	U
95-95-4	2,4,5-Trichlorophenol	520	U
92-52-4	1,1'-Biphenyl	520	U
91-58-7	2-Chloronaphthalene	520	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	520	U
606-20-2	2,6-Dinitrotoluene	520	U
208-96-8	Acenaphthylene	520	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	520	U

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-10 3.5-4.0RE

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327501

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327501RA66

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 37 decanted: (Y/N) N Date Extracted: 06/18/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/19/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
121-14-2	2,4-Dinitrotoluene	520	U
132-64-9	Dibenzofuran	520	U
84-66-2	Diethylphthalate	520	U
7005-72-3	4-Chlorophenyl-phenylether	520	U
86-73-7	Fluorene	520	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	N-Nitrosodiphenylamine (1)	520	U
101-55-3	4-Bromophenyl-phenylether	520	U
118-74-1	Hexachlorobenzene	520	U
1912-24-9	Atrazine	520	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	520	U
120-12-7	Anthracene	520	U
86-74-8	Carbazole	520	U
84-74-2	Di-n-butylphthalate	520	U
206-44-0	Fluoranthene	520	U
129-00-0	Pyrene	520	U
85-68-7	Butylbenzylphthalate	520	U
91-94-1	3,3'-Dichlorobenzidine	520	U
117-81-7	bis(2-ethylhexyl)Phthalate	520	U
56-55-3	Benzo(a)anthracene	520	U
218-01-9	Chrysene	520	U
117-84-0	Di-n-octylphthalate	520	U
205-99-2	Benzo(b)fluoranthene	520	U
207-08-9	Benzo(k)fluoranthene	520	U
50-32-8	Benzo(a)pyrene	520	U
193-39-5	Indeno(1,2,3-cd)pyrene	520	U
53-70-3	Dibenzo(a,h)anthracene	520	U
191-24-2	Benzo(g,h,i)perylene	520	U

(1) - Cannot be separated from Diphenylamine

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.
SB-10 3.5-4.0RE

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327501

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327501RA66

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 37 decanted: (Y/N) N Date Extracted: 06/18/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/19/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	6.56	500	JB
2.		BRANCHED ALKANE	16.41	220	J
3.		BRANCHED ALKANE	17.47	260	J
4.	10544-50-0	SULFUR, MOL. (S8)	19.98	440	NJ
5.		UNKNOWN	23.32	220	J
6.		UNKNOWN	25.69	210	J
7.		UNKNOWN	28.42	250	J
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FORM I SV-TIC

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-11 4.0-4.5

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327502

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327502JA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 19 decanted: (Y/N) N Date Extracted: 06/12/04

Concentrated Extract Volume: 1500(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-52-7	Benzaldehyde	610	U
108-95-2	Phenol	610	U
111-44-4	Bis(2-chloroethyl)ether	610	U
95-57-8	2-Chlorophenol	610	U
95-48-7	2-Methylphenol	610	U
108-60-1	2,2'-oxybis(1-Chloropropane)	610	U
98-86-2	Acetophenone	610	U
106-44-5	4-Methylphenol	610	U
621-64-7	N-Nitroso-di-N-propylamine	610	U
67-72-1	Hexachloroethane	610	U
98-95-3	Nitrobenzene	610	U
78-59-1	Isophorone	610	U
88-75-5	2-Nitrophenol	610	U
105-67-9	2,4-Dimethylphenol	610	U
111-91-1	Bis(2-chloroethoxy)methane	610	U
120-83-2	2,4-Dichlorophenol	610	U
91-20-3	Naphthalene	610	U
106-47-8	4-Chloroaniline	610	U
87-68-3	Hexachlorobutadiene	610	U
105-60-2	Caprolactam	610	U
59-50-7	4-Chloro-3-methylphenol	610	U
91-57-6	2-Methylnaphthalene	49	J
77-47-4	Hexachlorocyclopentadiene	610	U
88-06-2	2,4,6-Trichlorophenol	610	U
95-95-4	2,4,5-Trichlorophenol	610	U
92-52-4	1,1'-Biphenyl	610	U
91-58-7	2-Chloronaphthalene	610	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	610	U
606-20-2	2,6-Dinitrotoluene	610	U
208-96-8	Acenaphthylene	610	U
99-09-2	3-Nitroaniline	1200	U
83-32-9	Acenaphthene	610	U

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-11 4.0-4.5

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327502

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327502JA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 19 decanted: (Y/N) N Date Extracted: 06/12/04

Concentrated Extract Volume: 1500(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	610	U
132-64-9	Dibenzofuran	610	U
84-66-2	Diethylphthalate	610	U
7005-72-3	4-Chlorophenyl-phenylether	610	U
86-73-7	Fluorene	290	J
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	N-Nitrosodiphenylamine (1)	610	U
101-55-3	4-Bromophenyl-phenylether	610	U
118-74-1	Hexachlorobenzene	610	U
1912-24-9	Atrazine	83	J
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1100	
120-12-7	Anthracene	610	U
86-74-8	Carbazole	610	U
84-74-2	Di-n-butylphthalate	610	U
206-44-0	Fluoranthene	48	J
129-00-0	Pyrene	240	J
85-68-7	Butylbenzylphthalate	610	U
91-94-1	3,3'-Dichlorobenzidine	610	U
117-81-7	bis(2-ethylhexyl)Phthalate	610 ~~68~~	~~JB~~ U
56-55-3	Benzo(a)anthracene	610	U
218-01-9	Chrysene	230	J
117-84-0	Di-n-octylphthalate	610	U
205-99-2	Benzo(b)fluoranthene	610	U
207-08-9	Benzo(k)fluoranthene	610	U
50-32-8	Benzo(a)pyrene	91	J
193-39-5	Indeno(1,2,3-cd)pyrene	610	U
53-70-3	Dibenzo(a,h)anthracene	610	U
191-24-2	Benzo(g,h,i)perylene	610	U

(1) - Cannot be separated from Diphenylamine

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SB-11 4.0-4.5

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327502

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327502JA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 19 decanted: (Y/N) N Date Extracted: 06/12/04

Concentrated Extract Volume: 1500(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN ALKANE	10.52	5100	J
2.		BRANCHED ALKANE	10.85	4700	J
3.		UNKNOWN	11.08	3200	J
4.		UNKNOWN CYCLOALKANE	11.25	2200	J
5.		BRANCHED ALKANE	11.53	6600	J
6.		UNKNOWN	11.88	2200	J
7.		UNKNOWN	12.20	3700	J
8.	7372-88-5	DIBENZOTHIOPHENE, 4-METHYL-	12.39	2400	NJ
9.	613-12-7	ANTHRACENE, 2-METHYL-	12.65	3300	NJ
10.		UNKNOWN	13.76	2400	J
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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-90

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327503

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327503JA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 20 decanted: (Y/N) N Date Extracted:06/12/04

Concentrated Extract Volume: 2500(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-52-7	Benzaldehyde	1000	U
108-95-2	Phenol	1000	U
111-44-4	Bis(2-chloroethyl)ether	1000	U
95-57-8	2-Chlorophenol	1000	U
95-48-7	2-Methylphenol	1000	U
108-60-1	2,2'-oxybis(1-Chloropropane)	1000	U
98-86-2	Acetophenone	1000	U
106-44-5	4-Methylphenol	1000	U
621-64-7	N-Nitroso-di-N-propylamine	1000	U
67-72-1	Hexachloroethane	1000	U
98-95-3	Nitrobenzene	1000	U
78-59-1	Isophorone	1000	U
88-75-5	2-Nitrophenol	1000	U
105-67-9	2,4-Dimethylphenol	1000	U
111-91-1	Bis(2-chloroethoxy)methane	1000	U
120-83-2	2,4-Dichlorophenol	1000	U
91-20-3	Naphthalene	1000	U
106-47-8	4-Chloroaniline	1000	U
87-68-3	Hexachlorobutadiene	1000	U
105-60-2	Caprolactam	1000	U
59-50-7	4-Chloro-3-methylphenol	1000	U
91-57-6	2-Methylnaphthalene	83	J
77-47-4	Hexachlorocyclopentadiene	1000	U
88-06-2	2,4,6-Trichlorophenol	1000	U
95-95-4	2,4,5-Trichlorophenol	1000	U
92-52-4	1,1'-Biphenyl	1000	U
91-58-7	2-Chloronaphthalene	1000	U
88-74-4	2-Nitroaniline	2100	U
131-11-3	Dimethylphthalate	1000	U
606-20-2	2,6-Dinitrotoluene	1000	U
208-96-8	Acenaphthylene	1000	U
99-09-2	3-Nitroaniline	2100	U
83-32-9	Acenaphthene	1000	U

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-90

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327503

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327503JA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 20 decanted: (Y/N) N Date Extracted: 06/12/04

Concentrated Extract Volume: 2500(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	2100	U
100-02-7	4-Nitrophenol	2100	U
121-14-2	2,4-Dinitrotoluene	1000	U
132-64-9	Dibenzofuran	1000	U
84-66-2	Diethylphthalate	1000	U
7005-72-3	4-Chlorophenyl-phenylether	1000	U
86-73-7	Fluorene	500	J
100-01-6	4-Nitroaniline	2100	U
534-52-1	4,6-Dinitro-2-methylphenol	2100	U
86-30-6	N-Nitrosodiphenylamine (1)	970	J
101-55-3	4-Bromophenyl-phenylether	1000	U
118-74-1	Hexachlorobenzene	1000	U
1912-24-9	Atrazine	1000	U
87-86-5	Pentachlorophenol	2100	U
85-01-8	Phenanthrene	1900	
120-12-7	Anthracene	1000	U
86-74-8	Carbazole	1000	U
84-74-2	Di-n-butylphthalate	1000	U
206-44-0	Fluoranthene	100	J
129-00-0	Pyrene	310	J
85-68-7	Butylbenzylphthalate	1000	U
91-94-1	3,3'-Dichlorobenzidine	1000	U
117-81-7	bis(2-ethylhexyl)Phthalate	1000	U
56-55-3	Benzo(a)anthracene	120	J
218-01-9	Chrysene	330	J
117-84-0	Di-n-octylphthalate	1000	U
205-99-2	Benzo(b)fluoranthene	1000	U
207-08-9	Benzo(k)fluoranthene	1000	U
50-32-8	Benzo(a)pyrene	1000	U
193-39-5	Indeno(1,2,3-cd)pyrene	1000	U
53-70-3	Dibenzo(a,h)anthracene	1000	U
191-24-2	Benzo(g,h,i)perylene	1000	U

(1) - Cannot be separated from Diphenylamine

A 2nd pls 6/24/04

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SB-90

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327503

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327503JA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 20 decanted: (Y/N) N Date Extracted: 06/12/04

Concentrated Extract Volume: 2500(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	10.00	3500	J
2.	2131-42-2	NAPHTHALENE, 1,4,6-TRIMETHYL	10.02	3400	NJ
3.		BRANCHED ALKANE	10.84	7500	J
4.		UNKNOWN	11.08	5400	J
5.		STRAIGHT-CHAIN ALKANE	11.53	10000	J
6.	16587-52-3	DIBENZOTHIOPHENE, 3-METHYL-	12.20	5900	NJ
7.		UNKNOWN	12.38	3400	J
8.	613-12-7	ANTHRACENE, 2-METHYL-	12.63	5100	NJ
9.		UNKNOWN	13.75	3400	J
10.		STRAIGHT-CHAIN ALKANE	14.17	3800	J
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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SF-1 0.8-1.2

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327504

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327504DA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 15 decanted: (Y/N) N Date Extracted: 06/12/04

Concentrated Extract Volume: 5000(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 3.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-52-7	Benzaldehyde	5800	U
108-95-2	Phenol	5800	U
111-44-4	Bis(2-chloroethyl)ether	5800	U
95-57-8	2-Chlorophenol	5800	U
95-48-7	2-Methylphenol	5800	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5800	U
98-86-2	Acetophenone	5800	U
106-44-5	4-Methylphenol	5800	U
621-64-7	N-Nitroso-di-N-propylamine	5800	U
67-72-1	Hexachloroethane	5800	U
98-95-3	Nitrobenzene	5800	U
78-59-1	Isophorone	5800	U
88-75-5	2-Nitrophenol	5800	U
105-67-9	2,4-Dimethylphenol	5800	U
111-91-1	Bis(2-chloroethoxy)methane	5800	U
120-83-2	2,4-Dichlorophenol	5800	U
91-20-3	Naphthalene	5800	U
106-47-8	4-Chloroaniline	5800	U
87-68-3	Hexachlorobutadiene	5800	U
105-60-2	Caprolactam	2600	J
59-50-7	4-Chloro-3-methylphenol	5800	U
91-57-6	2-Methylnaphthalene	5800	U
77-47-4	Hexachlorocyclopentadiene	5800	U
88-06-2	2,4,6-Trichlorophenol	5800	U
95-95-4	2,4,5-Trichlorophenol	5800	U
92-52-4	1,1'-Biphenyl	5800	U
91-58-7	2-Chloronaphthalene	5800	U
88-74-4	2-Nitroaniline	12000	U
131-11-3	Dimethylphthalate	5800	U
606-20-2	2,6-Dinitrotoluene	5800	U
208-96-8	Acenaphthylene	5800	U
99-09-2	3-Nitroaniline	12000	U
83-32-9	Acenaphthene	5800	U

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SF-1 0.8-1.2

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327504

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327504DA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 15 decanted: (Y/N) N Date Extracted: 06/12/04

Concentrated Extract Volume: 5000(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 3.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	12000	U
100-02-7	4-Nitrophenol	12000	U
121-14-2	2,4-Dinitrotoluene	5800	U
132-64-9	Dibenzofuran	5800	U
84-66-2	Diethylphthalate	5800	U
7005-72-3	4-Chlorophenyl-phenylether	5800	U
86-73-7	Fluorene	5800	U
100-01-6	4-Nitroaniline	12000	U
534-52-1	4,6-Dinitro-2-methylphenol	12000	U
86-30-6	N-Nitrosodiphenylamine (1)	1200	J
101-55-3	4-Bromophenyl-phenylether	5800	U
118-74-1	Hexachlorobenzene	5800	U
1912-24-9	Atrazine	5800	U
87-86-5	Pentachlorophenol	12000	U
85-01-8	Phenanthrene	5800	U
120-12-7	Anthracene	5800	U
86-74-8	Carbazole	5800	U
84-74-2	Di-n-butylphthalate	5800	U
206-44-0	Fluoranthene	5800	U
129-00-0	Pyrene	840	J
85-68-7	Butylbenzylphthalate	5800	U
91-94-1	3,3'-Dichlorobenzidine	5800	U
117-81-7	bis(2-ethylhexyl)Phthalate	5800	U
56-55-3	Benzo(a)anthracene	5800	U
218-01-9	Chrysene	1500	J
117-84-0	Di-n-octylphthalate	5800	U
205-99-2	Benzo(b)fluoranthene	5800	U
207-08-9	Benzo(k)fluoranthene	5800	U
50-32-8	Benzo(a)pyrene	5800	U
193-39-5	Indeno(1,2,3-cd)pyrene	5800	U
53-70-3	Dibenzo(a,h)anthracene	5800	U
191-24-2	Benzo(g,h,i)perylene	5800	U

(1) - Cannot be separated from Diphenylamine

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SF-1 0.8-1.2

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327504

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327504DA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 15 decanted: (Y/N) N Date Extracted:06/12/04

Concentrated Extract Volume: 5000(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 3.0

GPC Cleanup: (Y/N) N pH: ___

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		STRAIGHT-CHAIN ALKANE	9.48	8300	J
2.		UNKNOWN ALKANE	10.06	8300	J
3.		UNKNOWN	10.30	11000	J
4.		BRANCHED ALKANE	10.83	21000	J
5.		UNKNOWN	11.06	9100	J
6.		STRAIGHT-CHAIN ALKANE	11.50	21000	J
7.		UNKNOWN	11.85	9900	J
8.	16587-34-1	NAPHTHO[2,3-B]THIOPHENE, 4,9	13.70	10000	NJ
9.		UNKNOWN ALKANE	14.13	8300	J
10.		UNKNOWN	21.94	9800	J
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
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25.					
26.					
27.					
28.					
29.					
30.					

CompuChem
a division of Liberty Analytical Corp.

28-Jun-04

DAN PETERMAN
BLASLAND, BOUCK & LEE, INC.
3700 REGENCY PARKWAY
SUITE 140
Cary, NC 27511

Subject:
Report of Data-Project: SUTTON STEAM Workorder: 3275

Attn.: DAN PETERMAN

Enclosed are the results of analytical work performed in accordance with the referenced account number.

This report covers sample(s) appearing on the attached listing.

Thank you for selecting CompuChem for your sample analysis. If you should have questions or require additional analytical services, please contact your representative at 1-800-833-5097.

Sincerely,

Marlene J. Sanfa

CompuChem
A Division of Liberty Analytical

Attachment

TOTAL NUMBER
OF PAGES 17

501 Madison Avenue, Cary, NC 27513 Tel: 919-379-4100 Fax: 919-379-4050

CompuChem, a division of Liberty Analytical

Hsn	Client ID	Wordorder	Matrix	Account	Project	Report
327501	SB-10 3.5-4.0	3275	S	BB&L	SUTTON STEAM	
327502	SB-11 4.0-4.5	3275	S	BB&L	SUTTON STEAM	
327503	SB-90	3275	S	BB&L	SUTTON STEAM	
327504	SF-1 0.8-1.2	3275	S	BB&L	SUTTON STEAM	

SW846 METALS

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

SOW No.: SW846

EPA Sample No.	Lab Sample ID.
SB-10 3.5-4.0	327501
SB-11 4.0-4.5	327502
SB-90	327503
SF-1 0.8-1.2	327504

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Mary K Powell Name: Mary K. Powell

Date: June 25, 2004 Title: Data Reviewer II

CompuChem
A Division of Liberty Analytical Corp.
501 Madison Avenue Cary, NC 27513

INORGANIC CASE SUMMARY NARRATIVE
SDG # 3275
PROTOCOL #SW-846

The indicated Sample Delivery Group (SDG) consisting of four (4) soil samples was received into the laboratory management system (LIMS) on June 10, 2004 intact and in good condition with Chain of Custody in order. Sample ID's reported in this data package are noted by the receiving department on the COC if they differ from those listed by the samplers on the COC.

The samples were analyzed for the metallic TAL list using analytical methods delineated in SW-846 (Update III).

SAMPLE IDs:

The cover page contained in this package lists the client ID's and the associated CompuChem numbers which are part of this SDG.

INSTRUMENTAL QUALITY CONTROL:

All calibration verification solutions (ICV, CCV), blanks (ICB, CCB) and interference check samples (ICSA & ICSAB) associated with this data were confirmed to be within SW-846 allowable limits.

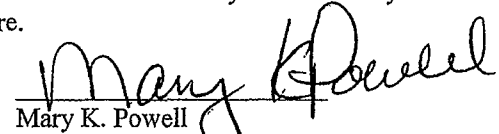
SAMPLE PREPARATION QUALITY CONTROL:

The sample preparation procedure verifications (LCSS & PBS) were found to be within acceptable ranges. All field samples were prepared and analyzed within the contract specified holding times.

MATRIX RELATED QUALITY CONTROL:

The sample matrix quality control was not reported. An LCS was performed.

Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.



Mary K. Powell
Data Reviewer II
June 25, 2004

Note: This report is paginated for reference and accountability.

CompuChem
a Division of Liberty Analytical Corp.
501 Madison Avenue Cary, NC 27513

DATA REPORTING QUALIFIERS FOR INORGANICS

On Form I, under the column labeled "C" for concentration qualifier and "Q" for qualifier, each result is flagged with the specific data reporting qualifiers listed below, as appropriate. Up to five qualifiers may be reported on Form I for each analyte.

The C (concentration) qualifiers used are:

U: This flag indicates the analyte was analyzed for but not detected. This reported value was obtained from a reading that was less than the Instrument Detection Limit (IDL). The IDL will be adjusted to reflect any dilution and, for soils, the percent moisture.

B: This flag indicates the analyte was analyzed for and the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).

The Q qualifiers used are:

E: This flag indicates an estimated value. This flag is used:

1. When the serial dilution (a five fold dilution for CLP and a five fold dilution for SW-846 method 6010B) results are not within 10%. The analyte concentration must be sufficiently high (minimally a factor of 50X above the IDL in the original sample).

N: This flag indicates the sample spike recovery is outside of control limits:

***:** This flag is used for duplicate analysis when the sample and the sample duplicate results are not within control limits.

The extensions: D, S, SD, L. A, added to the end of the client ID represent as follows:

D:	matrix duplicate
S:	matrix spike
SD:	matrix spike duplicate
L:	serial dilution
A:	post digestion spike

Method Codes:

P:	ICP PLASMA
CV:	MERCURY COLD VAPOR AA
CA:	MIDI-DISTILLATION SPECTROPHOTOMETRIC

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a division of Liberty Analytical Corp.

CHAIN OF CUSTODY

501 Madison Ave.
Cary, NC 27513
Phone: 919-379-4100 Fax 919-379-4040

Page 1 of 1

Courier
Airbill No.
Sampling Complete? Y or N

Company Name: BBL, Inc	Project Name: Sutton Steam Plant - FADA
Address: 3700 Regency Pkwy Suite 140	Sampling Location: Wilmington, NC
City: Cary State: NC Zip: 27511	Turnaround time: Standard
Project Contact: Scott Davies	Batch QC or Project Specific? If Specific, which Sample ID?
Phone #: 919-469-1952 x17	Are aqueous samples field filtered for metals? Y or N
Sampler's Name: Brian Lovgren	Are high concentrations expected? Y or N? If yes, which ID(s)?

GW - Ground water
WW - Waste water
SW - Surface water
SO - Soil/Sediment
TB - Trip Blank
RI - Rinsate
WP - Wipe
O - Other

	Field ID	Collection Date	Collection Time	Matrix	# of bottles	Number of Preserved Bottles: HCl	NaOH	NHO3	H2SO4	MEOH	Other	TCL VOC's (8260) +10 TICs 3-5 days Encore	TCL SVOC's (8270) +10 TICs 8-07 Low Level	HSL Metals (6010) (7470) 40d												
327501	SB-10 (3.5-4.0)	6-9-04	0820	Soil	5						5	3	1	1												
327504	SF-1 (0.8-1.2)	6-9-04	0930	Soil	5						5	3	1	1												
327504	SF-1 (0.8-1.2) MS	6-9-04	0930	Soil	5						5	3	1	1												
327504	SF-1 (0.8-1.2) MSD	6-9-04	0930	Soil	5						5	3	1	1												
327502	SB-11 (4.0-4.5)	6-9-04	1035	Soil	5						5	3	1	1												
327503	SB-90	6-9-04	NIR	Soil	5						5	3	1	1												
327601	EB-060904	6-9-04	0850	Water	6	3		1			2	3	2	1												
327602	TB-060904	6-9-04	NIR	Water	3	3						3														

Sample Unpacked By: Macune Baily
Sample Order Entry By:
Samples Received in Good Condition? (Y) or N
If no, explain:

Cyanide samples checked for sulfide & chlorine? Y or (NA)
625 & Phenol samples checked for chlorine? Y or (NA)
608 samples checked for pH between 5.0-9.0? Y or (NA)

For QC Rec'd 3-80z, 3-40z, 9-40ml
For EB-060904 2-AL 1-80z, 3-40ml
TB Rec'd one of the 40ml with pea size air bubble. LFB 6-10-04

Relinquished by:	Date/Time: 6/10/04 0950	Received by: Macune Baily	Date/Time: 6-10-04 9:50
Relinquished by:	Date/Time:	Received by:	Date/Time:
Subcontact? Y or N If yes, where?	Custody Seal(s) intact? Y or (N)	On Ice? (Y) or N	Cooler Temp: 1.0 °C

Samples stored 60 days after date report mailed at no extra charge.

White & Yellow copy to lab • Pink copy for customer

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WORKORDER SUMMARY REPORT

Workorder: 3275 **Account:** BB&L **Project:** SUTTON STEAM
SDG-Case: 3275 **Status:** **QC Type:** CLIENT SPECIFIC MS/MSD
Report Style: COMPUCHEM STYLE 3 WITH EDD

SAMPLE ID	CLIENT ID	COLLECT DATE	RECEIVE DATE	DUE DATE	COMMENTS
327501	SB-10 3.5-4.0	6/9/2004	6/10/2004	6/23/2004	METALS=SB,AS,BE,CD,CR,CU,PB,HG,NI,SE,AG,TL.ZN
S	DRY WEIGHT	Dry Weight			
S	VS8260LTC4	VOC LL 8260B TCL4 SOIL			
S	SS8270LTC4	SVOC LL 8270C TCL4 SOIL			
S	MS6010VAR	METAL 6010B VARIABLE SOIL			
S	MS7471HG	MERCURY ONLY 7471A SOIL			
327502	SB-11 4.0-4.5	6/9/2004	6/10/2004	6/23/2004	METALS=SB,AS,BE,CD,CR,CU,PB,HG,NI,SE,AG,TL.ZN
S	DRY WEIGHT	Dry Weight			
S	VS8260LTC4	VOC LL 8260B TCL4 SOIL			
S	SS8270LTC4	SVOC LL 8270C TCL4 SOIL			
S	MS6010VAR	METAL 6010B VARIABLE SOIL			
S	MS7471HG	MERCURY ONLY 7471A SOIL			
327503	SB-90	6/9/2004	6/10/2004	6/23/2004	METALS=SB,AS,BE,CD,CR,CU,PB,HG,NI,SE,AG,TL.ZN
S	DRY WEIGHT	Dry Weight			
S	VS8260LTC4	VOC LL 8260B TCL4 SOIL			
S	SS8270LTC4	SVOC LL 8270C TCL4 SOIL			
S	MS6010VAR	METAL 6010B VARIABLE SOIL			
S	MS7471HG	MERCURY ONLY 7471A SOIL			
327504	SP-1 0.8-1.2	6/9/2004	6/10/2004	6/23/2004	USE FOR QC**METALS=SB,AS,BE,CD,CR,CU,PB,HG,NI,SE,AG,TL.ZN
S	DRY WEIGHT	Dry Weight			
S	VS8260LTC4	VOC LL 8260B TCL4 SOIL			
S	SS8270LTC4	SVOC LL 8270C TCL4 SOIL			
S	QCS-8260	QC-8260B VOC SOIL			
S	QCS-8270	QC-8270C SVOC			
S	QCS-6010	QC-6010B METALS SOIL			
S	QCS-7471HG	QC-7471 HG SOIL			
S	MS6010VAR	METAL 6010B VARIABLE SOIL			
S	MS7471HG	MERCURY ONLY 7471A SOIL			

CompuChem

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WORKORDER SUMMARY REPORT

Workorder: 3276 **Account:** BB&L **Project:** SUTTON STEAM
SDG-Case: 3276 **Status:** **QC Type:** CLIENT SPECIFIC MS/MSD
Report Style: COMPUCHEM STYLE 3 WITH EDD

SAMPLE ID	CLIENT ID	COLLECT DATE	RECEIVE DATE	DUE DATE	COMMENTS
327601	EB-060904	6/9/2004	6/10/2004	6/23/2004	EQUIP BLANK FOR WO 3275**METALS=SB,AS,BE,CD,CR,CU,PB,HG,NI,SE,AG,TL.ZN
W	VW82-5TC4	VOC 8260B 5ML TCL4 WATER			
W	SW8270TCL4	SVOC 8270C TCL4 WATER			
W	MW6010VAR	METAL 6010B VARIABLE WATER			
W	MW7470HG	MERCURY ONLY 7470A WATER			
327602	TB-060904	6/9/2004	6/10/2004	6/23/2004	TRIP BLANK FOR WO 3275*
W	VW82-5TC4	VOC 8260B 5ML TCL4 WATER			

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QUALITY ASSURANCE NOTICE

Client BBL, Inc.
Case #
Type of Analysis TCL VOC's, TCL SVOC's, HSL Metals
Receipt Date 6-10-04

For some organic and/or inorganic determinations temperature preservation at 4 degrees Celsius is required for environmental samples during shipment to the laboratory and prior to analysis. A temperature tolerance range is generally allowed. Temperature of a representative sample from the shipping container is taken and recorded by the receiving clerk at the time of sample receipt. This temperature is representative of all samples contained in the cooler. The EPA CLP program requires the laboratory make notification when the temperature exceeds 10 degrees Celsius. The State of North Carolina allows a range of 2-4.4° Celsius. Notification to other clients is either client or project dependent.

Samples that are hand delivered to the laboratory immediately after collection may not meet this criteria. In these cases, the samples shall be considered acceptable if there is evidence that the chilling process has begun, such as arrival on ice.

The temperature of this sample at the time of receipt was determined to be 10°C.

A CompuChem customer service representative contacted the client. The client instructed the Receiving department to:

Hand Delivery/Received on ice ✓
Analyze - qualify with notice ✓
Dispose - client will resample

Supervisor Signature/ID _____/_____ Date _____

QAN-R-3
020205

qanr3 – 2/5/02:dcc

SW846 METALS

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SB-10 3.5-4.0

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix (soil/water): SOIL Lab Sample ID: 327501

Level (low/med): LOW Date Received: 6/10/04

% Solids: 62.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	0.96	B		P
7440-38-2	Arsenic	13.3			P
7440-41-7	Beryllium	2.7			P
7440-43-9	Cadmium	0.22	B		P
7440-47-3	Chromium	16.7			P
7440-50-8	Copper	38.1			P
7439-92-1	Lead	11.4			P
7439-97-6	Mercury	0.13			CV
7440-02-0	Nickel	21.3			P
7782-49-2	Selenium	2.6			P
7440-22-4	Silver	0.18	B		P
7440-28-0	Thallium	2.0			P
7440-66-6	Zinc	32.1			P

Color Before: BLACK Clarity Before: Texture: COARSE

Color After: YELLOW Clarity After: Artifacts:

Comments:

SW846 METALS
-1-

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
SB-11 4.0-4.5

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix (soil/water): SOIL Lab Sample ID: 327502

Level (low/med): LOW Date Received: 6/10/04

% Solids: 80.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	0.28	B		P
7440-38-2	Arsenic	1.9			P
7440-41-7	Beryllium	0.22	B		P
7440-43-9	Cadmium	0.05	U		P
7440-47-3	Chromium	2.9			P
7440-50-8	Copper	2.7			P
7439-92-1	Lead	1.6			P
7439-97-6	Mercury	0.018	U		CV
7440-02-0	Nickel	2.5	B		P
7782-49-2	Selenium	0.29	B		P
7440-22-4	Silver	0.05	U		P
7440-28-0	Thallium	0.38	U		P
7440-66-6	Zinc	2.8			P

Color Before: BLACK Clarity Before: Texture: COARSE

Color After: YELLOW Clarity After: Artifacts:

Comments:

SW846 METALS

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SB-90

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix (soil/water): SOIL Lab Sample ID: 327503

Level (low/med): LOW Date Received: 6/10/04

% Solids: 80.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	0.49	B		P
7440-38-2	Arsenic	2.0			P
7440-41-7	Beryllium	0.20	B		P
7440-43-9	Cadmium	0.05	U		P
7440-47-3	Chromium	3.0			P
7440-50-8	Copper	2.6			P
7439-92-1	Lead	1.6			P
7439-97-6	Mercury	0.020	U		CV
7440-02-0	Nickel	2.3	B		P
7782-49-2	Selenium	0.43	B		P
7440-22-4	Silver	0.09	B		P
7440-28-0	Thallium	0.38	U		P
7440-66-6	Zinc	2.9			P

Color Before: BLACK Clarity Before: Texture: COARSE

Color After: YELLOW Clarity After: Artifacts:

Comments:

SW846 METALS

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SF-1 0.8-1.2

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix (soil/water): SOIL Lab Sample ID: 327504

Level (low/med): LOW Date Received: 6/10/04

% Solids: 84.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	0.25	B		P
7440-38-2	Arsenic	1.6			P
7440-41-7	Beryllium	0.13	B		P
7440-43-9	Cadmium	0.05	U		P
7440-47-3	Chromium	2.3			P
7440-50-8	Copper	2.7			P
7439-92-1	Lead	4.8			P
7439-97-6	Mercury	0.020	U		CV
7440-02-0	Nickel	5.0			P
7782-49-2	Selenium	0.28	U		P
7440-22-4	Silver	0.06	B		P
7440-28-0	Thallium	0.38	U		P
7440-66-6	Zinc	4.2			P

Color Before: BLACK Clarity Before: Texture: COARSE

Color After: YELLOW Clarity After: Artifacts:

Comments:

SW846 METALS

3

BLANKS

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Antimony	4.2	B	5.5	B	5.3	B	4.5	B	1.25 0.250	B	P
Arsenic	2.5	U	2.5	U	2.5	U	2.5	U	0.250	U	P
Beryllium	0.3	U	0.3	B	0.6	B	0.4	B	0.030	U	P
Cadmium	0.4	U	0.5	B	0.6	B	0.5	B	0.040	U	P
Chromium	0.8	U	0.8	U	0.8	U	0.8	U	.595 0.119	B	P
Copper	1.3	U	1.3	U	1.3	U	1.3	U	.66 0.132	B	P
Lead	1.3	U	1.3	U	1.3	U	1.3	U	0.130	U	P
Mercury	0.1	U	0.1	U	0.1	U	0.1	U	0.017	U	CV
Nickel	0.7	U	0.7	U	0.7	U	0.7	U	0.070	U	P
Selenium	2.4	U	2.4	U	2.4	U	2.4	U	0.240	U	P
Silver	0.4	U	0.4	U	0.4	U	0.4	U	0.040	U	P
Thallium	3.2	U	3.2	U	3.2	U	3.2	U	-0.614	B	P
Zinc	1.5	U	2.3	B	2.0	B	1.7	B	4.135 0.827	B	P

7

LABORATORY CONTROL SAMPLE

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Solid LCS Source: EPA

Aqueous LCS Source:

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Antimony				68.9	49.20		18.8	119.0	71.4
Arsenic				136.0	122.16		101.0	171.0	89.8
Beryllium				95.3	91.21		74.7	116.0	95.7
Cadmium				118.0	108.92		90.4	145.0	92.3
Chromium				89.3	86.06		71.3	107.0	96.4
Copper				117.0	122.59		95.7	138.0	104.8
Lead				138.0	127.29		105.0	170.0	92.2
Mercury				2.5	2.7		1.7	3.3	108.9
Nickel				156.0	149.17		122.0	190.0	95.6
Selenium				87.6	81.29		64.9	110.0	92.8
Silver				119.0	122.19		88.8	150.0	102.7
Thallium				139.0	130.09		79.6	199.0	93.6
Zinc				66.0	59.06		42.9	89.1	89.5

SW846 METALS

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Initial Calibration Source: EPA

Continuing Calibration Source: HIPUR

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony	999.0	1064.16	106.5	1000.0	1017.84	101.8	1017.48	101.7	P
Arsenic	52.6	50.16	95.4	1000.0	984.67	98.5	986.36	98.6	P
Beryllium	493.0	497.45	100.9	1000.0	1004.79	100.5	1004.16	100.4	P
Cadmium	494.0	494.10	100.0	1000.0	977.89	97.8	976.00	97.6	P
Chromium	490.0	492.30	100.5	1000.0	990.40	99.0	988.26	98.8	P
Copper	490.0	491.60	100.3	1000.0	984.56	98.5	983.09	98.3	P
Lead	99.8	102.23	102.4	1000.0	977.29	97.7	976.88	97.7	P
Mercury	4.1	4.25	103.7	5.0	5.10	102.0	5.04	100.8	CV
Nickel	492.0	493.86	100.4	1000.0	975.79	97.6	974.46	97.4	P
Selenium	50.8	50.20	98.8	1000.0	989.11	98.9	990.00	99.0	P
Silver	101.9	103.66	101.7	100.0	101.35	101.4	100.68	100.7	P
Thallium	98.8	106.31	107.6	1000.0	989.84	99.0	990.04	99.0	P
Zinc	1000.0	1001.77	100.2	1000.0	975.43	97.5	969.85	97.0	P

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

SW846 METALS

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Initial Calibration Source: EPA

Continuing Calibration Source: HIPUR

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony				1000.0	1031.40	103.1	1006.53	100.7	P
Arsenic				1000.0	994.90	99.5	970.09	97.0	P
Beryllium				1000.0	1018.54	101.9	998.20	99.8	P
Cadmium				1000.0	987.00	98.7	968.14	96.8	P
Chromium				1000.0	1001.95	100.2	980.69	98.1	P
Copper				1000.0	989.23	98.9	987.83	98.8	P
Lead				1000.0	989.15	98.9	964.02	96.4	P
Mercury				5.0	5.08	101.6	4.76	95.2	CV
Nickel				1000.0	986.43	98.6	963.99	96.4	P
Selenium				1000.0	1004.63	100.5	978.88	97.9	P
Silver				100.0	101.78	101.8	101.80	101.8	P
Thallium				1000.0	996.62	99.7	976.67	97.7	P
Zinc				1000.0	983.16	98.3	966.25	96.6	P

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

SW846 METALS

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Initial Calibration Source: EPA

Continuing Calibration Source: HIPUR

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony				1000.0	1015.66	101.6	1042.01	104.2	P
Arsenic				1000.0	979.15	97.9	1010.96	101.1	P
Beryllium				1000.0	1011.22	101.1	1045.55	104.6	P
Cadmium				1000.0	971.31	97.1	999.54	100.0	P
Chromium				1000.0	993.07	99.3	1025.86	102.6	P
Copper				1000.0	992.72	99.3	1001.36	100.1	P
Lead				1000.0	975.88	97.6	1002.66	100.3	P
Nickel				1000.0	970.54	97.1	1000.05	100.0	P
Selenium				1000.0	988.45	98.8	1011.57	101.2	P
Silver				100.0	101.94	101.9	102.93	102.9	P
Thallium				1000.0	987.99	98.8	1011.17	101.1	P
Zinc				1000.0	975.51	97.6	1008.14	100.8	

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2B-IN

CRDL STANDARD FOR AA AND ICP

Lab Name: COMPUCHEM Contract: _____

Lab Code: LIBRTY Case No.: _____ SAS No.: _____ SDG No.: 3275

AA CRDL Standard Source: HIPUR

ICP CRDL Standard Source: HIPUR

Concentration Units: ug/L

Analyte	True	Found	%R	CRDL Standard for ICP Initial True	Initial Found	Initial %R	Final Found	Final %R
Antimony				10.0	10.86	108.6		
Arsenic				10.0	9.65	96.5		
Beryllium				5.0	5.12	102.4		
Cadmium				5.0	5.37	107.4		
Chromium				5.0	4.94	98.8		
Copper				5.0	5.63	112.6		
Lead				3.0	2.92	97.3		
Mercury	0.2	0.19	95.0					
Nickel				5.0	5.23	104.6		
Selenium				5.0	5.84	116.8		
Silver				5.0	5.57	111.4		
Thallium				20.0	10.85	54.2		
Zinc				20.0	21.63	108.2		

Control Limits: no limits have been established by EPA at this time

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28-Jun-04

DAN PETERMAN
BLASLAND, BOUCK & LEE, INC.
3700 REGENCY PARKWAY
SUITE 140
Cary, NC 27511

Subject:
Report of Data-Project: SUTTON STEAM Workorder: 3275

Attn.: DAN PETERMAN

Enclosed are the results of analytical work performed in accordance with the referenced account number.

This report covers sample(s) appearing on the attached listing.

Thank you for selecting CompuChem for your sample analysis. If you should have questions or require additional analytical services, please contact your representative at 1-800-833-5097.

Sincerely,

Marlene J. Smith

CompuChem
A Division of Liberty Analytical

Attachment

TOTAL NUMBER
OF PAGES 50

501 Madison Avenue, Cary, NC 27513 Tel: 919-379-4100 Fax: 919-379-4050

CompuChem, a division of Liberty Analytical

Hsn	Client ID	Wordorder	Matrix	Account	Project	Report
327501	SB-10 3.5-4.0	3275	S	BB&L	SUTTON STEAM	
327502	SB-11 4.0-4.5	3275	S	BB&L	SUTTON STEAM	
327503	SB-90	3275	S	BB&L	SUTTON STEAM	
327504	SF-1 0.8-1.2	3275	S	BB&L	SUTTON STEAM	

CompuChem

a division of Liberty Analytical Corporation
501 Madison Avenue
Cary, N.C. 27513
Tel: 919/379-4100 Fax: 919/379-4050

SDG NARRATIVE
SDG # 3275

SAMPLE IDENTIFICATIONS :

SB-10 3.5-4.0 SB-11 4.0-4.5 SB-90 SF-1 08-1.2

The four (4) soil samples listed above were received intact, properly refrigerated at temperatures of 1.0°C, and with proper documentation in sealed shipping containers, on June 10th, 2004. The samples were scheduled for the requested analyses of the volatile fraction.

The samples were prepared and analyzed following the SW-846 method 8260B as ENCORE samples.

All pertinent Quality Assurance Notices are included in the narrative section, and all pertinent Laboratory Notices for SDG # 3275 are included in the sample data sections.

Analysis holding time requirements were met for all of these samples.

All samples in this SDG were reported from neat analyses.

Target compounds were found above the CRDL in all samples in this SDG except for the initial analysis of sample **SB-11 4.0-4.5** which did not contain any target compound above the CRDL.

Recovery of 4-bromofluorobenzene was above the established maximum recovery limit of 131 percent in samples **SB-11 4.0-4.5** and **SF-1 08-1.2**. Sample **SB-11 4.0-4.5** was reanalyzed and the out of limit surrogate recovery confirmed. Sample **SF-1 08-1.2** was not reanalyzed due to lack of sample volume, however, this sample was used as the original for the matrix spike and matrix spike duplicate samples. The high surrogate recovery for this sample was confirmed in its associated matrix spike and matrix spike duplicate.

Client specific matrix spike (MS) and matrix spike duplicate (MSD) samples were analyzed with this SDG from sample **SF-1 08-1.2**. Recoveries for all target analytes in the matrix spike fell outside the minimum acceptable recovery limits. Recoveries for trichloroethene and chlorobenzene fell outside the minimum acceptable recovery limits in the matrix spike duplicate sample. All RPD values were outside the specified limits. Laboratory control samples were analyzed with each sample batch. All compounds in the LCS samples fell within the recovery limits. Failing recoveries and RPDs in the MS and MSD are therefore attributed to sample matrix interference.

The associated method blanks met all quality control criteria.

All decafluorotriphenylphosphine (DFTPP) abundance criteria were met for tunes associated to this SDG. Overall QC criteria were met for all initial and continuing calibration standards associated to this SDG.

All calibration criteria were met for both the initial and continuing calibration samples associated with this SDG.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

L. Richard Flynn
Sr. Scientist
June 23, 2004

GC and GC/MS Column and Trap Specifications Table

COLUMNS

Brand Name	Coating Material	ID (mm)	Film Thickness (um)	Length (m)
GC Laboratory				
Restek	RTX-1701	0.53	0.5	30
J & W	DB-608	0.53	0.83	30
Restek	CLPesticides	0.53	0.5	30
Restek	CLPesticides II	0.53	0.42	30
GC Volatiles Laboratory				
Restek	RTX-1	0.53	0.5	105
Restek	RTX-502.2	0.53	0.5	105
GC/MS Volatiles Laboratory				
J & W	DB-624	0.53	3.0	30/75
J & W	DB-624	0.25	1.4	60
J & W	DB-624	0.32	1.8	60
Restek	RTX-624	0.32	1.8	60
Restek	RTX-VMS*	0.18	1.0	20
Supelco	SPB-624	0.32	1.4	60
Supelco	Equity™-624	0.53	3.0	75
Zebron	ZB-624	0.32	1.8	60
GC/MS Semivolatiles Laboratory				
Restek	RTX-5MS	0.25	0.25	30
Restek	RTX-5MS	0.32	0.25	30
HPLC Laboratory				
Supelco	Supelcosil LC-PAH	4.6	5.0	15 cm
Supelco	Discovery RP Amide C16	4.6	5.0	25 cm
Restek	Pinnacle Cyano	4.6	5.0	25 cm
Restek	Allure C18	4.6	5.0	25 cm

*Note: The RTX-VMS column is currently not used for EPA CLP analyses.

TRAPS

GC and GC/MS Volatiles Laboratory	
Tekmar 3	* 8 cm of 2,6-diphenylene oxide polymer (Tenax) * 8 cm of silica gel * 7 cm of coconut charcoal * 0.5 cm of silanized glass wool at each end
Tekmar 5	* 1 cm of methyl silicone packing (OV-1 coating) * 8 cm of 2,6-diphenylene oxide polymer (Tenax) * 8 cm of silica gel * 7 cm of coconut charcoal * 0.5 cm of silanized glass wool at each end
Supelco K (Vocarb3000)	* 10 cm of Carbopack B (Graphitized Carbons) * 6 cm of Carboxen 1000 (Carbon molecular sieves) * 1 cm of Carboxen 1001 (Carbon molecular sieves)

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CompuChem's Pagination Convention

As required by the current EPA CLP Statement of Work (SOW) (Document Number OLM04.0, plus revisions), data to be delivered must be paginated (by machine or hand). In the event that the initial numbering is incorrect (a page numbered twice or a page skipped, for example), it is CompuChem's policy to add in an alphabetic suffix to a page number when necessary (e.g., 100A, 100B, etc.).

DATA REPORTING QUALIFIERS

On the Form I, under the column labeled "Q" for qualifier, each result is flagged with the specific data reporting qualifiers listed below, as appropriate. Up to five qualifiers may be reported on Form I for each compound. The qualifiers used are:

U: This flag indicates the compound was analyzed for but not detected. The Contract Required Quantitation Limit (CRQL), or reporting limit, will be adjusted to reflect any dilution and, for soils, the percent moisture.

J: This flag indicates an estimated value. The flag is used as detailed below:

1. When estimating a concentration for tentatively identified compounds (TICs) where a response factor of 1.0 is assumed for the TIC analyte,

2. When the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the CRQL (or Reporting Limit) but greater than zero, and

3. When the retention time data indicate the presence of a compound that meets the pesticide/Aroclor or other GC or HPLC identification criteria, and the result is less than the CRQL (or Reporting Limit) but greater than zero. For example, if the CRQL (or Reporting Limit) is 10 µg/L, but a concentration of 3 µg/L is calculated, it is reported as 3J.

N: This flag indicates presumptive evidence of a compound. This flag is only used for TICs, where the identification is based on a mass spectral library search. For generic characterization of a TIC such as 'chlorinated hydrocarbon', the N flag is not used.

P: In the EPA's Contract Laboratory Program (CLP), this flag is used for a pesticide/Aroclor target analyte, when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a P.
For SW-846 GC and HPLC analyses, when the Relative Percent Difference (RPD) is greater than 40% and there is no evidence of chromatographic anomalies or interferences, then the higher of the two values is reported and flagged with a P. When the RPD is equal to or less than 40%, our policy is to also report the higher of the two values, although the choice could be a project specific issue.

DATA REPORTING QUALIFIERS (continued)

C: This flag applies to GC or HPLC results where the identification has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, this flag is not applied; a laboratory-defined flag is used instead (see the X/Y/Z qualifier.)

B: This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. This flag is used for a TIC as well as for a positively identified target compound. The combination of flags BU or UB is not an allowable policy. Blank contaminants are flagged B only when they are detected in the sample.

E: This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range, the sample or extract will be diluted and reanalyzed. All such compounds with a response greater than the upper level of the calibration range will have the concentration flagged with an E on Form I for the original analysis.

D: If a sample or extract is reanalyzed at a higher dilution factor, for example when the concentration of an analyte exceeds the upper calibration range, the DL suffix is appended to the sample number on Form I for the more diluted sample, and all reported concentrations on that Form I are flagged with the D flag. This flag alerts data users that any discrepancies between the reported concentrations may be due to dilution of the sample or extract.

NOTE 1: The D flag is not applied to compounds which are not detected in the sample analysis i.e. compounds reported with the CRQL (or Reporting Limit) and the U flag.

NOTE 2: Separate Form Is are used for reporting the original analysis (Client Sample No. XXXXX) and the more diluted sample analysis (Client Sample No. XXXXXDL) i.e. the results from both analyses are not combined on a single Form I.

A: This flag indicates that a TIC is a suspected aldol-condensation product.

X/Y/Z: Other specific flags may be required to properly define the results. If used, the flags will be fully described in the SDG Narrative. The laboratory-defined flags are limited to X, Y and Z.

CompuChem, a Division of Liberty Analytical

INTERNAL CHAIN OF CUSTODY

Laboratory: Volatiles Matrix: S

Request Date: 6/11/2004 Batch 7308

Comments:

	CCN	Receipt	Analysis Param	Container	Preservative	Bottle
1	327503	6/10/2004	VS8260LX	40MLENCO	COOL 4C	327503-1
2	327501	6/10/2004	VS8260LX	40MLENCO	COOL 4C	327501-1
3	327504	6/10/2004	VS8260LX	40MLENCO	COOL 4C	327504-1
4	327504	6/10/2004	VS8260LX	NA	NONE	327504-13
5	327502	6/10/2004	VS8260LX	40MLENCO	COOL 4C	327502-1

Relinquished By:	Received By:	Date/Time	Reason
RJS	AW	6-23 1920	Analysis
AW	RJS	1 2010	Storage
RJS	JAO	6-24 1230	Analysis
JAO	RJS	1 1900	Storage

Friday, June 11, 2004

encore

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GC/MS VOA Batch Sheet - Soils 82605

SPP-155/-233/-243

Departm VOC

Method:

Batch No: 7308

CCN	Samp Typ	Client ID	Wt	Time	Date	INST #	Operator	H/T	Volume	Report	Comments
327503	SAMPLE	SB-90	6.61	0810	6-23-04	59	2481	6/23/04		DW	M. Level
327501	SAMPLE	SB-10 3.5-4.0	6.86	0714	↓	↓	↓	6/23/04		DW	↓
327504	SAMPLE	SF-1 0.8-1.2	6.03	0838	↓	↓	↓	6/23/04		DW	↓
~~327504~~	~~SAMPLE~~	~~SF-1 0.8-1.2~~						~~6/23/04~~			
35897	MB	VBLKPW						6/25/04			
35898	MB	VBLKPX	5.0g.		6-23-04	59	2473	6/25/04			
35899	MB	VBLKPY						6/25/04			
35900	LCS	VPWLCS						6/25/04			
35912	LCS	VPXLCS	5.0g.		6-23-04	59	2473	6/25/04			
35913	LCS	VPYLCS						6/25/04			
35914	MS	SF-1 0.8-1.2(327504MS)	5.62	0306	6-24-04	59	2481	6/23/04		IL SH	low level
35915	MSD	SF-1 0.8-1.2(327504MSD)	5.97	0355	↓	↓	↓	6/23/04		IL SH	↓
327502	SAMPLE	SB-11 4.0-4.5	6.76	0742	6-23-04	59	2481	6/23/04		DW	M. Level
327501R		5x 6-23-04	~~6.72~~ 6.48	1935	6-23-04	59	2473			IL	low level
327502R			6.72	2003	↓	↓	↓			IL SH	↓
327503R			7.45	2031	↓	↓	↓			IL SH	↓
327504R			5.24	2059	↓	↓	↓			IL SM	↓
327501R2			6.00	2339	6-23-04	59	2473			✓	↓
327502R2			6.24	0007	6-24-04	↓	2481			IL SH	↓
327503R2			6.87	0035	↓	↓	↓			✓	↓
327504R2			5.91	0103	↓	↓	↓			IL SH	↓

Due 6-23

TCL4

Run MeCl 1st

Strong to

6/27/01:rmh

COMPUCHEM

a Division of Liberty Analytical

EnCore™ Preparation Worksheet

-238 / -243 / -233

SDG:_____ Prepared By: AT Date:_____

	EncoreNum	Date*	Time*	Weight of Jar (g)*	Weight of Jar + Sample (g)	Weight of Sample (g)	
1	04060301			30.30	36.78	6.48	~~36.79~~ 327501
2	04060302			30.41	36.41	6.00	327501R
3	04060303			29.85	36.71	6.86	
4	04060304			30.43	36.05	5.62	-MS
5	04060305			30.33	36.24	5.91	-4R2
6	04060306			30.24	36.27	6.03	
7	04060307			30.15			
8	04060308			30.16			
9	04060309			29.96			
10	04060310			30.30	36.27	5.97	MSD
11	04060311			30.24	35.48	5.24	327504
12	04060312			29.98			
13	04060313			30.14	36.86	6.72	32750
14	04060314			30.35	36.59	6.24	327502R
15	04060315			30.26	37.02	6.76	
16	04060316			30.28	37.73	7.45	327503
17	04060317			30.28	37.15	6.87	-3R2
18	04060318			30.34	36.95	6.61	
19	04060319			30.32			
20	04060320			30.21			
21	04060321			30.03			

Volume of Methanol Added: 5ml

Lot Numbers of Preservatives: Sodium Bisulfate: B040330IG Methanol: 44090

Reviewed By:_____

*Weight of Jar for Sodium Bisulfate preserved Encores is the sum of the weights of the vial, preservative and stir bar
*Weight of Jar for Methanol preserved Encores is the sum of the weights of the vial and preservative

Note: The insertion of "N/A" for "Volume of Methanol Added" and "Lot Numbers of Preservatives: Sodium Bisulfate:____ Methanol:_____" indicates a freezing option was employed, with or without the addition of water.

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CHAIN OF CUSTODY

501 Madison Ave.
Cary, NC 27513
Phone: 919-379-4100 Fax 919-379-4040

Page 1 of 1

Courier
Airbill No.
Sampling Complete? Y or N

Company Name: BBL, Inc	Project Name: Sutton Steam Plant - FADA
Address: 3700 Regency Pkwy Suite 140	Sampling Location: Wilmington, NC
City: Cary State: NC Zip: 27511	Turnaround time: Standard
Project Contact: Scott Davies	Batch QC or Project Specific? If Specific, which Sample ID?
Phone #: 919-469-1952 x17	Are aqueous samples field filtered for metals? Y or N
Sampler's Name: Brian Lovgren	Are high concentrations expected? Y or N? If yes, which ID(s)?

GW - Ground water
WW - Waste water
SW - Surface water
SO - Soil/Sediment
TB - Trip Blank
RI - Rinsate
WP - Wipe
O - Other

	Field ID	Collection Date	Collection Time	Matrix	# of bottles	Number of Preserved Bottles: HCl	NaOH	NHO3	H2SO4	MEOH	Other	TCL VOC's (8260) +10 TICS 3-5 day Encore	TCL SVOC's (8270) +10 TICS 8-oz Low Level	HSL Metals (6010) (7470) 4oz
327501	SB-10 (3.5-4.0)	6-9-04	0820	Soil	5						5	3	1	1
327504	SF-1 (0.8-1.2)	6-9-04	0930	Soil	5						5	3	1	1
327504	SF-1 (0.8-1.2) MS	6-9-04	0930	Soil	5						5	3	1	1
327504	SF-1 (0.8-1.2) MSD	6-9-04	0930	Soil	5						5	3	1	1
327502	SB-11 (4.0-4.5)	6-9-04	1035	Soil	5						5	3	1	1
327503	SB-90	6-9-04	NIR	Soil	5						5	3	1	1
327601	EB-060904	6-9-04	0850	Water	6	3		1			2	3	2	1
327602	TB-060904	6-9-04	NIR	Water	3	3						3		

Sample Unpacked By: Shirley Bailey
Sample Order Entry By: [signature]
Samples Received in Good Condition? (Y) or N
If no, explain:

Cyanide samples checked for sulfide & chlorine? Y or (NA)
625 & Phenol samples checked for chlorine? Y or (NA)
608 samples checked for pH between 5.0-9.0? Y or (NA)

for GC Rec'd 3-80z, 3-40z, 9-40ml
For EB-060904 2-AL 1-80z, 3-40ml
TB Rec'd one of the 40ml with pea size air bubble. LLB 6-10-04

Relinquished by: [signature]	Date/Time: 6/10/04 0950	Received by: Shirley Bailey	Date/Time: 6-10-04 9:50
Relinquished by:	Date/Time:	Received by:	Date/Time:
Subcontact? Y or N If yes, where?	Custody Seal(s) intact? Y or (N)	On Ice? (Y) or N	Cooler Temp: 1.0 °C

Samples stored [illegible] after date report mailed at no extra charge.

White & Yellow copy to lab • Pink copy for customer

CompuChem

a division of Liberty Analytical Corp.

WORKORDER SUMMARY REPORT

Workorder: 3275 **Account:** BB&L **Project:** SUTTON STEAM
SDG-Case: 3275 **Status:** **QC Type:** CLIENT SPECIFIC MS/MSD
Report Style: COMPUCHEM STYLE 3 WITH EDD

SAMPLE ID	CLIENT ID	COLLECT DATE	RECEIVE DATE	DUE DATE	COMMENTS
327501	SB-10 3.5-4.0	6/9/2004	6/10/2004	6/23/2004	METALS=SB,AS,BE,CD,CR,CU,PB,HG,NI,SE,AG,TL.ZN
S	DRY WEIGHT	Dry Weight			
S	VS8260LTC4	VOC LL 8260B TCL4 SOIL			
S	SS8270LTC4	SVOC LL 8270C TCL4 SOIL			
S	MS6010VAR	METAL 6010B VARIABLE SOIL			
S	MS7471HG	MERCURY ONLY 7471A SOIL			
327502	SB-11 4.0-4.5	6/9/2004	6/10/2004	6/23/2004	METALS=SB,AS,BE,CD,CR,CU,PB,HG,NI,SE,AG,TL.ZN
S	DRY WEIGHT	Dry Weight			
S	VS8260LTC4	VOC LL 8260B TCL4 SOIL			
S	SS8270LTC4	SVOC LL 8270C TCL4 SOIL			
S	MS6010VAR	METAL 6010B VARIABLE SOIL			
S	MS7471HG	MERCURY ONLY 7471A SOIL			
327503	SB-90	6/9/2004	6/10/2004	6/23/2004	METALS=SB,AS,BE,CD,CR,CU,PB,HG,NI,SE,AG,TL.ZN
S	DRY WEIGHT	Dry Weight			
S	VS8260LTC4	VOC LL 8260B TCL4 SOIL			
S	SS8270LTC4	SVOC LL 8270C TCL4 SOIL			
S	MS6010VAR	METAL 6010B VARIABLE SOIL			
S	MS7471HG	MERCURY ONLY 7471A SOIL			
327504	SF-1 0.8-1.2	6/9/2004	6/10/2004	6/23/2004	USE FOR QC**METALS=SB,AS,BE,CD,CR,CU,PB,HG,NI,SE,AG,TL.ZN
S	DRY WEIGHT	Dry Weight			
S	VS8260LTC4	VOC LL 8260B TCL4 SOIL			
S	SS8270LTC4	SVOC LL 8270C TCL4 SOIL			
S	QCS-8260	QC-8260B VOC SOIL			
S	QCS-8270	QC-8270C SVOC			
S	QCS-6010	QC-6010B METALS SOIL			
S	QCS-7471HG	QC-7471 HG SOIL			
S	MS6010VAR	METAL 6010B VARIABLE SOIL			
S	MS7471HG	MERCURY ONLY 7471A SOIL			

CompuChem

a division of Liberty Analytical Corp.

WORKORDER SUMMARY REPORT

Workorder: 3276 **Account:** BB&L **Project:** SUTTON STEAM
SDG-Case: 3276 **Status:** **QC Type:** CLIENT SPECIFIC MS/MSD
Report Style: COMPUCHEM STYLE 3 WITH EDD

SAMPLE ID	CLIENT ID	COLLECT DATE	RECEIVE DATE	DUE DATE	COMMENTS
327601	EB-060904	6/9/2004	6/10/2004	6/23/2004	EQUIP BLANK FOR WO 3275**METALS=SB,AS,BE,CD,CR,CU,PB,HG,NI,SE,AG,TL,ZN
W	VW82-5TC4	VOC 8260B 5ML TCL4 WATER			
W	SW8270TCL4	SVOC 8270C TCL4 WATER			
W	MW6010VAR	METAL 6010B VARIABLE WATER			
W	MW7470HG	MERCURY ONLY 7470A WATER			
327602	TB-060904	6/9/2004	6/10/2004	6/23/2004	TRIP BLANK FOR WO 3275*
W	VW82-5TC4	VOC 8260B 5ML TCL4 WATER			

CompuChem
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QUALITY ASSURANCE NOTICE

Client BBL, Inc.
Case #
Type of Analysis TCL VOC's, TCL SVOC's, HSL Metals
Receipt Date 6-10-04

For some organic and/or inorganic determinations temperature preservation at 4 degrees Celsius is required for environmental samples during shipment to the laboratory and prior to analysis. A temperature tolerance range is generally allowed. Temperature of a representative sample from the shipping container is taken and recorded by the receiving clerk at the time of sample receipt. This temperature is representative of all samples contained in the cooler. The EPA CLP program requires the laboratory make notification when the temperature exceeds 10 degrees Celsius. The State of North Carolina allows a range of 2-4.4° Celsius. Notification to other clients is either client or project dependent.

Samples that are hand delivered to the laboratory immediately after collection may not meet this criteria. In these cases, the samples shall be considered acceptable if there is evidence that the chilling process has begun, such as arrival on ice.

The temperature of this sample at the time of receipt was determined to be hot.

A CompuChem customer service representative contacted the client. The client instructed the Receiving department to:

Hand Delivery/Received on ice ✓
Analyze - qualify with notice ✓
Dispose - client will resample

Supervisor Signature/ID _____/_____ Date _____

QAN-R-3
020205

qanr3 – 2/5/02:dcc

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-10 3.5-4.0

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327501

Sample wt/vol: 6.00(g/mL) G Lab File ID: 327501R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 37 Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	6.6	U
74-87-3	Chloromethane	6.6	U
75-01-4	Vinyl Chloride	6.6	U
74-83-9	Bromomethane	6.6	U
75-00-3	Chloroethane	6.6	U
75-69-4	Trichlorofluoromethane	6.6	U
75-35-4	1,1-Dichloroethene	6.6	U
75-15-0	Carbon disulfide	6.6	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	6.6	U
67-64-1	Acetone	25	
75-09-2	Methylene Chloride	6.6	U
156-60-5	trans-1,2-Dichloroethene	6.6	U
1634-04-4	Methyl-tert-butyl ether	6.6	U
75-34-3	1,1-Dichloroethane	6.6	U
156-59-2	cis-1,2-Dichloroethene	6.6	U
78-93-3	2-butanone	17	U
67-66-3	Chloroform	6.6	U
71-55-6	1,1,1-Trichloroethane	1.8	J
56-23-5	Carbon Tetrachloride	6.6	U
71-43-2	Benzene	6.6	U
107-06-2	1,2-Dichloroethane	6.6	U
79-01-6	Trichloroethene	6.6	U
78-87-5	1,2-Dichloropropane	6.6	U
75-27-4	Bromodichloromethane	6.6	U
10061-01-5	cis-1,3-Dichloropropene	6.6	U
108-10-1	4-Methyl-2-pentanone	17	U
108-88-3	Toluene	6.6	U
10061-02-6	trans-1,3-Dichloropropene	6.6	U
79-00-5	1,1,2-Trichloroethane	6.6	U
127-18-4	Tetrachloroethene	6.6	U
591-78-6	2-hexanone	17	U
124-48-1	Dibromochloromethane	6.6	U
106-93-4	1,2-Dibromoethane	6.6	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-10 3.5-4.0

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327501

Sample wt/vol: 6.00(g/mL) G Lab File ID: 327501R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 37 Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-90-7	Chlorobenzene	6.6	U
100-41-4	Ethylbenzene	6.6	U
100-42-5	Styrene	6.6	U
75-25-2	Bromoform	6.6	U
98-82-8	Isopropyl Benzene	4.8	J
79-34-5	1,1,2,2-Tetrachloroethane	6.6	U
541-73-1	1,3-Dichlorobenzene	6.6	U
106-46-7	1,4-Dichlorobenzene	6.6	U
95-50-1	1,2-Dichlorobenzene	6.6	U
96-12-8	1,2-Dibromo-3-Chloropropane	6.6	U
120-82-1	1,2,4-Trichlorobenzene	6.6	U
1330-20-7	Xylene (total)	5.9	J
79-20-9	Methyl acetate	6.6	U
110-82-7	Cyclohexane	6.6	U
108-87-2	Methylcyclohexane	6.6	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SB-10 3.5-4.0

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327501

Sample wt/vol: 6.00 (g/mL) G Lab File ID: 327501R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 37 Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 10 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	622-96-8	BENZENE, 1-ETHYL-4-METHYL-	12.55	72	NJ
2.	95-36-3	1,2,4-TRIMETHYLBENZENE	12.62	110	NJ
3.	526-73-8	BENZENE, 1,2,3-TRIMETHYL-	13.00	180	NJ
4.		UNKNOWN	13.27	59	J
5.		UNKNOWN	13.67	80	J
6.		BRANCHED ALKANE	13.91	61	J
7.		BRANCHED ALKANE	14.65	87	J
8.		UNKNOWN	14.72	61	J
9.		CYCLIC ALKANE	15.16	90	J
10.		CYCLIC ALKANE	15.70	75	J
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-11 4.0-4.5

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327502

Sample wt/vol: 6.72(g/mL) G Lab File ID: 327502A59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 19 Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	4.6	U
74-87-3	Chloromethane	4.6	U
75-01-4	Vinyl Chloride	4.6	U
74-83-9	Bromomethane	4.6	U
75-00-3	Chloroethane	4.6	U
75-69-4	Trichlorofluoromethane	4.6	U
75-35-4	1,1-Dichloroethene	4.6	U
75-15-0	Carbon disulfide	4.6	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	4.6	U
67-64-1	Acetone	11	U
75-09-2	Methylene Chloride	4.6	U
156-60-5	trans-1,2-Dichloroethene	4.6	U
1634-04-4	Methyl-tert-butyl ether	4.6	U
75-34-3	1,1-Dichloroethane	4.6	U
156-59-2	cis-1,2-Dichloroethene	4.6	U
78-93-3	2-butanone	11	U
67-66-3	Chloroform	4.6	U
71-55-6	1,1,1-Trichloroethane	4.6	U
56-23-5	Carbon Tetrachloride	4.6	U
71-43-2	Benzene	4.6	U
107-06-2	1,2-Dichloroethane	4.6	U
79-01-6	Trichloroethene	4.6	U
78-87-5	1,2-Dichloropropane	4.6	U
75-27-4	Bromodichloromethane	4.6	U
10061-01-5	cis-1,3-Dichloropropene	4.6	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	4.6	U
10061-02-6	trans-1,3-Dichloropropene	4.6	U
79-00-5	1,1,2-Trichloroethane	4.6	U
127-18-4	Tetrachloroethene	4.6	U
591-78-6	2-hexanone	11	U
124-48-1	Dibromochloromethane	4.6	U
106-93-4	1,2-Dibromoethane	4.6	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-11 4.0-4.5

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327502

Sample wt/vol: 6.72(g/mL) G Lab File ID: 327502A59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 19 Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-90-7	Chlorobenzene	4.6	U
100-41-4	Ethylbenzene	4.6	U
100-42-5	Styrene	4.6	U
75-25-2	Bromoform	4.6	U
98-82-8	Isopropyl Benzene	4.6	U
79-34-5	1,1,2,2-Tetrachloroethane	4.6	U
541-73-1	1,3-Dichlorobenzene	4.6	U
106-46-7	1,4-Dichlorobenzene	4.6	U
95-50-1	1,2-Dichlorobenzene	4.6	U
96-12-8	1,2-Dibromo-3-Chloropropane	4.6	U
120-82-1	1,2,4-Trichlorobenzene	4.6	U
1330-20-7	Xylene (total)	14	U
79-20-9	Methyl acetate	4.6	U
110-82-7	Cyclohexane	4.6	U
108-87-2	Methylcyclohexane	4.6	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SB-11 4.0-4.5

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327502

Sample wt/vol: 6.72 (g/mL) G Lab File ID: 327502A59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 19 Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 8

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		LABORATORY ARTIFACT	9.85	20	J
2.		SUBSTITUTED BENZENE	12.48	47	J
3.	611-14-3	BENZENE, 1-ETHYL-2-METHYL-	12.56	510	NJ
4.		SUBSTITUTED BENZENE	12.64	200	J
5.		SUBSTITUTED BENZENE	12.85	75	J
6.	526-73-8	BENZENE, 1,2,3-TRIMETHYL-	13.01	870	NJ
7.		SUBSTITUTED BENZENE	13.40	110	J
8.		UNKNOWN	15.40	46	J
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-11 4.0-4.5RE

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327502

Sample wt/vol: 6.24(g/mL) G Lab File ID: 327502R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 19 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	4.9	U
74-87-3	Chloromethane	4.9	U
75-01-4	Vinyl Chloride	4.9	U
74-83-9	Bromomethane	4.9	U
75-00-3	Chloroethane	4.9	U
75-69-4	Trichlorofluoromethane	4.9	U
75-35-4	1,1-Dichloroethene	4.9	U
75-15-0	Carbon disulfide	4.9	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	4.9	U
67-64-1	Acetone	33	
75-09-2	Methylene Chloride	1.1	J
156-60-5	trans-1,2-Dichloroethene	4.9	U
1634-04-4	Methyl-tert-butyl ether	4.9	U
75-34-3	1,1-Dichloroethane	4.9	U
156-59-2	cis-1,2-Dichloroethene	4.9	U
78-93-3	2-butanone	12	U
67-66-3	Chloroform	4.9	U
71-55-6	1,1,1-Trichloroethane	4.9	U
56-23-5	Carbon Tetrachloride	4.9	U
71-43-2	Benzene	4.9	U
107-06-2	1,2-Dichloroethane	4.9	U
79-01-6	Trichloroethene	4.9	U
78-87-5	1,2-Dichloropropane	4.9	U
75-27-4	Bromodichloromethane	4.9	U
10061-01-5	cis-1,3-Dichloropropene	4.9	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	2.8	J
10061-02-6	trans-1,3-Dichloropropene	4.9	U
79-00-5	1,1,2-Trichloroethane	4.9	U
127-18-4	Tetrachloroethene	4.9	U
591-78-6	2-hexanone	12	U
124-48-1	Dibromochloromethane	4.9	U
106-93-4	1,2-Dibromoethane	4.9	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-11 4.0-4.5RE

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327502

Sample wt/vol: 6.24(g/mL) G Lab File ID: 327502R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 19 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-90-7	Chlorobenzene	4.9	U
100-41-4	Ethylbenzene	4.9	U
100-42-5	Styrene	4.9	U
75-25-2	Bromoform	4.9	U
98-82-8	Isopropyl Benzene	13	
79-34-5	1,1,2,2-Tetrachloroethane	4.9	U
541-73-1	1,3-Dichlorobenzene	4.9	U
106-46-7	1,4-Dichlorobenzene	4.9	U
95-50-1	1,2-Dichlorobenzene	4.9	U
96-12-8	1,2-Dibromo-3-Chloropropane	4.9	U
120-82-1	1,2,4-Trichlorobenzene	4.9	U
1330-20-7	Xylene (total)	16	
79-20-9	Methyl acetate	4.9	U
110-82-7	Cyclohexane	4.9	U
108-87-2	Methylcyclohexane	4.9	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SB-11 4.0-4.5RE

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327502

Sample wt/vol: 6.24 (g/mL) G Lab File ID: 327502R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 19 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 10 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		SUBSTITUTED BENZENE	12.47	45	J
2.	620-14-4	BENZENE, 1-ETHYL-3-METHYL-	12.55	300	NJ
3.	108-67-8	BENZENE, 1,3,5-TRIMETHYL-	12.63	130	NJ
4.	611-14-3	BENZENE, 1-ETHYL-2-METHYL-	12.84	71	NJ
5.	526-73-8	BENZENE, 1,2,3-TRIMETHYL-	13.00	430	NJ
6.	526-73-8	BENZENE, 1,2,3-TRIMETHYL-	13.41	100	NJ
7.	1074-43-7	BENZENE, 1-METHYL-3-PROPYL-	13.55	12	NJ
8.		SUBSTITUTED BENZENE	13.60	31	J
9.	933-98-2	BENZENE, 1-ETHYL-2,3-DIMETHY	13.94	9.8	NJ
10.		BRANCHED ALKANE	15.18	12	J
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-90

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327503

Sample wt/vol: 6.87(g/mL) G Lab File ID: 327503R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 20 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	4.5	U
74-87-3	Chloromethane	4.5	U
75-01-4	Vinyl Chloride	4.5	U
74-83-9	Bromomethane	4.5	U
75-00-3	Chloroethane	4.5	U
75-69-4	Trichlorofluoromethane	4.5	U
75-35-4	1,1-Dichloroethene	4.5	U
75-15-0	Carbon disulfide	4.5	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	4.5	U
67-64-1	Acetone	35	
75-09-2	Methylene Chloride	4.5	U
156-60-5	trans-1,2-Dichloroethene	4.5	U
1634-04-4	Methyl-tert-butyl ether	4.5	U
75-34-3	1,1-Dichloroethane	4.5	U
156-59-2	cis-1,2-Dichloroethene	4.5	U
78-93-3	2-butanone	11	U
67-66-3	Chloroform	4.5	U
71-55-6	1,1,1-Trichloroethane	4.5	U
56-23-5	Carbon Tetrachloride	4.5	U
71-43-2	Benzene	4.5	U
107-06-2	1,2-Dichloroethane	4.5	U
79-01-6	Trichloroethene	4.5	U
78-87-5	1,2-Dichloropropane	4.5	U
75-27-4	Bromodichloromethane	4.5	U
10061-01-5	cis-1,3-Dichloropropene	4.5	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	0.62	J
10061-02-6	trans-1,3-Dichloropropene	4.5	U
79-00-5	1,1,2-Trichloroethane	4.5	U
127-18-4	Tetrachloroethene	4.5	U
591-78-6	2-hexanone	11	U
124-48-1	Dibromochloromethane	4.5	U
106-93-4	1,2-Dibromoethane	4.5	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-90

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327503

Sample wt/vol: 6.87(g/mL) G Lab File ID: 327503R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 20 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-90-7	Chlorobenzene	4.5	U
100-41-4	Ethylbenzene	4.5	U
100-42-5	Styrene	4.5	U
75-25-2	Bromoform	4.5	U
98-82-8	Isopropyl Benzene	2.5	J
79-34-5	1,1,2,2-Tetrachloroethane	4.5	U
541-73-1	1,3-Dichlorobenzene	4.5	U
106-46-7	1,4-Dichlorobenzene	4.5	U
95-50-1	1,2-Dichlorobenzene	4.5	U
96-12-8	1,2-Dibromo-3-Chloropropane	4.5	U
120-82-1	1,2,4-Trichlorobenzene	4.5	U
1330-20-7	Xylene (total)	3.3	J
79-20-9	Methyl acetate	4.5	U
110-82-7	Cyclohexane	4.5	U
108-87-2	Methylcyclohexane	4.5	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SB-90

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327503

Sample wt/vol: 6.87 (g/mL) G Lab File ID: 327503R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 20 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		SUBSTITUTED BENZENE	12.48	7.3	J
2.	622-96-8	BENZENE, 1-ETHYL-4-METHYL-	12.55	54	NJ
3.	95-63-6	BENZENE, 1,2,4-TRIMETHYL-	12.63	23	NJ
4.	611-14-3	BENZENE, 1-ETHYL-2-METHYL-	12.84	12	NJ
5.	526-73-8	BENZENE, 1,2,3-TRIMETHYL-	13.00	81	NJ
6.		SUBSTITUTED BENZENE	13.60	4.8	J
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SF-1 0.8-1.2

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327504

Sample wt/vol: 5.91(g/mL) G Lab File ID: 327504R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 15 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl Chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
75-15-0	Carbon disulfide	5.0	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	5.0	U
67-64-1	Acetone	210	
75-09-2	Methylene Chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl-tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-butanone	26	
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
56-23-5	Carbon Tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
79-01-6	Trichloroethene	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	2.0	J
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-hexanone	12	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SF-1 0.8-1.2

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327504

Sample wt/vol: 5.91(g/mL) G Lab File ID: 327504R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 15 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropyl Benzene	6.6	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-Chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
1330-20-7	Xylene (total)	11	J
79-20-9	Methyl acetate	5.0	U
110-82-7	Cyclohexane	5.0	U
108-87-2	Methylcyclohexane	12	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SF-1 0.8-1.2

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327504

Sample wt/vol: 5.91 (g/mL) G Lab File ID: 327504R2B59

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: not dec. 15 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 10 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	611-14-3	BENZENE, 1-ETHYL-2-METHYL-	12.55	300	NJ
2.	526-73-8	BENZENE, 1,2,3-TRIMETHYL-	12.63	200	NJ
3.	17302-28-2	NONANE, 2,6-DIMETHYL-	12.82	230	NJ
4.	526-73-8	BENZENE, 1,2,3-TRIMETHYL-	13.00	320	NJ
5.		CYCLIC ALKANE	13.20	300	J
6.		UNKNOWN	13.48	260	J
7.	493-02-7	NAPHTHALENE, DECAHYDRO-, TRA	13.68	320	NJ
8.		BRANCHED ALKANE	14.18	220	J
9.		BRANCHED ALKANE	14.66	280	J
10.		CYCLIC ALKANE	15.16	310	J
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SF-1 0.8-1.2MS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 35914

Sample wt/vol: 5.62 (g/mL) G Lab File ID: 35914B59

Level: (low/med) LOW Date Received: 06/22/04

% Moisture: not dec. 37 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	65	
74-87-3	Chloromethane	75	
75-01-4	Vinyl Chloride	67	
74-83-9	Bromomethane	59	
75-00-3	Chloroethane	68	
75-69-4	Trichlorofluoromethane	35	
75-35-4	1,1-Dichloroethene	49	
75-15-0	Carbon disulfide	39	
76-13-1	1,1,2-trichloro-1,2,2-triflu	25	
67-64-1	Acetone	350	
75-09-2	Methylene Chloride	68	
156-60-5	trans-1,2-Dichloroethene	48	
1634-04-4	Methyl-tert-butyl ether	73	
75-34-3	1,1-Dichloroethane	50	
156-59-2	cis-1,2-Dichloroethene	51	
78-93-3	2-butanone	260	
67-66-3	Chloroform	43	
71-55-6	1,1,1-Trichloroethane	30	
56-23-5	Carbon Tetrachloride	22	
71-43-2	Benzene	40	
107-06-2	1,2-Dichloroethane	49	
79-01-6	Trichloroethene	28	
78-87-5	1,2-Dichloropropane	37	
75-27-4	Bromodichloromethane	34	
10061-01-5	cis-1,3-Dichloropropene	34	
108-10-1	4-Methyl-2-pentanone	280	
108-88-3	Toluene	33	
10061-02-6	trans-1,3-Dichloropropene	46	
79-00-5	1,1,2-Trichloroethane	60	
127-18-4	Tetrachloroethene	19	
591-78-6	2-hexanone	310	
124-48-1	Dibromochloromethane	42	
106-93-4	1,2-Dibromoethane	49	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SF-1 0.8-1.2MS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 35914

Sample wt/vol: 5.62(g/mL) G Lab File ID: 35914B59

Level: (low/med) LOW Date Received: 06/22/04

% Moisture: not dec. 37 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-90-7	Chlorobenzene	24	
100-41-4	Ethylbenzene	18	
100-42-5	Styrene	18	
75-25-2	Bromoform	29	
98-82-8	Isopropyl Benzene	20	
79-34-5	1,1,2,2-Tetrachloroethane	170	
541-73-1	1,3-Dichlorobenzene	15	
106-46-7	1,4-Dichlorobenzene	15	
95-50-1	1,2-Dichlorobenzene	15	
96-12-8	1,2-Dibromo-3-Chloropropane	28	
120-82-1	1,2,4-Trichlorobenzene	3.8	J
1330-20-7	Xylene (total)	64	
79-20-9	Methyl acetate	99	
110-82-7	Cyclohexane	16	
108-87-2	Methylcyclohexane	21	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SF-1 0.8-1.2MSD

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 35915

Sample wt/vol: 5.97(g/mL) G Lab File ID: 35915B59

Level: (low/med) LOW Date Received: 06/22/04

% Moisture: not dec. 37 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	82	
74-87-3	Chloromethane	89	
75-01-4	Vinyl Chloride	84	
74-83-9	Bromomethane	75	
75-00-3	Chloroethane	81	
75-69-4	Trichlorofluoromethane	47	
75-35-4	1,1-Dichloroethene	67	
75-15-0	Carbon disulfide	56	
76-13-1	1,1,2-trichloro-1,2,2-triflu	44	
67-64-1	Acetone	390	
75-09-2	Methylene Chloride	82	
156-60-5	trans-1,2-Dichloroethene	60	
1634-04-4	Methyl-tert-butyl ether	86	
75-34-3	1,1-Dichloroethane	62	
156-59-2	cis-1,2-Dichloroethene	65	
78-93-3	2-butanone	300	
67-66-3	Chloroform	55	
71-55-6	1,1,1-Trichloroethane	40	
56-23-5	Carbon Tetrachloride	34	
71-43-2	Benzene	54	
107-06-2	1,2-Dichloroethane	61	
79-01-6	Trichloroethene	39	
78-87-5	1,2-Dichloropropane	51	
75-27-4	Bromodichloromethane	43	
10061-01-5	cis-1,3-Dichloropropene	46	
108-10-1	4-Methyl-2-pentanone	400	
108-88-3	Toluene	55	
10061-02-6	trans-1,3-Dichloropropene	70	
79-00-5	1,1,2-Trichloroethane	89	
127-18-4	Tetrachloroethene	38	
591-78-6	2-hexanone	420	
124-48-1	Dibromochloromethane	59	
106-93-4	1,2-Dibromoethane	73	

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SF-1 0.8-1.2MSD

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 35915

Sample wt/vol: 5.97(g/mL) G Lab File ID: 35915B59

Level: (low/med) LOW Date Received: 06/22/04

% Moisture: not dec. 37 Date Analyzed: 06/24/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-90-7	Chlorobenzene	39	
100-41-4	Ethylbenzene	35	
100-42-5	Styrene	29	
75-25-2	Bromoform	41	
98-82-8	Isopropyl Benzene	38	
79-34-5	1,1,2,2-Tetrachloroethane	330	E
541-73-1	1,3-Dichlorobenzene	31	
106-46-7	1,4-Dichlorobenzene	30	
95-50-1	1,2-Dichlorobenzene	26	
96-12-8	1,2-Dibromo-3-Chloropropane	44	
120-82-1	1,2,4-Trichlorobenzene	11	
1330-20-7	Xylene (total)	110	
79-20-9	Methyl acetate	77	
110-82-7	Cyclohexane	39	
108-87-2	Methylcyclohexane	56	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VPXLCS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 35912

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 35912A59

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	40	
74-87-3	Chloromethane	40	
75-01-4	Vinyl Chloride	39	
74-83-9	Bromomethane	36	
75-00-3	Chloroethane	40	
75-69-4	Trichlorofluoromethane	29	
75-35-4	1,1-Dichloroethene	41	
75-15-0	Carbon disulfide	40	
76-13-1	1,1,2-trichloro-1,2,2-triflu	33	
67-64-1	Acetone	91	
75-09-2	Methylene Chloride	45	B
156-60-5	trans-1,2-Dichloroethene	41	
1634-04-4	Methyl-tert-butyl ether	42	
75-34-3	1,1-Dichloroethane	37	
156-59-2	cis-1,2-Dichloroethene	42	
78-93-3	2-butanone	98	
67-66-3	Chloroform	37	
71-55-6	1,1,1-Trichloroethane	36	
56-23-5	Carbon Tetrachloride	35	
71-43-2	Benzene	41	
107-06-2	1,2-Dichloroethane	37	
79-01-6	Trichloroethene	43	
78-87-5	1,2-Dichloropropane	39	
75-27-4	Bromodichloromethane	37	
10061-01-5	cis-1,3-Dichloropropene	40	
108-10-1	4-Methyl-2-pentanone	96	
108-88-3	Toluene	37	
10061-02-6	trans-1,3-Dichloropropene	36	
79-00-5	1,1,2-Trichloroethane	41	
127-18-4	Tetrachloroethene	38	
591-78-6	2-hexanone	100	
124-48-1	Dibromochloromethane	38	
106-93-4	1,2-Dibromoethane	41	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VPXLCS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 35912

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 35912A59

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-90-7	Chlorobenzene	39	
100-41-4	Ethylbenzene	38	
100-42-5	Styrene	40	
75-25-2	Bromoform	39	
98-82-8	Isopropyl Benzene	34	
79-34-5	1,1,2,2-Tetrachloroethane	43	
541-73-1	1,3-Dichlorobenzene	37	
106-46-7	1,4-Dichlorobenzene	37	
95-50-1	1,2-Dichlorobenzene	38	
96-12-8	1,2-Dibromo-3-Chloropropane	43	
120-82-1	1,2,4-Trichlorobenzene	34	
1330-20-7	Xylene (total)	110	
79-20-9	Methyl acetate	42	
110-82-7	Cyclohexane	31	
108-87-2	Methylcyclohexane	30	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

VPXLCS

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 35912

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 35912A59

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VSPLCS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 36117

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 36117B59

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	54	
74-87-3	Chloromethane	49	
75-01-4	Vinyl Chloride	51	
74-83-9	Bromomethane	49	
75-00-3	Chloroethane	52	
75-69-4	Trichlorofluoromethane	44	
75-35-4	1,1-Dichloroethene	51	
75-15-0	Carbon disulfide	49	
76-13-1	1,1,2-trichloro-1,2,2-triflu	42	
67-64-1	Acetone	110	
75-09-2	Methylene Chloride	53	
156-60-5	trans-1,2-Dichloroethene	51	
1634-04-4	Methyl-tert-butyl ether	48	
75-34-3	1,1-Dichloroethane	47	
156-59-2	cis-1,2-Dichloroethene	49	
78-93-3	2-butanone	120	
67-66-3	Chloroform	47	
71-55-6	1,1,1-Trichloroethane	47	
56-23-5	Carbon Tetrachloride	45	
71-43-2	Benzene	50	
107-06-2	1,2-Dichloroethane	44	
79-01-6	Trichloroethene	51	
78-87-5	1,2-Dichloropropane	48	
75-27-4	Bromodichloromethane	45	
10061-01-5	cis-1,3-Dichloropropene	46	
108-10-1	4-Methyl-2-pentanone	110	
108-88-3	Toluene	46	
10061-02-6	trans-1,3-Dichloropropene	43	
79-00-5	1,1,2-Trichloroethane	47	
127-18-4	Tetrachloroethene	44	
591-78-6	2-hexanone	120	
124-48-1	Dibromochloromethane	45	
106-93-4	1,2-Dibromoethane	48	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VSPLCS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 36117

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 36117B59

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-90-7	Chlorobenzene	47	
100-41-4	Ethylbenzene	45	
100-42-5	Styrene	46	
75-25-2	Bromoform	47	
98-82-8	Isopropyl Benzene	42	
79-34-5	1,1,2,2-Tetrachloroethane	48	
541-73-1	1,3-Dichlorobenzene	41	
106-46-7	1,4-Dichlorobenzene	40	
95-50-1	1,2-Dichlorobenzene	42	
96-12-8	1,2-Dibromo-3-Chloropropane	49	
120-82-1	1,2,4-Trichlorobenzene	41	
1330-20-7	Xylene (total)	130	
79-20-9	Methyl acetate	47	
110-82-7	Cyclohexane	38	
108-87-2	Methylcyclohexane	40	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

VSPLCS

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 36117

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 36117B59

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC

FORM 2
SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Level: (low/med) LOW

	CLIENT SAMPLE NO.	SMC1 (DBF) #	SMC2 (DCE) #	SMC3 (TOL) #	SMC4 (BFB) #	TOT OUT
01	VBLKPX	92	82	92	87	0
02	VPXLCS	93	83	95	90	0
03	SB-11 4.0-4.	97	107	100	138*	1
04	VBLKSP	95	87	96	91	0
05	VSPLCS	94	85	96	88	0
06	SB-10 3.5-4.	100	95	100	120	0
07	SB-11 4.0-4.	104	97	114	155*	1
08	SB-90	96	91	100	108	0
09	SF-1 0.8-1.2	109	103	122	162*	1
10	SF-1 0.8-1.2	104	97	119	168*	1
11	SF-1 0.8-1.2	112	108	127*	158*	2
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		QC LIMITS
SMC1 (DBF)	= Dibromofluoromethane	(71-141)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(70-139)
SMC3 (TOL)	= Toluene-d8	(72-123)
SMC4 (BFB)	= Bromofluorobenzene	(65-131)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 3
SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix Spike - Sample No.: SF-1 0.8-1.2 Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	70.61	0.0	49.21	70*	76-129
Benzene	70.61	0.0	39.76	56*	67-124
Trichloroethene	70.61	0.0	27.63	39*	72-136
Toluene	70.61	1.951	32.65	43*	64-117
Chlorobenzene	70.61	0.0	23.74	34*	72-116

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	66.47	67.08	101	31*	14	76-129
Benzene	66.47	53.55	81	30*	14	67-124
Trichloroethene	66.47	39.12	59*	34*	14	72-136
Toluene	66.47	54.84	79	51*	14	64-117
Chlorobenzene	66.47	39.49	59*	50*	14	72-116

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

* Values outside of QC limits

RPD: 5 out of 5 outside limits
Spike Recovery: 7 out of 10 outside limits

COMMENTS: _____

3B
SOIL VOLATILE LAB CONTROL SAMPLE

VPXLCS

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	50	41.26	83	76-129
Benzene	50	41.32	83	67-124
Trichloroethene	50	42.59	85	72-136
Toluene	50	36.97	74	64-117
Chlorobenzene	50	38.92	78	72-116

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

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS: _____

3B
SOIL VOLATILE LAB CONTROL SAMPLE

VSPLCS

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	50	50.53	101	76-129
Benzene	50	50.19	100	67-124
Trichloroethene	50	50.86	102	72-136
Toluene	50	45.59	91	64-117
Chlorobenzene	50	46.52	93	72-116

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

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS: _____

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO

VBLKPX

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Lab File ID: 35898A59 Lab Sample ID: 35898

Date Analyzed: 06/23/04 Time Analyzed: 1040

GC Column: ZB-624 ID: 0.32 (mm) Heated Purge: (Y/N) Y

Instrument ID: 5972HP59

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VPXLCS	35912	35912A59	1224
02	SB-11 4.0-4.	327502	327502A59	2003
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COMMENTS:

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VBLKPX

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 35898

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 35898A59

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl Chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
75-15-0	Carbon disulfide	5.0	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	5.0	U
67-64-1	Acetone	13	U
75-09-2	Methylene Chloride	2.1	J
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl-tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-butanone	13	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
56-23-5	Carbon Tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
79-01-6	Trichloroethene	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-hexanone	13	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VBLKPX

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 35898

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 35898A59

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropyl Benzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-Chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
1330-20-7	Xylene (total)	15	U
79-20-9	Methyl acetate	5.0	U
110-82-7	Cyclohexane	5.0	U
108-87-2	Methylcyclohexane	5.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

VBLKPX

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 35898

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 35898A59

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
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FORM I VOA-TIC

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO

VBLKSP

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Lab File ID: 36114B59 Lab Sample ID: 36114

Date Analyzed: 06/23/04 Time Analyzed: 2215

GC Column: ZB-624 ID: 0.32 (mm) Heated Purge: (Y/N) Y

Instrument ID: 5972HP59

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VSPLCS	36117	36117B59	2243
02	SB-10 3.5-4.	327501	327501R2B59	2339
03	SB-11 4.0-4.	327502	327502R2B59	0007
04	SB-90	327503	327503R2B59	0035
05	SF-1 0.8-1.2	327504	327504R2B59	0103
06	SF-1 0.8-1.2	35914	35914B59	0306
07	SF-1 0.8-1.2	35915	35915B59	0335
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COMMENTS:

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VBLKSP

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 36114

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 36114B59

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane	5.0	U
75-01-4	Vinyl Chloride	5.0	U
74-83-9	Bromomethane	5.0	U
75-00-3	Chloroethane	5.0	U
75-69-4	Trichlorofluoromethane	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
75-15-0	Carbon disulfide	5.0	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	5.0	U
67-64-1	Acetone	13	U
75-09-2	Methylene Chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl-tert-butyl ether	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-butanone	13	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
56-23-5	Carbon Tetrachloride	5.0	U
71-43-2	Benzene	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
79-01-6	Trichloroethene	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
127-18-4	Tetrachloroethene	5.0	U
591-78-6	2-hexanone	13	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane	5.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VBLKSP

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 36114

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 36114B59

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
98-82-8	Isopropyl Benzene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
541-73-1	1,3-Dichlorobenzene	5.0	U
106-46-7	1,4-Dichlorobenzene	5.0	U
95-50-1	1,2-Dichlorobenzene	5.0	U
96-12-8	1,2-Dibromo-3-Chloropropane	5.0	U
120-82-1	1,2,4-Trichlorobenzene	5.0	U
1330-20-7	Xylene (total)	15	U
79-20-9	Methyl acetate	5.0	U
110-82-7	Cyclohexane	5.0	U
108-87-2	Methylcyclohexane	5.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

VBLKSP

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 36114

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 36114B59

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 06/23/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC

CompuChem
a division of Liberty Analytical Corp.

28-Jun-04

DAN PETERMAN
BLASLAND, BOUCK & LEE, INC.
3700 REGENCY PARKWAY
SUITE 140
Cary, NC 27511

Subject:
Report of Data-Project: SUTTON STEAM Workorder: 3275

Attn.: DAN PETERMAN

Enclosed are the results of analytical work performed in accordance with the referenced account number.

This report covers sample(s) appearing on the attached listing.

Thank you for selecting CompuChem for your sample analysis. If you should have questions or require additional analytical services, please contact your representative at 1-800-833-5097.

Sincerely,

Marlene J. Sanfilippo

CompuChem
A Division of Liberty Analytical

Attachment

TOTAL NUMBER
OF PAGES 52

501 Madison Avenue, Cary, NC 27513 Tel: 919-379-4100 Fax: 919-379-4050

CompuChem, a division of Liberty Analytical

Hsn	Client ID	Wordorder	Matrix	Account	Project	Report
327501	SB-10 3.5-4.0	3275	S	BB&L	SUTTON STEAM	
327502	SB-11 4.0-4.5	3275	S	BB&L	SUTTON STEAM	
327503	SB-90	3275	S	BB&L	SUTTON STEAM	
327504	SF-1 0.8-1.2	3275	S	BB&L	SUTTON STEAM	

CompuChem

a division of Liberty Analytical Corporation
501 Madison Avenue
Cary, N.C. 27513
Tel: 919/379-4100 Fax: 919/379-4050

SDG NARRATIVE
SDG # 3275

SAMPLE IDENTIFICATIONS :

SB-10 3.5-4.0 SB-11 4.0-4.5 SB-90 SF-1 08-1.2

The four (4) soil samples listed above were received intact, properly refrigerated at temperatures of 1.0°C, and with proper documentation in sealed shipping containers, on June 10th, 2004. The samples were scheduled for the requested analyses of the semivolatile fraction.

The samples were prepared and analyzed following the SW-846 method 8270C.

All pertinent Quality Assurance Notices are included in the narrative section, and all pertinent Laboratory Notices for SDG # 3275 are included in the sample data sections.

Analysis holding time requirements were met for all of these samples.

Sample **SF-1 08-1.2** was analyzed at a 3:1 dilution. Matirx spikes and matrix spike duplicates prepared from this sample were also analyzed at a 3:1 dilution. All other samples in this SDG were reported from neat analyses.

Phenanthrene was found above the Contract Required Detection Limit (CRDL) in **SB-90** and **SB-11 4.0-4.5.** No target compounds were found above the CRDL in any other samples in this SDG

Recovery of d_{14}-terphenyl was below the established minimum recovery limit of 43 percent in sample SB-10 3.5-4.0. This sample was reextracted and reanalyzed. The reextraction/reanalysis of this sample confirmed the low surrogate recovery. All samples passed the recovery criteria for the system monitoring compounds.

Client specific matrix spike (MS) and matrix spike duplicate (MSD) samples were analyzed with this SDG from sample **SF-1 08-1.2.** The recovery for 4-nitrophenol in the matrix spike sample was 173 percent outside the maximum allowed recovery of 150 percent. Inspection of the extracted ion current profile indicates substantial interference with the quantitation mass for this compound in the matrix spike sample. The matrix spike duplicate sample met the recovery requirement, inspection of the EICP for the quantitation mass in the duplicate sample shows a similar pattern of interference, however the peak representing 4-nitrophenol was marginally better resolved in the duplicate sample, leading to it passing the recovery criteria. All other precision and accuracy criteria were met.

The associated method blanks met all quality control criteria.

All decafluorotriphenylphosphine (DFTPP) abundance criteria were met for tunes associated to this SDG. Overall QC criteria were met for all initial and continuing calibration standards associated to this SDG.

All calibration criteria were met for both the initial and continuing calibration samples associated with this SDG.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

L. Richard Flynn
Sr. Scientist
June 23, 2004

GC and GC/MS Column and Trap Specifications Table

COLUMNS

Brand Name	Coating Material	ID (mm)	Film Thickness (um)	Length (m)
GC Laboratory				
Restek	RTX-1701	0.53	0.5	30
J & W	DB-608	0.53	0.83	30
Restek	CLPesticides	0.53	0.5	30
Restek	CLPesticides II	0.53	0.42	30
GC Volatiles Laboratory				
Restek	RTX-1	0.53	0.5	105
Restek	RTX-502.2	0.53	0.5	105
GC/MS Volatiles Laboratory				
J & W	DB-624	0.53	3.0	30/75
J & W	DB-624	0.25	1.4	60
J & W	DB-624	0.32	1.8	60
Restek	RTX-624	0.32	1.8	60
Restek	RTX-VMS*	0.18	1.0	20
Supelco	SPB-624	0.32	1.4	60
Supelco	Equity™-624	0.53	3.0	75
Zebron	ZB-624	0.32	1.8	60
GC/MS Semivolatiles Laboratory				
Restek	RTX-5MS	0.25	0.25	30
Restek	RTX-5MS	0.32	0.25	30
HPLC Laboratory				
Supelco	Supelcosil LC-PAH	4.6	5.0	15 cm
Supelco	Discovery RP Amide C16	4.6	5.0	25 cm
Restek	Pinnacle Cyano	4.6	5.0	25 cm
Restek	Allure C18	4.6	5.0	25 cm

*Note: The RTX-VMS column is currently not used for EPA CLP analyses.

TRAPS

GC and GC/MS Volatiles Laboratory	
Tekmar 3	* 8 cm of 2,6-diphenylene oxide polymer (Tenax) * 8 cm of silica gel * 7 cm of coconut charcoal * 0.5 cm of silanized glass wool at each end
Tekmar 5	* 1 cm of methyl silicone packing (OV-1 coating) * 8 cm of 2,6-diphenylene oxide polymer (Tenax) * 8 cm of silica gel * 7 cm of coconut charcoal * 0.5 cm of silanized glass wool at each end
Supelco K (Vocarb3000)	* 10 cm of Carbopack B (Graphitized Carbons) * 6 cm of Carboxen 1000 (Carbon molecular sieves) * 1 cm of Carboxen 1001 (Carbon molecular sieves)

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CompuChem's Pagination Convention

As required by the current EPA CLP Statement of Work (SOW) (Document Number OLM04.0, plus revisions), data to be delivered must be paginated (by machine or hand). In the event that the initial numbering is incorrect (a page numbered twice or a page skipped, for example), it is CompuChem's policy to add in an alphabetic suffix to a page number when necessary (e.g., 100A, 100B, etc.).

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Notification Regarding Manual Editing/Integration Flags

In some instances, manual adjustments to the software output are necessary to provide accurate data. These adjustments are performed by the data reviewer, GC/MS operator, or GC chemist. An Extracted Ion Current Profile (EICP) or a GC chromatographic peak has been provided for the manual integration of each compound to demonstrate the accuracy of that process. Adjustments are flagged on the quantitation report in the far right column beyond the FINAL concentration for GC/MS analysis, and in the "Flags" column for GC analysis. The manual editing/integration flags are:

M - Denotes that a manual integration has been performed for this compound. The manual integration was performed in order to provide the most accurate area count as possible for the peak.

H - Denotes that the data reviewer, GC/MS operator, or GC Chemist has chosen an alternate peak within the retention time window from that chosen by the software for that compound. No manual integration is performed in choosing an alternate peak. The software still performs the integration.

MH - Denotes that an alternate peak has been chosen within the retention time window from that chosen by the software for that compound and also a manual integration of the chosen peak has been performed. The manual integration was performed in order to provide the most accurate area count possible for the peak.

L - Denotes that the data reviewer or GC/MS operator has selected an alternate library search. This is typically done when an additional tentatively identified compound (TIC) has been added to the number of peaks searched. No manual integration is performed in choosing an alternate peak. The software still performs the integration.

ML - Denotes that an alternate library search has been selected and a manual integration has also been performed. This is typically done when an additional TIC has been added and the TIC peak also required a manual integration.

The EPA CLP SOW requires additional explanations for manual editing/integration. In the accompanying raw data packages, additional codes have been applied to the "M" flag and carry the following meanings;

M1 - The compound was not found by the automatic integration routine.

M2 - The compound was incorrectly integrated by the automatic integration routine.

M3 - The co-eluting compounds were incorrectly integrated by the automatic integration routine.

These codes will appear in the GC/MS and GC data packages.

Robert E. Meierer
Vice President

DATA REPORTING QUALIFIERS

On the Form I, under the column labeled "Q" for qualifier, each result is flagged with the specific data reporting qualifiers listed below, as appropriate. Up to five qualifiers may be reported on Form I for each compound. The qualifiers used are:

U : This flag indicates the compound was analyzed for but not detected. The Contract Required Quantitation Limit (CRQL), or reporting limit, will be adjusted to reflect any dilution and, for soils, the percent moisture.

J : This flag indicates an estimated value. The flag is used as detailed below:

1. When estimating a concentration for tentatively identified compounds (TICs) where a response factor of 1.0 is assumed for the TIC analyte,

2. When the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the CRQL (or Reporting Limit) but greater than zero, and

3. When the retention time data indicate the presence of a compound that meets the pesticide/Aroclor or other GC or HPLC identification criteria, and the result is less than the CRQL (or Reporting Limit) but greater than zero. For example, if the CRQL (or Reporting Limit) is 10 µg/L, but a concentration of 3 µg/L is calculated, it is reported as 3J.

N : This flag indicates presumptive evidence of a compound. This flag is only used for TICs, where the identification is based on a mass spectral library search. For generic characterization of a TIC such as 'chlorinated hydrocarbon', the N flag is not used.

P : In the EPA's Contract Laboratory Program (CLP), this flag is used for a pesticide/Aroclor target analyte, when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a P.
For SW-846 GC and HPLC analyses, when the Relative Percent Difference (RPD) is greater than 40% and there is no evidence of chromatographic anomalies or interferences, then the higher of the two values is reported and flagged with a P. When the RPD is equal to or less than 40%, our policy is to also report the higher of the two values, although the choice could be a project specific issue.

DATA REPORTING QUALIFIERS (continued)

C: This flag applies to GC or HPLC results where the identification has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, this flag is not applied; a laboratory-defined flag is used instead (see the X/Y/Z qualifier.)

B: This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. This flag is used for a TIC as well as for a positively identified target compound. The combination of flags BU or UB is not an allowable policy. Blank contaminants are flagged B only when they are detected in the sample.

E: This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range, the sample or extract will be diluted and reanalyzed. All such compounds with a response greater than the upper level of the calibration range will have the concentration flagged with an E on Form I for the original analysis.

D: If a sample or extract is reanalyzed at a higher dilution factor, for example when the concentration of an analyte exceeds the upper calibration range, the DL suffix is appended to the sample number on Form I for the more diluted sample, and all reported concentrations on that Form I are flagged with the D flag. This flag alerts data users that any discrepancies between the reported concentrations may be due to dilution of the sample or extract.

NOTE 1: The D flag is not applied to compounds which are not detected in the sample analysis i.e. compounds reported with the CRQL (or Reporting Limit) and the U flag.

NOTE 2: Separate Form Is are used for reporting the original analysis (Client Sample No. XXXXX) and the more diluted sample analysis (Client Sample No. XXXXXDL) i.e. the results from both analyses are not combined on a single Form I.

A: This flag indicates that a TIC is a suspected aldol-condensation product.

X/Y/Z: Other specific flags may be required to properly define the results. If used, the flags will be fully described in the SDG Narrative. The laboratory-defined flags are limited to X, Y and Z.

Laboratory Notice

Calibration Date(s): 02-APR-2004 12:28 02-APR-2004 15:23

Instrument ID: 5972hp64

An initial calibration was analyzed by Method 8270C. Per the methodology, all compounds are to meet a Percent Relative Standard Deviation (%RSD) limit of no more than 15%. Additional calibration options are provided in the method when the RSD exceeds 15%. CompuChem has chosen to apply the option of determining the mean RSD values for all analytes in the initial calibration.

When there are analytes with %RSDs greater than the limit, proof of calibration linearity can be shown if the average of all compounds in the initial calibration meet the same 15% limit. Based on Method 8270C, Sec. 7.3.7.1, and Method 8000B, Section 7.5.1.2, we are providing a list of the compounds which failed to meet the limit, and their associated %RSDs. Finally, the average of all %RSDs from all compounds in the initial calibration is shown, confirming the usability of the initial calibration and any data that follows it.

Compound Name	RSD
Hexachlorocyclopentadiene	18.6
2,4-Dinitrophenol	30.3
4,6-Dinitro-2-methylphenol	17.0
Atrazine	22.0
Benzidine	47.0
3,3'-Dichlorobenzidine	25.9

Average %RSD for all compounds in the Initial Calibration: 4.8 %

Data Reviewer/ID: _____ / 616

Date: 6/24/2004

Laboratory Notice

Calibration Date(s): 15-JUN-2004 23:35 16-JUN-2004 03:02

Instrument ID: 5972hp66

An initial calibration was analyzed by Method 8270C. Per the methodology, all compounds are to meet a Percent Relative Standard Deviation (%RSD) limit of no more than 15%. Additional calibration options are provided in the method when the RSD exceeds 15%. CompuChem has chosen to apply the option of determining the mean RSD values for all analytes in the initial calibration.

When there are analytes with %RSDs greater than the limit, proof of calibration linearity can be shown if the average of all compounds in the initial calibration meet the same 15% limit. Based on Method 8270C, Sec. 7.3.7.1, and Method 8000B, Section 7.5.1.2, we are providing a list of the compounds which failed to meet the limit, and their associated %RSDs. Finally, the average of all %RSDs from all compounds in the initial calibration is shown, confirming the usability of the initial calibration and any data that follows it.

Compound Name	RSD
Hexachlorocyclopentadiene	21.9
2,4-Dinitrophenol	28.5
Atrazine	21.8
Pentachlorophenol	26.4
Benzidine	29.9
3,3'-Dichlorobenzidine	22.3

Average %RSD for all compounds in the Initial Calibration: 5.0 %

Data Reviewer/ID: VN / 2391

Date: 6/23/04

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CHAIN OF CUSTODY

501 Madison Ave.
Cary, NC 27513
Phone: 919-379-4100 Fax 919-379-4040

Courier: 0
Airbill No.:
Sampling Complete? Y or N

Company Name: BBL, Inc	Project Name: Sutton Steam Plant - FADA
Address: 3700 Regency Pkwy Suite 140	Sampling Location: Wilmington, NC
City: Cary State: NC Zip: 27511	Turnaround time: Standard
Project Contact: Scott Davies	Batch QC or Project Specific? If Specific, which Sample ID?
Phone #: 919-469-1952 x17	Are aqueous samples field filtered for metals? Y or N
Sampler's Name: Brian Lovgren	Are high concentrations expected? Y or N? If yes, which ID(s)?

GW - Ground water
WW - Waste water
SW - Surface water
SO - Soil/Sediment
TB - Trip Blank
RI - Rinsate
WP - Wipe
O - Other

	Field ID	Collection Date	Collection Time	Matrix	# of bottles	Number of Preserved Bottles: HCl	NaOH	NHO3	H2SO4	MEOH	Other	TCL VOC's (8260) +10 TICS 3-5 day Encore	TCL SVOC's (8270) +10 TICS 8-07 Low Level	HSL Metals (6010) (7470) 4oz
327501	SB-10(3.5-4.0)	6-9-04	0820	Soil	5						5	3	1	1
327504	SF-1(0.8-1.2)	6-9-04	0930	Soil	5						5	3	1	1
327504	SF-1(0.8-1.2) MS	6-9-04	0930	Soil	5						5	3	1	1
327504	SF-1(0.8-1.2) MSD	6-9-04	0930	Soil	5						5	3	1	1
327502	SB-11(4.0-4.5)	6-9-04	1035	Soil	5						5	3	1	1
327503	SB-90	6-9-04	NR	Soil	5						5	3	1	1
327601	EB-060904	6-9-04	0850	Water	6	3		1			2	3	2	1
327602	TB-060904	6-9-04	NR	Water	3	3						3		

Sample Unpacked By: Jacque Bailey
Sample Order Entry By:
Samples Received in Good Condition? (Y) or N
If no, explain:

Cyanide samples checked for sulfide & chlorine? Y or (NA)
625 & Phenol samples checked for chlorine? Y or (NA)
608 samples checked for pH between 5.0-9.0? Y or (NA)

For VOC Rec'd 3-802, 3-40z, 9-40ml
For EB-060904 2-AL 1-500P, 3-40ml
TB Rec'd one of the 40ml with pea size air bubble. LBB 6-10-04

Relinquished by:	Date/Time: 6/10/04 0950	Received by: Jacque Bailey	Date/Time: 6-10-04 9:50
Relinquished by:	Date/Time:	Received by:	Date/Time:

Subcontact? Y or N If yes, where?
Custody Seal(s) intact? Y or (N)
On Ice? (Y) or N
Cooler Temp: 1.0 °C

Samples stored 60 days after date report mailed at no extra charge.

White & Yellow copy to lab • Pink copy for customer

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WORKORDER SUMMARY REPORT

Workorder: 3275 **Account:** BB&L **Project:** SUTTON STEAM
SDG-Case: 3275 **Status:** **QC Type:** CLIENT SPECIFIC MS/MSD
Report Style: COMPUCHEM STYLE 3 WITH EDD

SAMPLE ID	CLIENT ID	COLLECT DATE	RECEIVE DATE	DUE DATE	COMMENTS
327501	SB-10 3.5-4.0	6/9/2004	6/10/2004	6/23/2004	METALS=SB,AS,BE,CD,CR,CU,PB,HG,NI,SE,AG,TL.ZN
S	DRY WEIGHT	Dry Weight			
S	VS8260LTC4	VOC LL 8260B TCL4 SOIL			
S	SS8270LTC4	SVOC LL 8270C TCL4 SOIL			
S	MS6010VAR	METAL 6010B VARIABLE SOIL			
S	MS7471HG	MERCURY ONLY 7471A SOIL			
327502	SB-11 4.0-4.5	6/9/2004	6/10/2004	6/23/2004	METALS=SB,AS,BE,CD,CR,CU,PB,HG,NI,SE,AG,TL.ZN
S	DRY WEIGHT	Dry Weight			
S	VS8260LTC4	VOC LL 8260B TCL4 SOIL			
S	SS8270LTC4	SVOC LL 8270C TCL4 SOIL			
S	MS6010VAR	METAL 6010B VARIABLE SOIL			
S	MS7471HG	MERCURY ONLY 7471A SOIL			
327503	SB-90	6/9/2004	6/10/2004	6/23/2004	METALS=SB,AS,BE,CD,CR,CU,PB,HG,NI,SE,AG,TL.ZN
S	DRY WEIGHT	Dry Weight			
S	VS8260LTC4	VOC LL 8260B TCL4 SOIL			
S	SS8270LTC4	SVOC LL 8270C TCL4 SOIL			
S	MS6010VAR	METAL 6010B VARIABLE SOIL			
S	MS7471HG	MERCURY ONLY 7471A SOIL			
327504	SF-1 0.8-1.2	6/9/2004	6/10/2004	6/23/2004	USE FOR QC**METALS=SB,AS,BE,CD,CR,CU,PB,HG,NI,SE,AG,TL.ZN
S	DRY WEIGHT	Dry Weight			
S	VS8260LTC4	VOC LL 8260B TCL4 SOIL			
S	SS8270LTC4	SVOC LL 8270C TCL4 SOIL			
S	QCS-8260	QC-8260B VOC SOIL			
S	QCS-8270	QC-8270C SVOC			
S	QCS-6010	QC-6010B METALS SOIL			
S	QCS-7471HG	QC-7471 HG SOIL			
S	MS6010VAR	METAL 6010B VARIABLE SOIL			
S	MS7471HG	MERCURY ONLY 7471A SOIL			

CompuChem

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WORKORDER SUMMARY REPORT

Workorder: 3276 **Account:** BB&L **Project:** SUTTON STEAM
SDG-Case: 3276 **Status:** **QC Type:** CLIENT SPECIFIC MS/MSD
Report Style: COMPUCHEM STYLE 3 WITH EDD

SAMPLE ID	CLIENT ID	COLLECT DATE	RECEIVE DATE	DUE DATE	COMMENTS
327601	EB-060904	6/9/2004	6/10/2004	6/23/2004	EQUIP BLANK FOR WO 3275**METALS=SB,AS,BE,CD,CR,CU,PB,HG,NI,SE,AG,TL.ZN
W	VW82-5TC4	VOC 8260B 5ML TCL4 WATER			
W	SW8270TCL4	SVOC 8270C TCL4 WATER			
W	MW6010VAR	METAL 6010B VARIABLE WATER			
W	MW7470HG	MERCURY ONLY 7470A WATER			
327602	TB-060904	6/9/2004	6/10/2004	6/23/2004	TRIP BLANK FOR WO 3275*
W	VW82-5TC4	VOC 8260B 5ML TCL4 WATER			

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QUALITY ASSURANCE NOTICE

Client BBL, Inc.
Case #
Type of Analysis TCL VOC's, TCL SVOC's, HSL Metals
Receipt Date 6-10-04

For some organic and/or inorganic determinations temperature preservation at 4 degrees Celsius is required for environmental samples during shipment to the laboratory and prior to analysis. A temperature tolerance range is generally allowed. Temperature of a representative sample from the shipping container is taken and recorded by the receiving clerk at the time of sample receipt. This temperature is representative of all samples contained in the cooler. The EPA CLP program requires the laboratory make notification when the temperature exceeds 10 degrees Celsius. The State of North Carolina allows a range of 2-4.4° Celsius. Notification to other clients is either client or project dependent.

Samples that are hand delivered to the laboratory immediately after collection may not meet this criteria. In these cases, the samples shall be considered acceptable if there is evidence that the chilling process has begun, such as arrival on ice.

The temperature of this sample at the time of receipt was determined to be 4.0°C.

A CompuChem customer service representative contacted the client. The client instructed the Receiving department to:

Hand Delivery/Received on ice ✓
Analyze - qualify with notice ✓
Dispose - client will resample

Supervisor Signature/ID _____/_____ Date _____

QAN-R-3
020205

qanr3 – 2/5/02:dcc

CompuChem, a Division of Liberty Analytical

Extract Chain of Custody

Batch: 4306 Date: 6/11/2004

Department: Organic Extractions

Sample ID	Client ID	Product	Matrix	Hold Date
326901	SB-19-1-2	SS8270LX	S	6/23/2004
326902	SB-19-7-8	SS8270LX	S	6/23/2004
326903	SB-20-1-2	SS8270LX	S	6/23/2004
326904	SB-20-7-8	SS8270LX	S	6/23/2004
327501	SB-10 3.5-4.0	SS8270LX	S	6/23/2004
327502	SB-11 4.0-4.5	SS8270LX	S	6/23/2004
327503	SB-90	SS8270LX	S	6/23/2004
327504	SF-1 0.8-1.2	SS8270LX	S	6/23/2004
329901	SB74 0-3	SS8270LX	S	6/23/2004
329902	SB75 0-3	SS8270LX	S	6/23/2004
329903	SB76 0-3	SS8270LX	S	6/23/2004
329904	SB76 0-3D	SS8270LX	S	6/23/2004
329905	SB77 0-3	SS8270LX	S	6/23/2004
329906	SB78 0-3	SS8270LX	S	6/23/2004
329907	SB80 0-3	SS8270LX	S	6/24/2004
330001	SB78 8-10	SS8270LX	S	6/23/2004
330002	SB79 8-10	SS8270LX	S	6/24/2004
330003	SB81A 10-12	SS8270LX	S	6/24/2004
330004	SB81A 10-12D	SS8270LX	S	6/24/2004
330005	SB82 8-10	SS8270LX	S	6/24/2004
35890	SBLKRA	SS8270LX	S	6/25/2004
35891	SLCSRA	SS8270LX	S	6/25/2004
35892	SF-1 0.8-1.2MS	SS8270LX	S	6/23/2004
35893	SF-1 0.8-1.2MSD	SS8270LX	S	6/23/2004
35919	SB-19-1-2MS	SS8270LX	S	6/23/2004
35920	SB-19-1-2MSD	SS8270LX	S	6/23/2004

Relinquished By:	Received By:	Date/Time
	GCMS Ref 3	6-13-04 1100
GCMS #3	DHenning	6/16/04 1100
DHenning	GCMS #3	6/16/04 1230
GCMS Refri.#3	F.Ng	6/16/04 21:15
F.Ng	GCMS Refri.#3	6/16/04 22:00
GCMS Rfg 3	G.Mitchell	6/17 8:00
G.Mitchell	GCMS Rfg 3	6/17 10:00
GCMS Refri#3	F.Ng	6/17/04 18:00
F.Ng	GCMS Refri#3	6/17/04 20:00

6-132

CompuChem, a Division of Liberty Analytical

Extract Chain of Custody

Batch: 4404 Date: 6/17/2004

Department: Organic Extractions

Sample ID	Client ID	Product	Matrix	Hold Date
325101	CP-SB04-1014	SS8270LX	S	6/21/2004
325102	CP-SB04-1519	SS8270LX	S	6/21/2004
325103	CP-SB04-2022	SS8270LX	S	6/21/2004
325104	CP-SB05-1012	SS8270LX	S	6/21/2004
325105	CP-SB05-1519	SS8270LX	S	6/21/2004
325106	CP-SB05-2022	SS8270LX	S	6/21/2004
325107	CP-SB06-1011	SS8270LX	S	6/22/2004
325108	CP-SB06-1517	SS8270LX	S	6/22/2004
325109	CP-SB07-1214	SS8270LX	S	6/22/2004
325110	CP-SB07-1518	SS8270LX	S	6/22/2004
325111	CP-SB07-2022	SS8270LX	S	6/22/2004
325112	CP-SB07-2526	SS8270LX	S	6/22/2004
325113	CP-SB01-1013	SS8270LX	S	6/22/2004
325114	CP-SB01-1516	SS8270LX	S	6/22/2004
325115	CP-SB01-2021	SS8270LX	S	6/22/2004
325116	CP-SB02-1011	SS8270LX	S	6/22/2004
325117	CP-SB02-1516	SS8270LX	S	6/22/2004
36714	SBLKSZ	SS8270LX	S	7/1/2004
36715	SLCSSZ	SS8270LX	S	7/1/2004
36716	CP-SB04-1519M	SS8270LX	S	6/21/2004
36717	CP-SB04-1519M	SS8270LX	S	6/21/2004

325101

Relinquished By:	Received By:	Date/Time
GCMS Rg 3	GCMS Rg 3	6-18-04 / 730
G. Mitchell	G Mitchell	6/19 9:00
	GCMS Rg 3	6/19 12:00

6-18-04

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-10 3.5-4.0

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327501

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327501JA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 37 decanted: (Y/N) N Date Extracted:06/12/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-52-7	Benzaldehyde	520	U
108-95-2	Phenol	520	U
111-44-4	Bis(2-chloroethyl)ether	520	U
95-57-8	2-Chlorophenol	520	U
95-48-7	2-Methylphenol	520	U
108-60-1	2,2'-oxybis(1-Chloropropane)	520	U
98-86-2	Acetophenone	520	U
106-44-5	4-Methylphenol	520	U
621-64-7	N-Nitroso-di-N-propylamine	520	U
67-72-1	Hexachloroethane	520	U
98-95-3	Nitrobenzene	520	U
78-59-1	Isophorone	520	U
88-75-5	2-Nitrophenol	520	U
105-67-9	2,4-Dimethylphenol	520	U
111-91-1	Bis(2-chloroethoxy)methane	520	U
120-83-2	2,4-Dichlorophenol	520	U
91-20-3	Naphthalene	520	U
106-47-8	4-Chloroaniline	520	U
87-68-3	Hexachlorobutadiene	520	U
105-60-2	Caprolactam	520	U
59-50-7	4-Chloro-3-methylphenol	520	U
91-57-6	2-Methylnaphthalene	520	U
77-47-4	Hexachlorocyclopentadiene	520	U
88-06-2	2,4,6-Trichlorophenol	520	U
95-95-4	2,4,5-Trichlorophenol	520	U
92-52-4	1,1'-Biphenyl	520	U
91-58-7	2-Chloronaphthalene	520	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	520	U
606-20-2	2,6-Dinitrotoluene	520	U
208-96-8	Acenaphthylene	520	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	520	U

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-10 3.5-4.0

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327501

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327501JA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 37 decanted: (Y/N) N Date Extracted:06/12/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
121-14-2	2,4-Dinitrotoluene	520	U
132-64-9	Dibenzofuran	520	U
84-66-2	Diethylphthalate	520	U
7005-72-3	4-Chlorophenyl-phenylether	520	U
86-73-7	Fluorene	520	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	N-Nitrosodiphenylamine (1)	520	U
101-55-3	4-Bromophenyl-phenylether	520	U
118-74-1	Hexachlorobenzene	520	U
1912-24-9	Atrazine	520	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	520	U
120-12-7	Anthracene	520	U
86-74-8	Carbazole	520	U
84-74-2	Di-n-butylphthalate	520	U
206-44-0	Fluoranthene	520	U
129-00-0	Pyrene	520	U
85-68-7	Butylbenzylphthalate	520	U
91-94-1	3,3'-Dichlorobenzidine	520	U
117-81-7	bis(2-ethylhexyl)Phthalate	110	JB
56-55-3	Benzo(a)anthracene	520	U
218-01-9	Chrysene	520	U
117-84-0	Di-n-octylphthalate	120	J
205-99-2	Benzo(b)fluoranthene	520	U
207-08-9	Benzo(k)fluoranthene	520	U
50-32-8	Benzo(a)pyrene	520	U
193-39-5	Indeno(1,2,3-cd)pyrene	520	U
53-70-3	Dibenzo(a,h)anthracene	520	U
191-24-2	Benzo(g,h,i)perylene	520	U

(1) - Cannot be separated from Diphenylamine

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SB-10 3.5-4.0

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327501

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327501JA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 37 decanted: (Y/N) N Date Extracted:06/12/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.64	950	JB
2.		UNKNOWN	6.36	550	JB
3.	10544-50-0	SULFUR, MOL. (S8)	14.20	220	NJ
4.		UNKNOWN	19.70	310	J
5.		UNKNOWN	19.75	390	J
6.		UNKNOWN	19.83	270	J
7.		UNKNOWN	19.89	230	J
8.					
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FORM I SV-TIC

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-10 3.5-4.0RE

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327501

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327501RA66

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 37 decanted: (Y/N) N Date Extracted:06/18/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/19/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-52-7	Benzaldehyde	520	U
108-95-2	Phenol	520	U
111-44-4	Bis(2-chloroethyl)ether	520	U
95-57-8	2-Chlorophenol	520	U
95-48-7	2-Methylphenol	520	U
108-60-1	2,2'-oxybis(1-Chloropropane)	520	U
98-86-2	Acetophenone	520	U
106-44-5	4-Methylphenol	520	U
621-64-7	N-Nitroso-di-N-propylamine	520	U
67-72-1	Hexachloroethane	520	U
98-95-3	Nitrobenzene	520	U
78-59-1	Isophorone	520	U
88-75-5	2-Nitrophenol	520	U
105-67-9	2,4-Dimethylphenol	520	U
111-91-1	Bis(2-chloroethoxy)methane	520	U
120-83-2	2,4-Dichlorophenol	520	U
91-20-3	Naphthalene	520	U
106-47-8	4-Chloroaniline	520	U
87-68-3	Hexachlorobutadiene	520	U
105-60-2	Caprolactam	520	U
59-50-7	4-Chloro-3-methylphenol	520	U
91-57-6	2-Methylnaphthalene	520	U
77-47-4	Hexachlorocyclopentadiene	520	U
88-06-2	2,4,6-Trichlorophenol	520	U
95-95-4	2,4,5-Trichlorophenol	520	U
92-52-4	1,1'-Biphenyl	520	U
91-58-7	2-Chloronaphthalene	520	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	520	U
606-20-2	2,6-Dinitrotoluene	520	U
208-96-8	Acenaphthylene	520	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	520	U

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-10 3.5-4.0RE

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327501

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327501RA66

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 37 decanted: (Y/N) N Date Extracted:06/18/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/19/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
121-14-2	2,4-Dinitrotoluene	520	U
132-64-9	Dibenzofuran	520	U
84-66-2	Diethylphthalate	520	U
7005-72-3	4-Chlorophenyl-phenylether	520	U
86-73-7	Fluorene	520	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	N-Nitrosodiphenylamine (1)	520	U
101-55-3	4-Bromophenyl-phenylether	520	U
118-74-1	Hexachlorobenzene	520	U
1912-24-9	Atrazine	520	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	520	U
120-12-7	Anthracene	520	U
86-74-8	Carbazole	520	U
84-74-2	Di-n-butylphthalate	520	U
206-44-0	Fluoranthene	520	U
129-00-0	Pyrene	520	U
85-68-7	Butylbenzylphthalate	520	U
91-94-1	3,3'-Dichlorobenzidine	520	U
117-81-7	bis(2-ethylhexyl)Phthalate	520	U
56-55-3	Benzo(a)anthracene	520	U
218-01-9	Chrysene	520	U
117-84-0	Di-n-octylphthalate	520	U
205-99-2	Benzo(b)fluoranthene	520	U
207-08-9	Benzo(k)fluoranthene	520	U
50-32-8	Benzo(a)pyrene	520	U
193-39-5	Indeno(1,2,3-cd)pyrene	520	U
53-70-3	Dibenzo(a,h)anthracene	520	U
191-24-2	Benzo(g,h,i)perylene	520	U

(1) - Cannot be separated from Diphenylamine

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SB-10 3.5-4.0RE

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327501

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327501RA66

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 37 decanted: (Y/N) N Date Extracted:06/18/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/19/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	6.56	500	JB
2.		BRANCHED ALKANE	16.41	220	J
3.		BRANCHED ALKANE	17.47	260	J
4.	10544-50-0	SULFUR, MOL. (S8)	19.98	440	NJ
5.		UNKNOWN	23.32	220	J
6.		UNKNOWN	25.69	210	J
7.		UNKNOWN	28.42	250	J
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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-11 4.0-4.5

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327502

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327502JA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 19 decanted: (Y/N) N Date Extracted: 06/12/04

Concentrated Extract Volume: 1500(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-52-7	Benzaldehyde	610	U
108-95-2	Phenol	610	U
111-44-4	Bis(2-chloroethyl)ether	610	U
95-57-8	2-Chlorophenol	610	U
95-48-7	2-Methylphenol	610	U
108-60-1	2,2'-oxybis(1-Chloropropane)	610	U
98-86-2	Acetophenone	610	U
106-44-5	4-Methylphenol	610	U
621-64-7	N-Nitroso-di-N-propylamine	610	U
67-72-1	Hexachloroethane	610	U
98-95-3	Nitrobenzene	610	U
78-59-1	Isophorone	610	U
88-75-5	2-Nitrophenol	610	U
105-67-9	2,4-Dimethylphenol	610	U
111-91-1	Bis(2-chloroethoxy)methane	610	U
120-83-2	2,4-Dichlorophenol	610	U
91-20-3	Naphthalene	610	U
106-47-8	4-Chloroaniline	610	U
87-68-3	Hexachlorobutadiene	610	U
105-60-2	Caprolactam	610	U
59-50-7	4-Chloro-3-methylphenol	610	U
91-57-6	2-Methylnaphthalene	49	J
77-47-4	Hexachlorocyclopentadiene	610	U
88-06-2	2,4,6-Trichlorophenol	610	U
95-95-4	2,4,5-Trichlorophenol	610	U
92-52-4	1,1'-Biphenyl	610	U
91-58-7	2-Chloronaphthalene	610	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	610	U
606-20-2	2,6-Dinitrotoluene	610	U
208-96-8	Acenaphthylene	610	U
99-09-2	3-Nitroaniline	1200	U
83-32-9	Acenaphthene	610	U

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-11 4.0-4.5

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327502

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327502JA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 19 decanted: (Y/N) N Date Extracted:06/12/04

Concentrated Extract Volume: 1500(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1200	U
100-02-7	4-Nitrophenol	1200	U
121-14-2	2,4-Dinitrotoluene	610	U
132-64-9	Dibenzofuran	610	U
84-66-2	Diethylphthalate	610	U
7005-72-3	4-Chlorophenyl-phenylether	610	U
86-73-7	Fluorene	290	J
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	N-Nitrosodiphenylamine (1)	610	U
101-55-3	4-Bromophenyl-phenylether	610	U
118-74-1	Hexachlorobenzene	610	U
1912-24-9	Atrazine	83	J
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1100	
120-12-7	Anthracene	610	U
86-74-8	Carbazole	610	U
84-74-2	Di-n-butylphthalate	610	U
206-44-0	Fluoranthene	48	J
129-00-0	Pyrene	240	J
85-68-7	Butylbenzylphthalate	610	U
91-94-1	3,3'-Dichlorobenzidine	610	U
117-81-7	bis(2-ethylhexyl)Phthalate	68	JB
56-55-3	Benzo(a)anthracene	610	U
218-01-9	Chrysene	230	J
117-84-0	Di-n-octylphthalate	610	U
205-99-2	Benzo(b)fluoranthene	610	U
207-08-9	Benzo(k)fluoranthene	610	U
50-32-8	Benzo(a)pyrene	91	J
193-39-5	Indeno(1,2,3-cd)pyrene	610	U
53-70-3	Dibenzo(a,h)anthracene	610	U
191-24-2	Benzo(g,h,i)perylene	610	U

(1) - Cannot be separated from Diphenylamine

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SB-11 4.0-4.5

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327502

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327502JA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 19 decanted: (Y/N) N Date Extracted: 06/12/04

Concentrated Extract Volume: 1500(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN ALKANE	10.52	5100	J
2.		BRANCHED ALKANE	10.85	4700	J
3.		UNKNOWN	11.08	3200	J
4.		UNKNOWN CYCLOALKANE	11.25	2200	J
5.		BRANCHED ALKANE	11.53	6600	J
6.		UNKNOWN	11.88	2200	J
7.		UNKNOWN	12.20	3700	J
8.	7372-88-5	DIBENZOTHIOPHENE, 4-METHYL-	12.39	2400	NJ
9.	613-12-7	ANTHRACENE, 2-METHYL-	12.65	3300	NJ
10.		UNKNOWN	13.76	2400	J
11.					
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FORM I SV-TIC

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-90

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327503

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327503JA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 20 decanted: (Y/N) N Date Extracted:06/12/04

Concentrated Extract Volume: 2500(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-52-7	Benzaldehyde	1000	U
108-95-2	Phenol	1000	U
111-44-4	Bis(2-chloroethyl)ether	1000	U
95-57-8	2-Chlorophenol	1000	U
95-48-7	2-Methylphenol	1000	U
108-60-1	2,2'-oxybis(1-Chloropropane)	1000	U
98-86-2	Acetophenone	1000	U
106-44-5	4-Methylphenol	1000	U
621-64-7	N-Nitroso-di-N-propylamine	1000	U
67-72-1	Hexachloroethane	1000	U
98-95-3	Nitrobenzene	1000	U
78-59-1	Isophorone	1000	U
88-75-5	2-Nitrophenol	1000	U
105-67-9	2,4-Dimethylphenol	1000	U
111-91-1	Bis(2-chloroethoxy)methane	1000	U
120-83-2	2,4-Dichlorophenol	1000	U
91-20-3	Naphthalene	1000	U
106-47-8	4-Chloroaniline	1000	U
87-68-3	Hexachlorobutadiene	1000	U
105-60-2	Caprolactam	1000	U
59-50-7	4-Chloro-3-methylphenol	1000	U
91-57-6	2-Methylnaphthalene	83	J
77-47-4	Hexachlorocyclopentadiene	1000	U
88-06-2	2,4,6-Trichlorophenol	1000	U
95-95-4	2,4,5-Trichlorophenol	1000	U
92-52-4	1,1'-Biphenyl	1000	U
91-58-7	2-Chloronaphthalene	1000	U
88-74-4	2-Nitroaniline	2100	U
131-11-3	Dimethylphthalate	1000	U
606-20-2	2,6-Dinitrotoluene	1000	U
208-96-8	Acenaphthylene	1000	U
99-09-2	3-Nitroaniline	2100	U
83-32-9	Acenaphthene	1000	U

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SB-90

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327503

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327503JA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 20 decanted: (Y/N) N Date Extracted: 06/12/04

Concentrated Extract Volume: 2500(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	2100	U
100-02-7	4-Nitrophenol	2100	U
121-14-2	2,4-Dinitrotoluene	1000	U
132-64-9	Dibenzofuran	1000	U
84-66-2	Diethylphthalate	1000	U
7005-72-3	4-Chlorophenyl-phenylether	1000	U
86-73-7	Fluorene	500	J
100-01-6	4-Nitroaniline	2100	U
534-52-1	4,6-Dinitro-2-methylphenol	2100	U
86-30-6	N-Nitrosodiphenylamine (1)	970	J
101-55-3	4-Bromophenyl-phenylether	1000	U
118-74-1	Hexachlorobenzene	1000	U
1912-24-9	Atrazine	1000	U
87-86-5	Pentachlorophenol	2100	U
85-01-8	Phenanthrene	1900	
120-12-7	Anthracene	1000	U
86-74-8	Carbazole	1000	U
84-74-2	Di-n-butylphthalate	1000	U
206-44-0	Fluoranthene	100	J
129-00-0	Pyrene	310	J
85-68-7	Butylbenzylphthalate	1000	U
91-94-1	3,3'-Dichlorobenzidine	1000	U
117-81-7	bis(2-ethylhexyl)Phthalate	1000	U
56-55-3	Benzo(a)anthracene	120	J
218-01-9	Chrysene	330	J
117-84-0	Di-n-octylphthalate	1000	U
205-99-2	Benzo(b)fluoranthene	1000	U
207-08-9	Benzo(k)fluoranthene	1000	U
50-32-8	Benzo(a)pyrene	1000	U
193-39-5	Indeno(1,2,3-cd)pyrene	1000	U
53-70-3	Dibenzo(a,h)anthracene	1000	U
191-24-2	Benzo(g,h,i)perylene	1000	U

(1) - Cannot be separated from Diphenylamine

A 2nd pus 6/22/04

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SB-90

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327503

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327503JA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 20 decanted: (Y/N) N Date Extracted:06/12/04

Concentrated Extract Volume: 2500(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	10.00	3500	J
2.	2131-42-2	NAPHTHALENE, 1,4,6-TRIMETHYL	10.02	3400	NJ
3.		BRANCHED ALKANE	10.84	7500	J
4.		UNKNOWN	11.08	5400	J
5.		STRAIGHT-CHAIN ALKANE	11.53	10000	J
6.	16587-52-3	DIBENZOTHIOPHENE, 3-METHYL-	12.20	5900	NJ
7.		UNKNOWN	12.38	3400	J
8.	613-12-7	ANTHRACENE, 2-METHYL-	12.63	5100	NJ
9.		UNKNOWN	13.75	3400	J
10.		STRAIGHT-CHAIN ALKANE	14.17	3800	J
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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SF-1 0.8-1.2

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327504

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327504DA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 15 decanted: (Y/N) N Date Extracted:06/12/04

Concentrated Extract Volume: 5000(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 3.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-52-7	Benzaldehyde	5800	U
108-95-2	Phenol	5800	U
111-44-4	Bis(2-chloroethyl)ether	5800	U
95-57-8	2-Chlorophenol	5800	U
95-48-7	2-Methylphenol	5800	U
108-60-1	2,2'-oxybis(1-Chloropropane)	5800	U
98-86-2	Acetophenone	5800	U
106-44-5	4-Methylphenol	5800	U
621-64-7	N-Nitroso-di-N-propylamine	5800	U
67-72-1	Hexachloroethane	5800	U
98-95-3	Nitrobenzene	5800	U
78-59-1	Isophorone	5800	U
88-75-5	2-Nitrophenol	5800	U
105-67-9	2,4-Dimethylphenol	5800	U
111-91-1	Bis(2-chloroethoxy)methane	5800	U
120-83-2	2,4-Dichlorophenol	5800	U
91-20-3	Naphthalene	5800	U
106-47-8	4-Chloroaniline	5800	U
87-68-3	Hexachlorobutadiene	5800	U
105-60-2	Caprolactam	2600	J
59-50-7	4-Chloro-3-methylphenol	5800	U
91-57-6	2-Methylnaphthalene	5800	U
77-47-4	Hexachlorocyclopentadiene	5800	U
88-06-2	2,4,6-Trichlorophenol	5800	U
95-95-4	2,4,5-Trichlorophenol	5800	U
92-52-4	1,1'-Biphenyl	5800	U
91-58-7	2-Chloronaphthalene	5800	U
88-74-4	2-Nitroaniline	12000	U
131-11-3	Dimethylphthalate	5800	U
606-20-2	2,6-Dinitrotoluene	5800	U
208-96-8	Acenaphthylene	5800	U
99-09-2	3-Nitroaniline	12000	U
83-32-9	Acenaphthene	5800	U

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SF-1 0.8-1.2

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327504

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327504DA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 15 decanted: (Y/N) N Date Extracted:06/12/04

Concentrated Extract Volume: 5000(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 3.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	12000	U
100-02-7	4-Nitrophenol	12000	U
121-14-2	2,4-Dinitrotoluene	5800	U
132-64-9	Dibenzofuran	5800	U
84-66-2	Diethylphthalate	5800	U
7005-72-3	4-Chlorophenyl-phenylether	5800	U
86-73-7	Fluorene	5800	U
100-01-6	4-Nitroaniline	12000	U
534-52-1	4,6-Dinitro-2-methylphenol	12000	U
86-30-6	N-Nitrosodiphenylamine (1)	1200	J
101-55-3	4-Bromophenyl-phenylether	5800	U
118-74-1	Hexachlorobenzene	5800	U
1912-24-9	Atrazine	5800	U
87-86-5	Pentachlorophenol	12000	U
85-01-8	Phenanthrene	5800	U
120-12-7	Anthracene	5800	U
86-74-8	Carbazole	5800	U
84-74-2	Di-n-butylphthalate	5800	U
206-44-0	Fluoranthene	5800	U
129-00-0	Pyrene	840	J
85-68-7	Butylbenzylphthalate	5800	U
91-94-1	3,3'-Dichlorobenzidine	5800	U
117-81-7	bis(2-ethylhexyl)Phthalate	5800	U
56-55-3	Benzo(a)anthracene	5800	U
218-01-9	Chrysene	1500	J
117-84-0	Di-n-octylphthalate	5800	U
205-99-2	Benzo(b)fluoranthene	5800	U
207-08-9	Benzo(k)fluoranthene	5800	U
50-32-8	Benzo(a)pyrene	5800	U
193-39-5	Indeno(1,2,3-cd)pyrene	5800	U
53-70-3	Dibenzo(a,h)anthracene	5800	U
191-24-2	Benzo(g,h,i)perylene	5800	U

(1) - Cannot be separated from Diphenylamine

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SF-1 0.8-1.2

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 327504

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 327504DA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 15 decanted: (Y/N) N Date Extracted:06/12/04

Concentrated Extract Volume: 5000(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 3.0

GPC Cleanup: (Y/N) N pH: ___

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		STRAIGHT-CHAIN ALKANE	9.48	8300	J
2.		UNKNOWN ALKANE	10.06	8300	J
3.		UNKNOWN	10.30	11000	J
4.		BRANCHED ALKANE	10.83	21000	J
5.		UNKNOWN	11.06	9100	J
6.		STRAIGHT-CHAIN ALKANE	11.50	21000	J
7.		UNKNOWN	11.85	9900	J
8.	16587-34-1	NAPHTHO[2,3-B]THIOPHENE, 4,9	13.70	10000	NJ
9.		UNKNOWN ALKANE	14.13	8300	J
10.		UNKNOWN	21.94	9800	J
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FORM I SV-TIC

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SF-1 0.8-1.2MS

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 35892

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 35892DA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 15 decanted: (Y/N) N Date Extracted:06/12/04

Concentrated Extract Volume: 5000(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 3.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-52-7	Benzaldehyde	5800	U
108-95-2	Phenol	3100	J
111-44-4	Bis(2-chloroethyl)ether	2600	J
95-57-8	2-Chlorophenol	3000	J
95-48-7	2-Methylphenol	2900	J
108-60-1	2,2'-oxybis(1-Chloropropane)	2700	J
98-86-2	Acetophenone	2500	J
106-44-5	4-Methylphenol	5800	J
621-64-7	N-Nitroso-di-N-propylamine	2700	J
67-72-1	Hexachloroethane	2100	J
98-95-3	Nitrobenzene	2200	J
78-59-1	Isophorone	3100	J
88-75-5	2-Nitrophenol	3000	J
105-67-9	2,4-Dimethylphenol	2900	J
111-91-1	Bis(2-chloroethoxy)methane	2800	J
120-83-2	2,4-Dichlorophenol	3000	J
91-20-3	Naphthalene	3000	J
106-47-8	4-Chloroaniline	1100	J
87-68-3	Hexachlorobutadiene	2800	J
105-60-2	Caprolactam	5300	J
59-50-7	4-Chloro-3-methylphenol	2800	J
91-57-6	2-Methylnaphthalene	3300	J
77-47-4	Hexachlorocyclopentadiene	5800	U
88-06-2	2,4,6-Trichlorophenol	3300	J
95-95-4	2,4,5-Trichlorophenol	3000	J
92-52-4	1,1'-Biphenyl	3100	J
91-58-7	2-Chloronaphthalene	3100	J
88-74-4	2-Nitroaniline	3000	J
131-11-3	Dimethylphthalate	3000	J
606-20-2	2,6-Dinitrotoluene	3000	J
208-96-8	Acenaphthylene	3000	J
99-09-2	3-Nitroaniline	1700	J
83-32-9	Acenaphthene	3100	J

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SF-1 0.8-1.2MS

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 35892

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 35892DA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 15 decanted: (Y/N) N Date Extracted: 06/12/04

Concentrated Extract Volume: 5000(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 3.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	12000	U
100-02-7	4-Nitrophenol	5400	J
121-14-2	2,4-Dinitrotoluene	2600	J
132-64-9	Dibenzofuran	3100	J
84-66-2	Diethylphthalate	3000	J
7005-72-3	4-Chlorophenyl-phenylether	2900	J
86-73-7	Fluorene	3100	J
100-01-6	4-Nitroaniline	2000	J
534-52-1	4,6-Dinitro-2-methylphenol	1400	J
86-30-6	N-Nitrosodiphenylamine (1)	3600	J
101-55-3	4-Bromophenyl-phenylether	2900	J
118-74-1	Hexachlorobenzene	2900	J
1912-24-9	Atrazine	2900	J
87-86-5	Pentachlorophenol	1900	J
85-01-8	Phenanthrene	3200	J
120-12-7	Anthracene	3000	J
86-74-8	Carbazole	3400	J
84-74-2	Di-n-butylphthalate	3000	J
206-44-0	Fluoranthene	3200	J
129-00-0	Pyrene	3900	J
85-68-7	Butylbenzylphthalate	3200	J
91-94-1	3,3'-Dichlorobenzidine	820	J
117-81-7	bis(2-ethylhexyl)Phthalate	3100	JB
56-55-3	Benzo(a)anthracene	3400	J
218-01-9	Chrysene	4500	J
117-84-0	Di-n-octylphthalate	3400	J
205-99-2	Benzo(b)fluoranthene	3400	J
207-08-9	Benzo(k)fluoranthene	3200	J
50-32-8	Benzo(a)pyrene	3200	J
193-39-5	Indeno(1,2,3-cd)pyrene	2500	J
53-70-3	Dibenzo(a,h)anthracene	2700	J
191-24-2	Benzo(g,h,i)perylene	2500	J

(1) - Cannot be separated from Diphenylamine

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SF-1 0.8-1.2MSD

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 35893

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 35893DA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 15 decanted: (Y/N) N Date Extracted:06/12/04

Concentrated Extract Volume: 5000(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 3.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-52-7	Benzaldehyde	5800	U
108-95-2	Phenol	2900	J
111-44-4	Bis(2-chloroethyl)ether	2600	J
95-57-8	2-Chlorophenol	2700	J
95-48-7	2-Methylphenol	2500	J
108-60-1	2,2'-oxybis(1-Chloropropane)	2600	J
98-86-2	Acetophenone	2400	J
106-44-5	4-Methylphenol	5100	J
621-64-7	N-Nitroso-di-N-propylamine	3200	J
67-72-1	Hexachloroethane	1800	J
98-95-3	Nitrobenzene	2100	J
78-59-1	Isophorone	2700	J
88-75-5	2-Nitrophenol	2600	J
105-67-9	2,4-Dimethylphenol	2400	J
111-91-1	Bis(2-chloroethoxy)methane	2800	J
120-83-2	2,4-Dichlorophenol	2300	J
91-20-3	Naphthalene	2600	J
106-47-8	4-Chloroaniline	1100	J
87-68-3	Hexachlorobutadiene	2400	J
105-60-2	Caprolactam	4400	J
59-50-7	4-Chloro-3-methylphenol	2500	J
91-57-6	2-Methylnaphthalene	2800	J
77-47-4	Hexachlorocyclopentadiene	5800	U
88-06-2	2,4,6-Trichlorophenol	2800	J
95-95-4	2,4,5-Trichlorophenol	2200	J
92-52-4	1,1'-Biphenyl	2500	J
91-58-7	2-Chloronaphthalene	2300	J
88-74-4	2-Nitroaniline	2600	J
131-11-3	Dimethylphthalate	2400	J
606-20-2	2,6-Dinitrotoluene	2300	J
208-96-8	Acenaphthylene	2400	J
99-09-2	3-Nitroaniline	1800	J
83-32-9	Acenaphthene	2500	J

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SF-1 0.8-1.2MSD

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 35893

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 35893DA64

Level: (low/med) LOW Date Received: 06/10/04

% Moisture: 15 decanted: (Y/N) N Date Extracted: 06/12/04

Concentrated Extract Volume: 5000(uL) Date Analyzed: 06/17/04

Injection Volume: 1.0(uL) Dilution Factor: 3.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	12000	U
100-02-7	4-Nitrophenol	1900	J
121-14-2	2,4-Dinitrotoluene	2100	J
132-64-9	Dibenzofuran	2500	J
84-66-2	Diethylphthalate	2600	J
7005-72-3	4-Chlorophenyl-phenylether	2300	J
86-73-7	Fluorene	2500	J
100-01-6	4-Nitroaniline	2200	J
534-52-1	4,6-Dinitro-2-methylphenol	960	J
86-30-6	N-Nitrosodiphenylamine (1)	4000	J
101-55-3	4-Bromophenyl-phenylether	2300	J
118-74-1	Hexachlorobenzene	2100	J
1912-24-9	Atrazine	2600	J
87-86-5	Pentachlorophenol	1300	J
85-01-8	Phenanthrene	2500	J
120-12-7	Anthracene	2600	J
86-74-8	Carbazole	2700	J
84-74-2	Di-n-butylphthalate	2600	J
206-44-0	Fluoranthene	2700	J
129-00-0	Pyrene	3200	J
85-68-7	Butylbenzylphthalate	2600	J
91-94-1	3,3'-Dichlorobenzidine	520	J
117-81-7	bis(2-ethylhexyl)Phthalate	2700	JB
56-55-3	Benzo(a)anthracene	2700	J
218-01-9	Chrysene	3700	J
117-84-0	Di-n-octylphthalate	3100	J
205-99-2	Benzo(b)fluoranthene	2900	J
207-08-9	Benzo(k)fluoranthene	2700	J
50-32-8	Benzo(a)pyrene	2500	J
193-39-5	Indeno(1,2,3-cd)pyrene	1500	J
53-70-3	Dibenzo(a,h)anthracene	1800	J
191-24-2	Benzo(g,h,i)perylene	1500	J

(1) - Cannot be separated from Diphenylamine

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SLCSRA

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 35891

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 35891A64_3275

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/12/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/16/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I SV-TIC

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SLCSRA

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 35891

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 35891A64_3275

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:06/12/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/16/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-52-7	Benzaldehyde	400	
108-95-2	Phenol	2300	
111-44-4	Bis(2-chloroethyl)ether	2100	
95-57-8	2-Chlorophenol	2200	
95-48-7	2-Methylphenol	2000	
108-60-1	2,2'-oxybis(1-Chloropropane)	2000	
98-86-2	Acetophenone	1900	
106-44-5	4-Methylphenol	4200	
621-64-7	N-Nitroso-di-N-propylamine	2000	
67-72-1	Hexachloroethane	1900	
98-95-3	Nitrobenzene	1900	
78-59-1	Isophorone	2000	
88-75-5	2-Nitrophenol	2200	
105-67-9	2,4-Dimethylphenol	1600	
111-91-1	Bis(2-chloroethoxy)methane	2000	
120-83-2	2,4-Dichlorophenol	2200	
91-20-3	Naphthalene	2000	
106-47-8	4-Chloroaniline	1300	
87-68-3	Hexachlorobutadiene	1900	
105-60-2	Caprolactam	1700	
59-50-7	4-Chloro-3-methylphenol	2300	
91-57-6	2-Methylnaphthalene	2000	
77-47-4	Hexachlorocyclopentadiene	1400	
88-06-2	2,4,6-Trichlorophenol	2300	
95-95-4	2,4,5-Trichlorophenol	1900	
92-52-4	1,1'-Biphenyl	2000	
91-58-7	2-Chloronaphthalene	1900	
88-74-4	2-Nitroaniline	2200	
131-11-3	Dimethylphthalate	2000	
606-20-2	2,6-Dinitrotoluene	2000	
208-96-8	Acenaphthylene	2000	
99-09-2	3-Nitroaniline	1900	
83-32-9	Acenaphthene	2000	

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SLCSRA

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 35891

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 35891A64_3275

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted: 06/12/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/16/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1400	
100-02-7	4-Nitrophenol	1900	
121-14-2	2,4-Dinitrotoluene	2000	
132-64-9	Dibenzofuran	2100	
84-66-2	Diethylphthalate	2100	
7005-72-3	4-Chlorophenyl-phenylether	2000	
86-73-7	Fluorene	2100	
100-01-6	4-Nitroaniline	2000	
534-52-1	4,6-Dinitro-2-methylphenol	1800	
86-30-6	N-Nitrosodiphenylamine (1)	1900	
101-55-3	4-Bromophenyl-phenylether	2000	
118-74-1	Hexachlorobenzene	2000	
1912-24-9	Atrazine	1700	
87-86-5	Pentachlorophenol	1900	
85-01-8	Phenanthrene	2000	
120-12-7	Anthracene	2000	
86-74-8	Carbazole	2200	
84-74-2	Di-n-butylphthalate	2000	
206-44-0	Fluoranthene	2200	
129-00-0	Pyrene	2000	
85-68-7	Butylbenzylphthalate	2000	
91-94-1	3,3'-Dichlorobenzidine	1200	
117-81-7	bis(2-ethylhexyl)Phthalate	2100	B
56-55-3	Benzo(a)anthracene	2000	
218-01-9	Chrysene	2100	
117-84-0	Di-n-octylphthalate	2100	
205-99-2	Benzo(b)fluoranthene	2100	
207-08-9	Benzo(k)fluoranthene	2000	
50-32-8	Benzo(a)pyrene	2000	
193-39-5	Indeno(1,2,3-cd)pyrene	1900	
53-70-3	Dibenzo(a,h)anthracene	2000	
191-24-2	Benzo(g,h,i)perylene	1800	

(1) - Cannot be separated from Diphenylamine

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SLCSSZ

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 36715

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 36715A66

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:06/18/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/19/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-52-7	Benzaldehyde	1000	
108-95-2	Phenol	1600	
111-44-4	Bis(2-chloroethyl)ether	1900	
95-57-8	2-Chlorophenol	1600	
95-48-7	2-Methylphenol	2200	
108-60-1	2,2'-oxybis(1-Chloropropane)	1900	
98-86-2	Acetophenone	2200	
106-44-5	4-Methylphenol	4400	
621-64-7	N-Nitroso-di-N-propylamine	1900	
67-72-1	Hexachloroethane	1800	
98-95-3	Nitrobenzene	2000	
78-59-1	Isophorone	2000	
88-75-5	2-Nitrophenol	1600	
105-67-9	2,4-Dimethylphenol	1500	
111-91-1	Bis(2-chloroethoxy)methane	2000	
120-83-2	2,4-Dichlorophenol	1700	
91-20-3	Naphthalene	2000	
106-47-8	4-Chloroaniline	2100	
87-68-3	Hexachlorobutadiene	1900	
105-60-2	Caprolactam	2300	
59-50-7	4-Chloro-3-methylphenol	1700	
91-57-6	2-Methylnaphthalene	2600	
77-47-4	Hexachlorocyclopentadiene	1800	
88-06-2	2,4,6-Trichlorophenol	1700	
95-95-4	2,4,5-Trichlorophenol	2300	
92-52-4	1,1'-Biphenyl	2200	
91-58-7	2-Chloronaphthalene	2000	
88-74-4	2-Nitroaniline	2900	
131-11-3	Dimethylphthalate	2100	
606-20-2	2,6-Dinitrotoluene	2000	
208-96-8	Acenaphthylene	2100	
99-09-2	3-Nitroaniline	2300	
83-32-9	Acenaphthene	2100	

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SLCSSZ

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 36715

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 36715A66

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:06/18/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/19/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1700	
100-02-7	4-Nitrophenol	2100	
121-14-2	2,4-Dinitrotoluene	2000	
132-64-9	Dibenzofuran	2600	
84-66-2	Diethylphthalate	2100	
7005-72-3	4-Chlorophenyl-phenylether	2100	
86-73-7	Fluorene	2200	
100-01-6	4-Nitroaniline	2300	
534-52-1	4,6-Dinitro-2-methylphenol	1900	
86-30-6	N-Nitrosodiphenylamine (1)	1900	
101-55-3	4-Bromophenyl-phenylether	1900	
118-74-1	Hexachlorobenzene	1900	
1912-24-9	Atrazine	1800	
87-86-5	Pentachlorophenol	1500	
85-01-8	Phenanthrene	2000	
120-12-7	Anthracene	2000	
86-74-8	Carbazole	2000	
84-74-2	Di-n-butylphthalate	1900	
206-44-0	Fluoranthene	2000	
129-00-0	Pyrene	2100	
85-68-7	Butylbenzylphthalate	1900	
91-94-1	3,3'-Dichlorobenzidine	1000	
117-81-7	bis(2-ethylhexyl)Phthalate	1900	
56-55-3	Benzo(a)anthracene	2100	
218-01-9	Chrysene	2100	
117-84-0	Di-n-octylphthalate	2000	
205-99-2	Benzo(b)fluoranthene	2000	
207-08-9	Benzo(k)fluoranthene	2100	
50-32-8	Benzo(a)pyrene	2100	
193-39-5	Indeno(1,2,3-cd)pyrene	1900	
53-70-3	Dibenzo(a,h)anthracene	1800	
191-24-2	Benzo(g,h,i)perylene	1900	

(1) - Cannot be separated from Diphenylamine

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SLCSSZ

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 36715

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 36715A66

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/18/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/19/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I SV-TIC

FORM 2
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Level: (low/med) LOW

	CLIENT SAMPLE NO.	S1 (2FP) #	S2 (PHL) #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 (TPH) #	S7 #	S8 #	TOT OUT
01	SBLKRA	72	75	65	69	73	74			0
02	SLCSRA	73	73	71	69	76	74			0
03	SF-1 0.8-1.2	74	77	76	81	83	86			0
04	SB-10 3.5-4.	44	48	41	45	49	29*			1
05	SB-11 4.0-4.	43	51	43	51	55	61			0
06	SB-90	56	60	53	56	62	62			0
07	SF-1 0.8-1.2	70	76	74	86	90	93			0
08	SF-1 0.8-1.2	67	63	74	69	69	72			0
09	SLCSSZ	72	71	71	71	76	72			0
10	SB-10 3.5-4.	47	43	43	45	48	40*			1
11	SBLKSZ	52	54	44	47	64	79			0
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	QC LIMITS
S1 (2FP) = 2-Fluorophenol	(35-110)
S2 (PHL) = Phenol-d5	(38-110)
S3 (NBZ) = Nitrobenzene-d5	(35-110)
S4 (FBP) = 2-Fluorobiphenyl	(37-110)
S5 (TBP) = 2,4,6-Tribromophenol	(22-139)
S6 (TPH) = Terphenyl-d14	(43-114)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

FORM 3
SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix Spike - Sample No.: SF-1 0.8-1.2 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
Phenol	3137	0	3070	98	35-121
2-Chlorophenol	3137	0	2984	95	36-116
N-Nitroso-di-N-prop.(1)	3137	0	2719	87	33-117
4-Chloro-3-methylphenol	3137	0	2838	90	39-121
Acenaphthene	3137	0	3078	98	20-109
4-Nitrophenol	3137	0	5421	173*	10-150
2,4-Dinitrotoluene	3137	0	2581	82	24-128
Pentachlorophenol	3137	0	1906	61	10-150
Pyrene	3137	839.1	3896	97	13-125

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	3137	2862	91	7	47	35-121
2-Chlorophenol	3137	2739	87	8	43	36-116
N-Nitroso-di-N-prop.(1)	3137	3191	102	16	45	33-117
4-Chloro-3-methylphenol	3137	2511	80	12	45	39-121
Acenaphthene	3137	2478	79	22	41	20-109
4-Nitrophenol	3137	1915	61	96*	42	10-150
2,4-Dinitrotoluene	3137	2096	67	21	43	24-128
Pentachlorophenol	3137	1282	41	39	50	10-150
Pyrene	3137	3236	76	18	50	13-125

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 1 out of 9 outside limits
Spike Recovery: 1 out of 18 outside limits

COMMENTS: _____

3D
SOIL SEMIVOLATILE LAB CONTROL SAMPLE

SLCSRA

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Phenol	2667	2288	86	23-134
2-Chlorophenol	2667	2224	83	20-133
N-Nitroso-di-N-prop.(1)	2667	1981	74	12-140
4-Chloro-3-methylphenol	2667	2315	87	19-137
Acenaphthene	2667	2020	76	18-112
4-Nitrophenol	2667	1930	72	10-145
2,4-Dinitrotoluene	2667	1987	75	18-128
Pentachlorophenol	2667	1895	71	10-150
Pyrene	2667	2031	76	12-123

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

Spike Recovery: 0 out of 9 outside limits

COMMENTS: _____

3D
SOIL SEMIVOLATILE LAB CONTROL SAMPLE

SLCSSZ

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Phenol	2667	1606	60	23-134
2-Chlorophenol	2667	1583	59	20-133
N-Nitroso-di-N-prop.(1)	2667	1878	70	12-140
4-Chloro-3-methylphenol	2667	1728	65	19-137
Acenaphthene	2667	2067	78	18-112
4-Nitrophenol	2667	2077	78	10-145
2,4-Dinitrotoluene	2667	2045	77	18-128
Pentachlorophenol	2667	1461	55	10-150
Pyrene	2667	2056	77	12-123

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

Spike Recovery: 0 out of 9 outside limits

COMMENTS: _____

FORM 4
SEMIVOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO

SBLKRA

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Lab File ID: 35890A64_3275 Lab Sample ID: 35890

Instrument ID: 5972HP64 Date Extracted: 06/12/04

Matrix: (soil/water) SOIL Date Analyzed: 06/16/04

Level: (low/med) LOW Time Analyzed: 1156

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	SLCSRA	35891	35891A64_327	06/16/04
02	SF-1 0.8-1.2	327504	327504DA64	06/17/04
03	SB-10 3.5-4.	327501	327501JA64	06/17/04
04	SB-11 4.0-4.	327502	327502JA64	06/17/04
05	SB-90	327503	327503JA64	06/17/04
06	SF-1 0.8-1.2	35892	35892DA64	06/17/04
07	SF-1 0.8-1.2	35893	35893DA64	06/17/04
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COMMENTS:

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SBLKRA

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 35890

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 35890A64_3275

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted: 06/12/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/16/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-52-7	Benzaldehyde	330	U
108-95-2	Phenol	330	U
111-44-4	Bis(2-chloroethyl)ether	330	U
95-57-8	2-Chlorophenol	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
98-86-2	Acetophenone	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-N-propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	Bis(2-chloroethoxy)methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
105-60-2	Caprolactam	330	U
59-50-7	4-Chloro-3-methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	330	U
92-52-4	1,1'-Biphenyl	330	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	660	U
131-11-3	Dimethylphthalate	330	U
606-20-2	2,6-Dinitrotoluene	330	U
208-96-8	Acenaphthylene	330	U
99-09-2	3-Nitroaniline	660	U
83-32-9	Acenaphthene	330	U

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SBLKRA

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 35890

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 35890A64_3275

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted: 06/12/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/16/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	660	U
100-02-7	4-Nitrophenol	660	U
121-14-2	2,4-Dinitrotoluene	330	U
132-64-9	Dibenzofuran	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	660	U
534-52-1	4,6-Dinitro-2-methylphenol	660	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
1912-24-9	Atrazine	330	U
87-86-5	Pentachlorophenol	660	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
117-81-7	bis(2-ethylhexyl)Phthalate	150	J
56-55-3	Benzo(a)anthracene	330	U
218-01-9	Chrysene	330	U
117-84-0	Di-n-octylphthalate	330	U
205-99-2	Benzo(b)fluoranthene	330	U
207-08-9	Benzo(k)fluoranthene	330	U
50-32-8	Benzo(a)pyrene	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	330	U
53-70-3	Dibenzo(a,h)anthracene	330	U
191-24-2	Benzo(g,h,i)perylene	330	U

(1) - Cannot be separated from Diphenylamine

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKRA

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 35890

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 35890A64_3275

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/12/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/16/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.66	940	J
2.		UNKNOWN	6.37	380	J
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FORM I SV-TIC

FORM 4
SEMIVOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO

SBLKSZ

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Lab File ID: 36714JA66 Lab Sample ID: 36714

Instrument ID: 5972HP66 Date Extracted: 06/18/04

Matrix: (soil/water) SOIL Date Analyzed: 06/19/04

Level: (low/med) LOW Time Analyzed: 1458

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	SLCSSZ	36715	36715A66	06/19/04
02	SB-10 3.5-4.	327501	327501RA66	06/19/04
03				
04				
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COMMENTS:

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SBLKSZ

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 36714

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 36714JA66

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:06/18/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/19/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
100-52-7	Benzaldehyde	330	U
108-95-2	Phenol	330	U
111-44-4	Bis(2-chloroethyl)ether	330	U
95-57-8	2-Chlorophenol	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
98-86-2	Acetophenone	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-N-propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	Bis(2-chloroethoxy)methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
105-60-2	Caprolactam	330	U
59-50-7	4-Chloro-3-methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	330	U
92-52-4	1,1'-Biphenyl	330	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	660	U
131-11-3	Dimethylphthalate	330	U
606-20-2	2,6-Dinitrotoluene	330	U
208-96-8	Acenaphthylene	330	U
99-09-2	3-Nitroaniline	660	U
83-32-9	Acenaphthene	330	U

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKSZ

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3275

Matrix: (soil/water) SOIL Lab Sample ID: 36714

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 36714JA66

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/18/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 06/19/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	6.55	340	J
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MEMORANDUM

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

To: Scott Davies **Date:** 9/3/04

From: Dennis Capria

Re: Data Review

Data for sample collected from the Progress Energy-Sutton site in North Carolina during June 2004 were reviewed for quality assurance/quality control compliance. The data report from CompuChem, Inc. of Cary, North Carolina was reviewed. Included in the review are data from the following sample delivery group (SDG): 3539. The following summarizes the findings of the QA/QC review:

Metals

- One data set was reviewed, including 1 water sample 1 equipment blank.
- Samples were analyzed for metals following EPA method 6000/7000.
- All samples were analyzed within the method-specified holding time.
- Matrix spike and laboratory duplicate analyses were performed on the site samples. Matrix spike recoveries and laboratory duplicate relative percent differences were within control limits.
- All reported laboratory control sample recoveries were within control limits.
- Several target analytes were detected in the method blanks within this SDG. Based on the blank action level, Zinc data have been qualified as non-detect for sample location SW-2.
- No calibration data was provided.

Volatiles

- One data set was reviewed, including 1 water samples, 1 trip blank, and 1 equipment blank.
- Samples were analyzed for volatiles following EPA method 8260.
- All samples were analyzed within the method-specified holding time.
- All surrogate recoveries were within control limits.
- Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed on the sample SW-2. All MS/MSD recoveries were within control limits.

- All reported laboratory control sample recoveries were within control limits.
- Several target compounds were detected in the method, trip and equipment blanks within this SDG S382737. Based on the blank action level, data have been qualified as non-detect for 1,1-Dichloroethene, Acetone, 2-Butanone, and Toluene in sample location SW-2.
- No calibration data was provided.

Semi-Volatiles

- One data set was reviewed, including 1 water samples and 1 equipment blank.
- Samples were analyzed for volatiles following EPA method 8270.
- All samples were analyzed within the method-specified holding time.
- All surrogate recoveries were within control limits.
- Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed on the sample SW-2. All MS/MSD recoveries were within control limits.
- All reported laboratory control sample recoveries were within control limits.
- No target compounds were detected in the blank data.
- No calibration data was provided.

The data were presented in a reduced deliverables format. Therefore, only a limited data review could be performed. Since no raw data were provided, no verification of compound identification and quantitation could be performed.

Other than for the deviations noted in this review, the reported data quality is within method specifications and the data is considered acceptable for use as reported by the laboratory.

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
EB-070204

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix (soil/water): WATER Lab Sample ID: 353902

Level (low/med): LOW Date Received: 7/2/04

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	1.9	U		P
7440-38-2	Arsenic	2.1	U		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.20	U		P
7440-47-3	Chromium	0.90	U		P
7440-50-8	Copper	0.60	U		P
7439-92-1	Lead	1.1	U		P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	0.60	U		P
7782-49-2	Selenium	2.4	U		P
7440-22-4	Silver	0.80	U		P
7440-28-0	Thallium	2.8	U		P
7440-66-6	Zinc	4.4	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

SW846-METALS

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SW-2

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix (soil/water): WATER Lab Sample ID: 353901

Level (low/med): LOW Date Received: 6/25/04

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	2.1	B		P
7440-38-2	Arsenic	2.5	U		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	0.40	U		P
7440-47-3	Chromium	0.80	U		P
7440-50-8	Copper	3.3	B		P
7439-92-1	Lead	1.3	U		P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	2.1	B		P
7782-49-2	Selenium	2.4	U		P
7440-22-4	Silver	0.41	B		P
7440-28-0	Thallium	3.2	U		P
7440-66-6	Zinc	13.2	~~B~~ U	U	P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EB-070204

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353902

Sample wt/vol: 25 (g/ml) ML Lab File ID: 353902B73

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	0.82	JB
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.65	B
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EB-070204

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353902

Sample wt/vol: 25 (g/ml) ML Lab File ID: 353902B73

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

EB-070204

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353902

Sample wt/vol: 25 (g/ml) ML Lab File ID: 353902B73

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	556-67-2	CYCLOTETRASILOXANE, OCTAMETH	12.57	0.90	NJB
2.	110-57-6	2-BUTENE, 1,4-DICHLORO-, (E)	12.94	0.59	NJB
3.		LABORATORY ARTIFACT	14.02	1.9	JB
4.		STRAIGHT-CHAIN ALKANE	14.93	1.0	JB
5.		LABORATORY ARTIFACT	15.92	1.5	JB
6.		STRAIGHT-CHAIN ALKANE	17.34	0.57	J
7.		LABORATORY ARTIFACT	18.38	1.1	JB
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SW-2

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353901

Sample wt/vol: 25 (g/ml) ML Lab File ID: 353901B73

Level: (low/med) LOW Date Received: 06/25/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q
75-71-8	Dichlorodifluoromethane		0.50	U
74-87-3	Chloromethane		0.50	U
75-01-4	Vinyl Chloride		0.50	U
74-83-9	Bromomethane		0.50	U
75-00-3	Chloroethane		0.50	U
75-69-4	Trichlorofluoromethane		0.50	U
75-35-4	1,1-Dichloroethene	0.50	~~0.17~~ ~~JB~~	U
75-15-0	Carbon disulfide		0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu		0.50	U
67-64-1	Acetone	3.1	~~3.1~~ ~~B~~	U
79-20-9	Methyl acetate		0.50	U
75-09-2	Methylene Chloride	0.50	~~0.37~~ ~~JB~~	U
156-60-5	trans-1,2-Dichloroethene		0.50	U
1634-04-4	Methyl-tert-butyl ether		0.23	J
75-34-3	1,1-Dichloroethane		0.50	U
156-59-2	cis-1,2-Dichloroethene		0.50	U
78-93-3	2-butanone	2.5	~~1.4~~ ~~J~~	U
67-66-3	Chloroform		0.16	J
71-55-6	1,1,1-Trichloroethane		0.50	U
56-23-5	Carbon Tetrachloride		0.50	U
71-43-2	Benzene		0.50	U
107-06-2	1,2-Dichloroethane		0.50	U
79-01-6	Trichloroethene		0.50	U
78-87-5	1,2-Dichloropropane		0.50	U
75-27-4	Bromodichloromethane		0.50	U
10061-01-5	cis-1,3-Dichloropropene		0.50	U
108-10-1	4-Methyl-2-pentanone		2.5	U
108-88-3	Toluene	0.50 ~~0.50~~	~~0.24~~ ~~J~~	U
10061-02-6	trans-1,3-Dichloropropene		0.50	U
79-00-5	1,1,2-Trichloroethane		0.50	U
127-18-4	Tetrachloroethene		0.50	U
591-78-6	2-hexanone		2.5	U
124-48-1	Dibromochloromethane		0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SW-2

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353901

Sample wt/vol: 25 (g/ml) ML Lab File ID: 353901B73

Level: (low/med) LOW Date Received: 06/25/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SW-2

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353901

Sample wt/vol: 25 (g/ml) ML Lab File ID: 353901B73

Level: (low/med) LOW Date Received: 06/25/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	6.83	0.76	J
2.		LABORATORY ARTIFACT	12.58	0.63	J
3.		LABORATORY ARTIFACT	14.01	1.1	JB
4.		STRAIGHT-CHAIN ALKANE	14.93	0.98	JB
5.		LABORATORY ARTIFACT	15.91	1.9	JB
6.		LABORATORY ARTIFACT	18.37	1.1	JB
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TW-070204

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353903

Sample wt/vol: 25 (g/ml) ML Lab File ID: 353903B73

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	3.3	B
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.47	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	3.2	
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.63	
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TW-070204

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353903

Sample wt/vol: 25 (g/ml) ML Lab File ID: 353903B73

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

TW-070204

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353903

Sample wt/vol: 25 (g/ml) ML Lab File ID: 353903B73

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 6 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	6.83	0.67	J
2.	556-67-2	CYCLOTETRASILOXANE, OCTAMETH	12.57	0.55	NJB
3.		LABORATORY ARTIFACT	14.02	0.86	JB
4.		STRAIGHT-CHAIN ALKANE	14.93	0.65	JB
5.		LABORATORY ARTIFACT	15.92	1.7	JB
6.		LABORATORY ARTIFACT	18.38	1.2	JB
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FORM I VOA-TIC

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EB-070204

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353902

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 353902A64

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: _____ decanted: (Y/N)___ Date Extracted:07/06/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/13/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	Bis(2-chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-N-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	Bis(2-chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	10	U

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EB-070204

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353902

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 353902A64

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: _____ decanted: (Y/N)___ Date Extracted:07/06/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/13/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
121-14-2	2,4-Dinitrotoluene	10	U
132-64-9	Dibenzofuran	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
117-81-7	bis(2-ethylhexyl)Phthalate	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM 1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

EB-070204

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353902

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 353902A64

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: _____ decanted: (Y/N)___ Date Extracted:07/06/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/13/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
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FORM I SV-TIC

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SW-2

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353901

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 353901JA66

Level: (low/med) LOW Date Received: 06/25/04

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/29/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/08/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	Bis(2-chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-N-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	Bis(2-chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	10	U

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SW-2

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353901

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 353901JA66

Level: (low/med) LOW Date Received: 06/25/04

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/29/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/08/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
121-14-2	2,4-Dinitrotoluene	10	U
132-64-9	Dibenzofuran	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
117-81-7	bis(2-ethylhexyl)Phthalate	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SW-2

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353901

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 353901JA66

Level: (low/med) LOW Date Received: 06/25/04

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/29/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/08/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	25.32	6.4	J
2.					
3.					
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5.					
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CompuChem

a division of Liberty Analytical Corp.

(3) (FAOA)

WORKORDER SUMMARY REPORT

Workorder: 3539 **Account:** BB&L **Project:** SUTTON STEAM
SDG-Case: 3539 **Status:** CLOSED **QC Type:** CLIENT SPECIFIC MS/MSD
Report Style: COMPUCHEM STYLE 3 WITH EDD

SAMPLE ID	CLIENT ID	COLLECT DATE	RECEIVE DATE	DUE DATE	COMMENTS
353901	SW-2	6/23/2004	6/25/2004	7/15/2004	**USE FOR QC**PLEASE NOTE METALS REQUIRE 3030C-PREP**REPORT TCL4 VOA;SVOA AND HSL METALS+SB,As,Be,Cd,Cr, Cu,Pb,Hg,Ni,Se,.Ag,Tl,Zn
W	SW8270TCL4	SVOC 8270C TCL4 WATER			
W	QCW-7470HG	QC-7470 HG WATER			
W	QCW-6010	QC-6010B METALS WATER			
W	QCW-8270	QC-8270C SVOC WATER			
W	MW7470HG	MERCURY ONLY 7470A WATER			
W	MW6010VAR	METAL 6010B VARIABLE WATER			
W	QCW-826025	QC-8260B 25ML VOC WATER			
W	VW82-25TC4	VOC 8260B 25ML TCL4 WATER			
353902	EB-070204	7/2/2004	7/2/2004	7/15/2004	PLEASE NOTE METALS REQUIRE 3030C-PREP**REPORT TCL4 VOA;SVOA AND HSL METALS+SB,As,Be,Cd,Cr, Cu,Pb,Hg,Ni,Se,.Ag,Tl,Zn
W	VW82-25TC4	VOC 8260B 25ML TCL4 WATER			
W	SW8270TCL4	SVOC 8270C TCL4 WATER			
W	MW6010VAR	METAL 6010B VARIABLE WATER			
W	MW7470HG	MERCURY ONLY 7470A WATER			
353903	TW-070204	7/2/2004	7/2/2004	7/15/2004	***TRIPBLANK**
W	VW82-25TC4	VOC 8260B 25ML TCL4 WATER			

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
EB-070204

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix (soil/water): WATER Lab Sample ID: 353902

Level (low/med): LOW Date Received: 7/2/04

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	1.9	U		P
7440-38-2	Arsenic	2.1	U		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.20	U		P
7440-47-3	Chromium	0.90	U		P
7440-50-8	Copper	0.60	U		P
7439-92-1	Lead	1.1	U		P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	0.60	U		P
7782-49-2	Selenium	2.4	U		P
7440-22-4	Silver	0.80	U		P
7440-28-0	Thallium	2.8	U		P
7440-66-6	Zinc	4.4	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

SW846-METALS

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SW-2

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix (soil/water): WATER Lab Sample ID: 353901

Level (low/med): LOW Date Received: 6/25/04

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	2.1	B		P
7440-38-2	Arsenic	2.5	U		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	0.40	U		P
7440-47-3	Chromium	0.80	U		P
7440-50-8	Copper	3.3	B		P
7439-92-1	Lead	1.3	U		P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	2.1	B		P
7782-49-2	Selenium	2.4	U		P
7440-22-4	Silver	0.41	B		P
7440-28-0	Thallium	3.2	U		P
7440-66-6	Zinc	13.2	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EB-070204

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353902

Sample wt/vol: 25 (g/ml) ML Lab File ID: 353902B73

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	0.82	JB
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.65	B
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EB-070204

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353902

Sample wt/vol: 25 (g/ml) ML Lab File ID: 353902B73

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.: EB-070204

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353902

Sample wt/vol: 25 (g/ml) ML Lab File ID: 353902B73

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 7 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	556-67-2	CYCLOTETRASILOXANE, OCTAMETH	12.57	0.90	NJB
2.	110-57-6	2-BUTENE, 1,4-DICHLORO-, (E)	12.94	0.59	NJB
3.		LABORATORY ARTIFACT	14.02	1.9	JB
4.		STRAIGHT-CHAIN ALKANE	14.93	1.0	JB
5.		LABORATORY ARTIFACT	15.92	1.5	JB
6.		STRAIGHT-CHAIN ALKANE	17.34	0.57	J
7.		LABORATORY ARTIFACT	18.38	1.1	JB
8.					
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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SW-2

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353901

Sample wt/vol: 25 (g/ml) ML Lab File ID: 353901B73

Level: (low/med) LOW Date Received: 06/25/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.17	JB
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	3.1	B
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.37	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.23	J
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	1.4	J
67-66-3	Chloroform	0.16	J
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.24	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SW-2

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353901

Sample wt/vol: 25 (g/ml) ML Lab File ID: 353901B73

Level: (low/med) LOW Date Received: 06/25/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SW-2

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353901

Sample wt/vol: 25 (g/ml) ML Lab File ID: 353901B73

Level: (low/med) LOW Date Received: 06/25/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	6.83	0.76	J
2.		LABORATORY ARTIFACT	12.58	0.63	J
3.		LABORATORY ARTIFACT	14.01	1.1	JB
4.		STRAIGHT-CHAIN ALKANE	14.93	0.98	JB
5.		LABORATORY ARTIFACT	15.91	1.9	JB
6.		LABORATORY ARTIFACT	18.37	1.1	JB
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TW-070204

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353903

Sample wt/vol: 25 (g/ml) ML Lab File ID: 353903B73

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	3.3	B
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.47	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	3.2	
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.63	
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TW-070204

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353903

Sample wt/vol: 25 (g/ml) ML Lab File ID: 353903B73

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

TW-070204

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353903

Sample wt/vol: 25 (g/ml) ML Lab File ID: 353903B73

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	6.83	0.67	J
2.	556-67-2	CYCLOTETRASILOXANE, OCTAMETH	12.57	0.55	NJB
3.		LABORATORY ARTIFACT	14.02	0.86	JB
4.		STRAIGHT-CHAIN ALKANE	14.93	0.65	JB
5.		LABORATORY ARTIFACT	15.92	1.7	JB
6.		LABORATORY ARTIFACT	18.38	1.2	JB
7.					
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FORM I VOA-TIC

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EB-070204

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353902

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 353902A64

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: _____ decanted: (Y/N)___ Date Extracted:07/06/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/13/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	Bis(2-chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-N-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	Bis(2-chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	10	U

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EB-070204

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353902

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 353902A64

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: _____ decanted: (Y/N)___ Date Extracted:07/06/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/13/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
121-14-2	2,4-Dinitrotoluene	10	U
132-64-9	Dibenzofuran	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
117-81-7	bis(2-ethylhexyl)Phthalate	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

EB-070204

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353902

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 353902A64

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: _____ decanted: (Y/N)___ Date Extracted:07/06/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/13/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
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FORM I SV-TIC

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SW-2

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353901

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 353901JA66

Level: (low/med) LOW Date Received: 06/25/04

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/29/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/08/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	Bis(2-chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-N-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	Bis(2-chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	10	U

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SW-2

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353901

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 353901JA66

Level: (low/med) LOW Date Received: 06/25/04

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/29/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/08/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
121-14-2	2,4-Dinitrotoluene	10	U
132-64-9	Dibenzofuran	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
117-81-7	bis(2-ethylhexyl)Phthalate	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM 1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SW-2

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 353901

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 353901JA66

Level: (low/med) LOW Date Received: 06/25/04

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/29/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/08/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	25.32	6.4	J
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

FORM I SV-TIC

CompuChem

a division of Liberty Analytical Corp.

26-Jul-04

DAN PETERMAN
BLASLAND, BOUCK & LEE, INC.
3700 REGENCY PARKWAY
SUITE 140
Cary, NC 27511

Subject:
Report of Data-Project: SUTTON STEAM Workorder: 3539

Attn.: DAN PETERMAN

Enclosed are the results of analytical work performed in accordance with the referenced account number.

This report covers sample(s) appearing on the attached listing.

Thank you for selecting C should have
questions or require additi epresentative at
1-800-833-5097.

Metals

Sincerely,

CompuChem
A Division of Liberty Analy

Attachment

TOTAL NUMBER
OF PAGES_____

CompuChem, a division of Liberty Analytical

Hsn	Client ID	Wordorder	Matrix	Account	Project	Report
353901	SW-2	3539	W	BB&L	SUTTON STEAM	
353902	EB-070204	3539	W	BB&L	SUTTON STEAM	
353903	TW-070204	3539	W	BB&L	SUTTON STEAM	7/20/2004

SW846-METALS

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

SOW No.: SW846

EPA Sample No.	Lab Sample ID.
EB-070204	353902
SW-2	353901
SW-2D	38306 DUP
SW-2D	38311
SW-2S	38307 MS
SW-2S	38312
SW-2SD	38308 MSD
SW-2SD	38313

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Susan W Bass Name: Susan W. Bass

Date: 7/26/94 Title: Director of Laboratory Operations

CompuChem
a Division of Liberty Analytical Corp.
501 Madison Avenue Cary, NC 27513

SDG NARRATIVE
SDG # 3539

The indicated Sample Delivery Group (SDG) consisting of two (2) water samples were received into the laboratory information management system (LIMS) on June 25 and July 2, 2004 intact and in good condition with Chain of Custody (COC) Records in order, unless otherwise noted in any attachments or Quality Assurance Notices. The temperature of the samples upon receipt was 2.6 to 9.7°C. Sample ID's reported in this data package are noted by the receiving department on the COC if they differ from those listed by the samplers on the COC.

Sample SW-2 was prepared by 3030C and analyzed in accordance with SW846 methodology for the requested metals. Sample EB-070204 was not prepared by 3030C. It was analyzed following SW846 for the requested metals.

INSTRUMENTAL QUALITY CONTROL:

All calibration verification solutions (ICV & CCV), blanks (ICB, & CCB), and interference check samples (ICSA & ICSAB) associated with this data were confirmed to be within allowable limits.

SAMPLE PREPARATION QUALITY CONTROL:

The sample preparation procedure verifications (LCSW & PBW) were found to be within acceptable ranges and all field samples were prepared and analyzed within the specified holding times.

MATRIX RELATED QUALITY CONTROL:

The sample matrix spike, CCN = 353901 ID SW-2S and SW-2SD were inside control limits for the requested analytes.

Control limits for matrix spikes recoveries are set at 75% to 125% of the analyte quantity added unless original sample concentrations exceed the true values of these "spikes" by a factor of four or more. In this case, affected analytes are not flagged even if recoveries are outside percentage recovery control limits.

The sample matrix duplicate, CCN = 353901 ID SW-2D was inside control limits for the requested analytes.

CLP control limits for duplicate determinations are +/- 20% Relative Percent Difference (RPD) for concentrations greater than or equal to five times the CRDL in both the original and duplicate samples, and +/- the CRDL for concentrations less than five times the CRDL. The RPD is not calculated if both the original and duplicate values fall below the IDL.

The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Susan W Bass

Susan W. Bass
Director of Laboratory Operations
July 26, 2004

CompuChem
a Division of Liberty Analytical Corp.
501 Madison Avenue Cary, NC 27513

DATA REPORTING QUALIFIERS FOR INORGANICS

On Form I, under the column labeled "C" for concentration qualifier and "Q" for qualifier, each result is flagged with the specific data reporting qualifiers listed below, as appropriate. Up to five qualifiers may be reported on Form I for each analyte.

The C (concentration) qualifiers used are:

U: This flag indicates the analyte was analyzed for but not detected. This reported value was obtained from a reading that was less than the Instrument Detection Limit (IDL). The IDL will be adjusted to reflect any dilution and, for soils, the percent moisture.

B: This flag indicates the analyte was analyzed for and the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).

The Q qualifiers used are:

E: This flag indicates an estimated value. This flag is used:

1. When the serial dilution (a five fold dilution for CLP and a five fold dilution for SW-846 method 6010B) results are not within 10%. The analyte concentration must be sufficiently high (minimally a factor of 50X above the IDL in the original sample).

N: This flag indicates the sample spike recovery is outside of control limits:

***:** This flag is used for duplicate analysis when the sample and the sample duplicate results are not within control limits.

The extensions: D, S, SD, L. A, added to the end of the client ID represent as follows:

D:	matrix duplicate
S:	matrix spike
SD:	matrix spike duplicate
L:	serial dilution
A:	post digestion spike

Method Codes:

P:	ICP PLASMA
CV:	MERCURY COLD VAPOR AA
CA:	MIDI-DISTILLATION SPECTROPHOTOMETRIC

CompuChem
a division of Liberty Analytical Corp.

CHAIN OF CUSTODY

501 Madison Ave.
Cary, NC 27513
Phone: 919-379-4100 Fax 919-379-4040

Page 1 of 3

Courier: [illegible] BBC
Airbill No.
Sampling Complete? Y or N

Company Name: BBL, INC.	Project Name: PROGRESS ENERGY - SUTTON
Address: 3700 Regency Pkwy, Ste. 140	Sampling Location: WILMINGTON, NC - FADA [illegible]
City: CARY State: NC Zip: 27511	Turnaround time: STANDARD
Project Contact: SCOTT DAVIES	Batch QC or Project Specific? If Specific, which Sample ID?
Phone #: (919) 469. 1952, ext: 17	Are aqueous samples field filtered for metals? Y or (N)
Sampler's Name: Dan Peterman ext. 31	Are high concentrations expected? Y or (N) If yes, which ID(s)?

GW - Ground water
WW - Waste water
SW - Surface water
SO - Soil/Sediment
TB - Trip Blank
RI - Rinsate
WP - Wipe
O - Other

	Field ID	Collection Date	Collection Time	Matrix	# of bottles	Number of Preserved Bottles: HCl	NaOH	NHO3	H2SO4	MEOH	Other 4°	TCL VOCs (8260) 3-40ml	TCL SVOCs (8270) 3-AL	HSL Metals (6010) 1PL						
349008	SW-1	6/23/04	1020	SW	6	3		1				X	X	X	2-AL	1-PL	3-40ml			
353901	SW-2	6/23/04	0900	SW	6	3		1				X	X	X	(3-PL)	(6AL)	9-40ml			
~~354401~~	~~SD-1~~	6/23/04	~~1050~~	SO	3						4°	X	X	X	~~(3-4oz)~~	~~(3-4oz)~~	~~(3-4oz)~~			
354401	SD-2	6/23/04	0930	SO	3						4°	X	X	X	~~3 cuts~~ 6/25/04		(3-4oz)	(3-4oz)	(3-4oz)	
353901	SW-2 MS	6/23/04	0915	SW	6	3		1				X	X	X						
353901	SW-2 MSD	6/23/04	0915	SW	6	3		1				X	X	X						
354401	SD-2 MS	6/23/04	0940	SO	3						4°	X	X	X						
354401	SD-2 MSD	6/23/04	0940	SO	3						4°	X	X	X						
349008	DUP-062304	6/23/04	-	SW	6	3		1				X	X	X	1PL	2AL	3-40ml			
	DUP-062304-SD	6/23/04	-	SD	3						4°	X	X	X						
349010	EB-062304	6/23/04	1840	RI	6	3		1			4°	X	X	X	1PL	2AL	3-40ml			

Sample Unpacked By: Pauline Ball	Cyanide samples checked for sulfide & chlorine? Y or (NA)
Sample Order Entry By: Marlene Smith	625 & Phenol samples checked for chlorine? Y or (NA)
Samples Received in Good Condition? (Y) or N	608 samples checked for pH between 5.0-9.0? Y or (NA)
If no, explain: Didn't receive SD-1 cuts 6/25/04	MUST Meet NCAC 2L 6W Standards For Reporting Limits.

~~No time on Samples 6/25/04 GBS~~

Relinquished by: Dan Peterman	Date/Time: 6/25/04 (1700)	Received by: [illegible] Ramond	Date/Time: 6/25/04 14:4
Relinquished by:	Date/Time:	Received by:	Date/Time:
Subcon[illegible] Y or N If yes, where?	[illegible]dy Seal(s) intact? Y or (N)	On Ice? (Y) or N	Cooler Temp: 6[illegible]

White & Yellow copy to lab • Pink copy for cus[illegible]

4

CompuChem

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WORKORDER SUMMARY REPORT

Workorder: 3539 **Account:** BB&L **Project:** SUTTON STEAM

SDG-Case: 3539 **Status:** **QC Type:** CLIENT SPECIFIC MS/MSD

Report Style: COMPUCHEM STYLE 3 WITH EDD

SAMPLE ID	CLIENT ID	COLLECT DATE	RECEIVE DATE	DUE DATE	COMMENTS
353901	SW-2	6/23/2004	6/25/2004	7/8/2004	**USE FOR QC**PLEASE NOTE METALS REQUIRE 3030C-PREP**REPORT TCL4 VOA;SVOA AND HSL METALS+SB,As,Be,Cd,Cr, Cu,Pb,Hg,Ni,Se,.Ag,Tl,Zn
W	VW82-5TC4	VOC 8260B 5ML TCL4 WATER			
W	SW8270TCL4	SVOC 8270C TCL4 WATER			
W	QCW-7470HG	QC-7470 HG WATER			
W	QCW-6010	QC-6010B METALS WATER			
W	MW6010VAR	METAL 6010B VARIABLE WATER			
W	MW7470HG	MERCURY ONLY 7470A WATER			
W	QCW-8270	QC-8270C SVOC WATER			
W	QCW-826025	QC-8260B 25ML VOC WATER			

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CHAIN OF CUSTODY

501 Madison Ave.
Cary, NC 27513
Phone: 919-379-4100 Fax 919-379-4820

Courier BBL, INC
Airbill No.
Sampling Complete? (Y) or N

Company Name: BBL, INC.	Project Name: PROGRESS ENERGY - FADA
Address: 3700 REGENCY PKWY	Sampling Location: WILMINGTON, NC
City: CARY State: NC Zip: 27511	Turnaround time: STANDARD
Project Contact: SCOTT DAVIES	Batch QC or Project Specific? If Specific, which Sample ID? -
Phone #: (919) 469-1952, ext 17	Are aqueous samples field filtered for metals? Y or N -
Sampler's Name: DANIEL PETERMAN	Are high concentrations expected? Y or N? If yes, which ID(s)? -

GW - Ground water
WW - Waste water
SW - Surface water
SO - Soil/Sediment
TB - Trip Blank
RI - Rinsate
WP - Wipe
O - Other

	Field ID	Collection Date	Collection Time	Matrix	# of bottles	Number of Preserved Bottles: HCl	NaOH	NHO3	H2SO4	MEOH	Other	TCL VOCs (8260)	TCL SVOCs (8270)	HSL Metals (6010)		
354402	SD-1	7/2/04	1045	SO	3						3	X	X	X		
354403	SD-91	7/2/04	NR	SO	3						3	X	X	X		1
353902	EB-070204	7/2/04	1130	RI	6	3		1			2	X	X	X		42
353903	TW-070204	7/2/04	NR	TB	2						2	X				

Sample Unpacked By: Darlene Bailey
Sample Order Entry By: Marlene Albright
Samples Received in Good Condition? (Y) or N
If no, explain:

Cyanide samples checked for sulfide & chlorine? Y or (NA)
625 & Phenol samples checked for chlorine? Y or (NA)
608 samples checked for pH between 5.0-9.0? Y or (NA)

MUST MEET [illegible] RL
STANDARDS
NO ID on trip blanks and one 40ml smaller than rest size & the other 2 are air

Relinquished by:	Date/Time: 7/2/04 1970	Received by:	Date/Time: 7-2-04 2:42pm
Relinquished by:	Date/Time:	Received by:	Date/Time:
Subcontact? Y or N If yes, where?	Custody Seal(s) intact? Y or (N)	On Ice? (Y) or N	Cooler Temp: 2.6 °C

Samples stored [illegible] s after date report mailed at no extra charge.

White & Yellow copy to lab • Pink copy for custome[illegible]

9

CompuChem

a division of Liberty Analytical Corp.

WORKORDER SUMMARY REPORT

Workorder: 3539 **Account:** BB&L **Project:** SUTTON STEAM
SDG-Case: 3539 **Status:** CLOSED **QC Type:** CLIENT SPECIFIC MS/MSD
Report Style: COMPUCHEM STYLE 3 WITH EDD

SAMPLE ID	CLIENT ID	COLLECT DATE	RECEIVE DATE	DUE DATE	COMMENTS
353901	SW-2	6/23/2004	6/25/2004	7/15/2004	**USE FOR QC**PLEASE NOTE METALS REQUIRE 3030C-PREP**REPORT TCL4 VOA;SVOA AND HSL METALS+SB,As,Be,Cd,Cr, Cu,Pb,Hg,Ni,Se,.Ag,Tl,Zn
W	SW8270TCL4	SVOC 8270C TCL4 WATER			
W	QCW-7470HG	QC-7470 HG WATER			
W	QCW-6010	QC-6010B METALS WATER			
W	QCW-8270	QC-8270C SVOC WATER			
W	MW7470HG	MERCURY ONLY 7470A WATER			
W	MW6010VAR	METAL 6010B VARIABLE WATER			
W	QCW-826025	QC-8260B 25ML VOC WATER			
W	VW82-25TC4	VOC 8260B 25ML TCL4 WATER			
353902	EB-070204	7/2/2004	7/2/2004	7/15/2004	PLEASE NOTE METALS REQUIRE 3030C-PREP**REPORT TCL4 VOA;SVOA AND HSL METALS+SB,As,Be,Cd,Cr, Cu,Pb,Hg,Ni,Se,.Ag,Tl,Zn
W	VW82-25TC4	VOC 8260B 25ML TCL4 WATER			
W	SW8270TCL4	SVOC 8270C TCL4 WATER			
W	MW6010VAR	METAL 6010B VARIABLE WATER			
W	MW7470HG	MERCURY ONLY 7470A WATER			
353903	TW-070204	7/2/2004	7/2/2004	7/15/2004	***TRIPBLANK**
W	VW82-25TC4	VOC 8260B 25ML TCL4 WATER			

SW846-METALS

3

BLANKS

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Antimony	2.0	B	2.3	B	2.4	B	1.9	B	1.900	U	P
Arsenic	2.5	U	2.5	U	2.5	U	2.5	U	2.500	U	P
Beryllium	0.3	U	0.3	U	0.3	U	0.3	U	0.300	U	P
Cadmium	0.4	U	0.4	U	0.4	U	0.4	U	0.400	U	P
Chromium	-0.9	B	-0.8	B	-0.9	B	0.8	U	0.800	U	P
Copper	1.3	U	1.3	U	1.3	U	1.3	U	1.300	U	P
Lead	1.3	U	1.3	U	1.3	U	1.3	U	1.300	U	P
Mercury	0.1	U	0.1	U	0.1	U	0.1	U	0.100	U	CV
Nickel	0.7	U	0.7	U	0.7	U	0.7	U	0.700	U	P
Selenium	2.4	U	-2.6	B	2.4	U	2.4	U	2.400	U	P
Silver	0.4	U	0.4	U	0.4	U	0.4	U	0.400	U	P
Thallium	3.2	U	3.2	U	3.2	U	3.2	U	3.200	U	P
Zinc	1.5	U	1.5	U	1.5	U	1.5	U	11.960	B	P

SW846-METALS

3

BLANKS

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Antimony	1.9	U	1.9	U	1.9	U	1.9	U	1.900	U	P
Arsenic	2.1	U	2.1	U	2.1	U	2.5	U	2.100	U	P
Beryllium	0.1	U	0.3	B	0.1	U	0.3	B	0.100	U	P
Cadmium	0.2	U	0.3	B	0.2	U	0.4	B	-0.404	B	P
Chromium	-1.2	B	0.9	U	-1.2	B	-0.8	B	-1.383	B	P
Copper	0.6	U	0.6	U	0.6	U	1.3	U	0.600	U	P
Lead	1.1	U	1.1	U	1.1	U	1.3	U	1.100	U	P
Mercury	0.1	U	0.1	U	0.1	U	0.1	U	0.100	U	CV
Nickel	0.6	U	0.6	U	0.6	U	0.7	U	0.600	U	P
Selenium	2.4	U	2.4	U	2.4	U	2.4	U	2.400	U	P
Silver	0.8	U	0.8	U	0.8	U	-0.5	B	-1.112	B	
Thallium	2.8	U	2.8	U	2.8	U	3.2	U	-3.349	B	P
Zinc	4.1	U	4.1	U	4.1	U	1.5	U	19.119	B	P

SW846-METALS

5A

SPIKE SAMPLE RECOVERY

SAMPLE NO.

SW-2S

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Antimony	75 - 125	465.5797		2.0949	B	500.00	92.7		P
Arsenic	75 - 125	37.9065		2.5000	U	40.00	94.8		P
Beryllium	75 - 125	45.9267		0.3000	U	50.00	91.9		P
Cadmium	75 - 125	46.4960		0.4000	U	50.00	93.0		P
Chromium	75 - 125	189.4463		0.8000	U	200.00	94.7		P
Copper	75 - 125	250.2542		3.2573	B	250.00	98.8		P
Lead	75 - 125	19.0015		1.3000	U	20.00	95.0		P
Mercury	75 - 125	0.8175		0.1000	U	1.00	81.8		CV
Nickel	75 - 125	471.4759		2.0999	B	500.00	93.9		P
Selenium	75 - 125	9.7022		2.4000	U	10.00	97.0		P
Silver	75 - 125	50.2441		0.4121	B	50.00	99.7		P
Thallium	75 - 125	48.2588		3.2000	U	50.00	96.5		P
Zinc	75 - 125	475.1421		13.2468	B	500.00	92.4		P

Comments:

SW846-METALS

5A

SPIKE SAMPLE RECOVERY

SAMPLE NO.

SW-2SD

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Antimony	75 - 125	479.3873		2.0949	B	500.00	95.5		P
Arsenic	75 - 125	38.7143		2.5000	U	40.00	96.8		P
Beryllium	75 - 125	46.9830		0.3000	U	50.00	94.0		P
Cadmium	75 - 125	47.5227		0.4000	U	50.00	95.0		P
Chromium	75 - 125	194.5350		0.8000	U	200.00	97.3		P
Copper	75 - 125	254.6771		3.2573	B	250.00	100.6		P
Lead	75 - 125	19.2698		1.3000	U	20.00	96.3		P
Mercury	75 - 125	0.8590		0.1000	U	1.00	85.9		CV
Nickel	75 - 125	483.1121		2.0999	B	500.00	96.2		P
Selenium	75 - 125	10.3750		2.4000	U	10.00	103.8		P
Silver	75 - 125	50.9497		0.4121	B	50.00	101.1		P
Thallium	75 - 125	47.3564		3.2000	U	50.00	94.7		P
Zinc	75 - 125	482.3527		13.2468	B	500.00	93.8		P

Comments:

6

DUPLICATES

SAMPLE NO.

SW-2D

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Antimony		2.0949	B	4.4489	B	71.9		P
Arsenic		2.5000	U	2.5000	U			P
Beryllium		0.3000	U	0.3871	B	200.0		P
Cadmium		0.4000	U	0.4000	U			P
Chromium		0.8000	U	1.7127	B	200.0		P
Copper		3.2573	B	4.9079	B	40.4		P
Lead		1.3000	U	1.9675	B	200.0		P
Mercury		0.1000	U	0.1000	U			CV
Nickel		2.0999	B	4.1983	B	66.6		P
Selenium		2.4000	U	2.4000	U			P
Silver		0.4121	B	0.5959	B	36.5		P
Thallium		3.2000	U	3.2000	U			P
Zinc		13.2468	B	18.9289	B	35.3		P

7

LABORATORY CONTROL SAMPLE

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Solid LCS Source:

Aqueous LCS Source: HIPUR

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Antimony	6000.0	5471.26	91.2						
Arsenic	1000.0	917.30	91.7						
Beryllium	500.0	455.51	91.1						
Cadmium	500.0	460.19	92.0						
Chromium	1000.0	934.57	93.5						
Copper	2500.0	2391.54	95.7						
Lead	300.0	276.70	92.2						
Mercury	3.0	2.99	99.7						
Nickel	4000.0	3692.54	92.3						
Selenium	500.0	476.24	95.2						
Silver	1000.0	944.06	94.4						
Thallium	1000.0	857.82	85.8						
Zinc	2000.0	1811.26	90.6						

7

LABORATORY CONTROL SAMPLE

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Solid LCS Source:

Aqueous LCS Source: HIPUR

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Antimony	6000.0	6245.15	104.1						
Arsenic	1000.0	1013.20	101.3						
Beryllium	500.0	541.35	108.3						
Cadmium	500.0	506.38	101.3						
Chromium	1000.0	1025.78	102.6						
Copper	2500.0	2574.54	103.0						
Lead	300.0	297.80	99.3						
Mercury	3.0	3.00	100.0						
Nickel	4000.0	4045.05	101.1						
Selenium	500.0	475.80	95.2						
Silver	1000.0	1037.76	103.8						
Thallium	1000.0	1039.50	104.0						
Zinc	2000.0	1987.57	99.4						

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26-Jul-04

DAN PETERMAN
BLASLAND, BOUCK & LEE, INC.
3700 REGENCY PARKWAY
SUITE 140
Cary, NC 27511

Subject:
Report of Data-Project: SUTTON STEAM Workorder: 3539

Attn.: DAN PETERMAN

Enclosed are the results of analytical work performed in accordance with the referenced account number.

This report covers sample(s) appearing on the attached listing.

Thank you for selecting CompuChem for your sample analysis. If you should have questions or require additional analytical services, please contact your representative at 1-800-833-5097.

Sincerely,

CompuChem
A Division of Liberty Analytical

Attachment

TOTAL NUMBER
OF PAGES 38

501 Madison Avenue, Cary, NC 27513 Tel: 919-379-4100 Fax: 919-379-4050

CompuChem, a division of Liberty Analytical

Hsn	Client ID	Wordorder	Matrix	Account	Project	Report
353901	SW-2	3539	W	BB&L	SUTTON STEAM	
353902	EB-070204	3539	W	BB&L	SUTTON STEAM	
353903	TW-070204	3539	W	BB&L	SUTTON STEAM	7/20/2004

CompuChem

a division of Liberty Analytical Corporation
501 Madison Avenue
Cary, N.C. 27513
Tel: 919/379-4100 Fax: 919/379-4050

SDG NARRATIVE

SDG # 3539
PROTOCOL: SW-846
SAMPLE IDENTIFICATIONS: EB-070204, SW-2 and TW-070204.

The three water samples listed above were received intact, properly refrigerated between 2.6-9.7°C with documentation, in sealed shipping containers, on June 25 and July 2, 2004. SW-846, 3rd Edition, Update 3, 8260B was used to prepare and analyze the samples, with the exceptions and/or additions requested by the client. All pertinent Quality Assurance notices are included in the narrative section, and all pertinent Laboratory notices for SDG 3539 are included in the sample data sections.

All samples were analyzed within 14 days from sampling. The pH values of samples SW-2 and TW-070204 are equal to 1 and EB-070204 is equal to 7. TW-070204 is being reported with a hit for 2-butanone and toluene. The sample was reanalyzed and the hits were verified. All of the internal standards met response and retention time criteria in the analyses of the samples. All of the system monitoring compounds met recovery criteria in the analyses of the samples.

All Bromofluorobenzene (BFB) abundance criteria were met for tunes associated to this SDG. Overall QC criteria were met for all initial and continuing calibration standards associated to this SDG. Manual quantitations were performed on one or more of the process files associated with this SDG. The reasons have been coded with explanations provided in the notice included in the narrative section of the SDG. The associated method blanks met all quality control criteria. The associated Laboratory Control Samples (LCS) met all accuracy criteria. SW-2 was used as the original to prepare the duplicate matrix spikes as requested. The associated duplicate matrix spikes met all advisory accuracy and precision criteria.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Kenneth Grzybowski
Analyst II
July 20, 2004

GC and GC/MS Column and Trap Specifications Table

COLUMNS

Brand Name	Coating Material	ID (mm)	Film Thickness (um)	Length (m)
GC Laboratory				
Restek	RTX-1701	0.53	0.5	30
J & W	DB-608	0.53	0.83	30
Restek	CLPesticides	0.53	0.5	30
Restek	CLPesticides II	0.53	0.42	30
GC Volatiles Laboratory				
Restek	RTX-1	0.53	0.5	105
Restek	RTX-502.2	0.53	0.5	105
GC/MS Volatiles Laboratory				
J & W	DB-624	0.53	3.0	30/75
J & W	DB-624	0.25	1.4	60
J & W	DB-624	0.32	1.8	60
Restek	RTX-624	0.32	1.8	60
Restek	RTX-VMS*	0.18	1.0	20
Supelco	SPB-624	0.32	1.4	60
Supelco	Equity™-624	0.53	3.0	75
Zebron	ZB-624	0.32	1.8	60
GC/MS Semivolatiles Laboratory				
Restek	RTX-5MS	0.25	0.25	30
Restek	RTX-5MS	0.32	0.25	30
HPLC Laboratory				
Supelco	Supelcosil LC-PAH	4.6	5.0	15 cm
Supelco	Discovery RP Amide C16	4.6	5.0	25 cm
Restek	Pinnacle Cyano	4.6	5.0	25 cm
Restek	Allure C18	4.6	5.0	25 cm

*Note: The RTX-VMS column is currently not used for EPA CLP analyses.

TRAPS

GC and GC/MS Volatiles Laboratory	
Tekmar 3	* 8 cm of 2,6-diphenylene oxide polymer (Tenax) * 8 cm of silica gel * 7 cm of coconut charcoal * 0.5 cm of silanized glass wool at each end
Tekmar 5	* 1 cm of methyl silicone packing (OV-1 coating) * 8 cm of 2,6-diphenylene oxide polymer (Tenax) * 8 cm of silica gel * 7 cm of coconut charcoal * 0.5 cm of silanized glass wool at each end
Supelco K (Vocarb3000)	* 10 cm of Carbopack B (Graphitized Carbons) * 6 cm of Carboxen 1000 (Carbon molecular sieves) * 1 cm of Carboxen 1001 (Carbon molecular sieves)

DATA REPORTING QUALIFIERS (continued)

C: This flag applies to GC or HPLC results where the identification has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, this flag is not applied; a laboratory-defined flag is used instead (see the X/Y/Z qualifier.)

B: This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. This flag is used for a TIC as well as for a positively identified target compound. The combination of flags BU or UB is not an allowable policy. Blank contaminants are flagged B only when they are detected in the sample.

E: This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range, the sample or extract will be diluted and reanalyzed. All such compounds with a response greater than the upper level of the calibration range will have the concentration flagged with an E on Form I for the original analysis.

D: If a sample or extract is reanalyzed at a higher dilution factor, for example when the concentration of an analyte exceeds the upper calibration range, the DL suffix is appended to the sample number on Form I for the more diluted sample, and all reported concentrations on that Form I are flagged with the D flag. This flag alerts data users that any discrepancies between the reported concentrations may be due to dilution of the sample or extract.

NOTE 1: The D flag is not applied to compounds which are not detected in the sample analysis i.e. compounds reported with the CRQL (or Reporting Limit) and the U flag.

NOTE 2: Separate Form Is are used for reporting the original analysis (Client Sample No. XXXXX) and the more diluted sample analysis (Client Sample No. XXXXXDL) i.e. the results from both analyses <u>are not combined</u> on a single Form I.

A: This flag indicates that a TIC is a suspected aldol-condensation product.

X/Y/Z: Other specific flags may be required to properly define the results. If used, the flags will be fully described in the SDG Narrative. The laboratory-defined flags are limited to X, Y and Z.

DATA REPORTING QUALIFIERS

On the Form I, under the column labeled "Q" for qualifier, each result is flagged with the specific data reporting qualifiers listed below, as appropriate. Up to five qualifiers may be reported on Form I for each compound. The qualifiers used are:

U: This flag indicates the compound was analyzed for but not detected. The Contract Required Quantitation Limit (CRQL), or reporting limit, will be adjusted to reflect any dilution and, for soils, the percent moisture.

J: This flag indicates an estimated value. The flag is used as detailed below:

1. When estimating a concentration for tentatively identified compounds (TICs) where a response factor of 1.0 is assumed for the TIC analyte,

2. When the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the CRQL (or Reporting Limit) but greater than zero, and

3. When the retention time data indicate the presence of a compound that meets the pesticide/Arocior or other GC or HPLC identification criteria, and the result is less than the CRQL (or Reporting Limit) but greater than zero. For example, if the CRQL (or Reporting Limit) is 10 µg/L, but a concentration of 3 µg/L is calculated, it is reported as 3J.

N: This flag indicates presumptive evidence of a compound. This flag is only used for TICs, where the identification is based on a mass spectral library search. For generic characterization of a TIC such as 'chlorinated hydrocarbon', the N flag is not used.

P: In the EPA's Contract Laboratory Program (CLP), this flag is used for a pesticide/Aroclor target analyte, when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a P.
For SW-846 GC and HPLC analyses, when the Relative Percent Difference (RPD) is greater than 40% and there is no evidence of chromatographic anomalies or interferences, then the higher of the two values is reported and flagged with a P. When the RPD is equal to or less than 40%, our policy is to also report the higher of the two values, although the choice could be a project specific issue. For certain HPLC analyses, if one of the HPLC columns displays co-elution of target analytes, all results are reported from a primary column displaying no co-elution. Results are still flagged with a P if the RPD between columns is greater than 40%.

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CHAIN OF CUSTODY

501 Madison Ave.
Cary, NC 27513
Phone: 919-379-4100 Fax 919-379-4040

Courier: [redacted] BBL
Airbill No.
Sampling Complete? Y or N

Company Name: BBL, INC.	Project Name: PROGRESS ENERGY - SUTTON
Address: 3700 Regency Pkwy, Ste. 140	Sampling Location: WILMINGTON, NC - FADA [redacted]
City: CARY State: NC Zip: 27511	Turnaround time: STANDARD
Project Contact: SCOTT DAVIES	Batch QC or Project Specific? If Specific, which Sample ID?
Phone #: (919) 469.1952, ext: 17	Are aqueous samples field filtered for metals? Y or (N)
Sampler's Name: Dan Peterman ext. 31	Are high concentrations expected? Y or (N) If yes, which ID(s)?

GW - Ground water
WW - Waste water
SW - Surface water
SO - Soil/Sediment
TB - Trip Blank
RI - Rinsate
WP - Wipe
O - Other

	Field ID	Collection Date	Collection Time	Matrix	# of bottles	Number of Preserved Bottles: HCl	NaOH	HNO3	H2SO4	MEOH	Other 4°	TCL VOCs (8260) 3-40ml	TCL SVOCs (8270) 2-AL	HSL Metals (6010) 1PL							
349008	SW-1	6/23/04	1020	SW	6	3		1				X	X	X	2-AL	1-PL	3-40ml				
353901	SW-2	6/23/04	0900	SW	6	3		1				X	X	X	(3-PL)	(6AL)	9-40ml				
~~354401~~	~~SD-1~~	~~6/23/04~~	~~1105~~	SO	3						4°	X	X	X	~~3-40z~~	~~3-40z~~	~~3-40z~~				
354401	SD-2	6/23/04	0930	SO	3						4°	X	X	X	2 VOA	6/25/04	(3-40z)	(3-40z)	(3-40z)		
353901	SW-2 MS	6/23/04	0915	SW	6	3		1				X	X	X							
353901	SW-2 MSD	6/23/04	0915	SW	6	3		1				X	X	X							
354401	SD-2 MS	6/23/04	0940	SO	3						4°	X	X	X							
354401	SD-2 MSD	6/23/04	0940	SO	3						4°	X	X	X							
349008	DUP-062304	6/23/04	-	SW	6	3		1				X	X	X	1PL	2AL	3-40ml				
	DUP-062304-SD	6/23/04	-	SD	3						4°	X	X	X							
349010	EB-062304	6/23/04	1840	RI	6	3		1				X	X	X	1PL	2AL	3-40ml				

Sample Unpacked By: Pauline Bals
Sample Order Entry By: Marlene Swift
Samples Received in Good Condition? Y or N
If no, explain: Didn't Rec'd SD-1 on 6/25/04

Cyanide samples checked for sulfide & chlorine? Y or (N/A)
625 & Phenol samples checked for chlorine? Y or (N/A)
608 samples checked for pH between 5.0-9.0? Y or (N/A)

MUST Meet NCAC 2L GW Standards For Applicable Limits.

~~No time on Sample 6/25/04 @ 1535 pm~~

Relinquished by: Dan Peterman	Date/Time: 6/25/04 (1700)	Received by: [redacted]	Date/Time: 6/25/04 14:10
Relinquished by:	Date/Time:	Received by:	Date/Time:
Subcontract? Y or N If yes, where?	Custody Seal(s) intact? Y or (N)	On Ice? (Y) or N	Cooler Temp: 6.2, 4.7

White & Yellow copy to lab • Pink copy for customer

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CHAIN OF CUSTODY

501 Madison Ave.
Cary, NC 27513
Phone: 919-379-4100 Fax 919-379-4040

Courier: BBL, INC
Airbill No.: —
Sampling Complete? (Y) or N

Client Reporting Information

Company Name	BBL, INC.
Address	3700 REGENCY PKWY
City / State / Zip	CARY / NC / 27511
Project Contact	SCOTT DAVIES
Phone #	(919) 469-1952, ext 17
Sampler's Name	DANIEL PETERMAN

Project Information

Project Name	PROGRESS ENERGY - FADA
Sampling Location	WILMINGTON, NC
Turnaround time	STANDARD
Batch QC or Project Specific? If Specific, which Sample ID?	—
Are aqueous samples field filtered for metals? Y or N	—
Are high concentrations expected? Y or N? If yes, which ID(s)?	—

Requested Analysis (include method and bottle type): TCL VOCs (8260) 3-40ml / 4oz; TCL SVOCs (8270) 4oz; HSL Metals (6010) 4oz

Matrices: GW - Ground water; WW - Waste water; SW - Surface water; SO - Soil/Sediment; TB - Trip Blank; RI - Rinsate; WP - Wipe; O - Other

CompuChem No. (Lab Use)	Field ID	Collection Date	Collection Time	Matrix	# of bottles	HCl	NaOH	NHO3	H2SO4	MEOH	Other 40	TCL VOCs (8260)	TCL SVOCs (8270)	HSL Metals (6010)	pH/Sample Info (Lab Use)
354402	SD-1	7/2/04	1045	SO	3						3	X	X	X	
354403	SD-91	7/02/04	NR	SO	3						3	X	X	X	/
353902	EB-070204	7/02/04	1130	RI	6	3		1			2	X	X	X	<2
353903	TW-070204	7/2/04	NR	TB	2						2	X			

Lab Use Only

Sample Unpacked By: [signature]
Sample Order Entry By: Marlene [signature]
Samples Received in Good Condition? (Y) or N
If no, explain:

Cyanide samples checked for sulfide & chlorine? Y or (NA)
625 & Phenol samples checked for chlorine? Y or (NA)
608 samples checked for pH between 5.0-9.0? Y or (NA)

Comments: MUST MEET ~~[illegible]~~ RG STANDARDS
NO ID on trip blanks and one 40ml smaller than pea size. & the other pea size air

Sample Custody

Relinquished by: [signature]	Date/Time: 7/2/04 1440	Received by: [signature]	Date/Time: 7-2-04 2:42pm
Relinquished by: [redacted]	Date/Time: [redacted]	Received by:	Date/Time: [redacted]
Subcontact? Y [redacted] If yes, where?	Custody Seal(s) intact? Y or (N)	On Ice? (Y) or N	Cooler Temp: [illegible] °C

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WORKORDER SUMMARY REPORT

Workorder: 3539 **Account:** BB&L **Project:** SUTTON STEAM
SDG-Case: 3539 **Status:** CLOSED **QC Type:** CLIENT SPECIFIC MS/MSD
Report Style: COMPUCHEM STYLE 3 WITH EDD

SAMPLE ID	CLIENT ID	COLLECT DATE	RECEIVE DATE	DUE DATE	COMMENTS
353901	SW-2	6/23/2004	6/25/2004	7/15/2004	**USE FOR QC**PLEASE NOTE METALS REQUIRE 3030C-PREP**REPORT TCL4 VOA;SVOA AND HSL METALS+SB,As,Be,Cd,Cr, Cu,Pb,Hg,Ni,Se,.Ag,Tl,Zn
W	SW8270TCL4	SVOC 8270C TCL4 WATER			
W	QCW-7470HG	QC-7470 HG WATER			
W	QCW-6010	QC-6010B METALS WATER			
W	QCW-8270	QC-8270C SVOC WATER			
W	MW7470HG	MERCURY ONLY 7470A WATER			
W	MW6010VAR	METAL 6010B VARIABLE WATER			
W	QCW-826025	QC-8260B 25ML VOC WATER			
W	VW82-25TC4	VOC 8260B 25ML TCL4 WATER			
353902	EB-070204	7/2/2004	7/2/2004	7/15/2004	PLEASE NOTE METALS REQUIRE 3030C-PREP**REPORT TCL4 VOA;SVOA AND HSL METALS+SB,As,Be,Cd,Cr, Cu,Pb,Hg,Ni,Se,.Ag,Tl,Zn
W	VW82-25TC4	VOC 8260B 25ML TCL4 WATER			
W	SW8270TCL4	SVOC 8270C TCL4 WATER			
W	MW6010VAR	METAL 6010B VARIABLE WATER			
W	MW7470HG	MERCURY ONLY 7470A WATER			
353903	TW-070204	7/2/2004	7/2/2004	7/15/2004	***TRIPBLANK**
W	VW82-25TC4	VOC 8260B 25ML TCL4 WATER			

CompuChem, a Division of Liberty Analytical

INTERNAL CHAIN OF CUSTODY

Laboratory: Volatiles Matrix: W

Request Date: 7/6/2004 Batch 7699

Comments: _____

	CCN	Receipt	Analysis Param	Container	Preservative	Bottle
1	353901	6/25/2004	VW8260_25X	NA	NONE	353901-16
2	353901	6/25/2004	VW8260_25X	40MLVIAL	HCL	353901-1
3	353902	7/2/2004	VW8260_25X	40MLVIAL	HCL	353902-1
4	353903	7/2/2004	VW8260_25X	40MLVIAL	HCL	353903-1

Relinquished By:	Received By:	Date/Time	Reason
[illegible]	KS	7-6 2111	[illegible]
KS	[illegible]	7-6 2312	Storage
Ref 2B	[illegible]	7-7 900	Analysis
[illegible]	Ref 2B	7-7 1500	Storage
[illegible]	[illegible]	7-16 1930	[illegible]
[illegible]	[illegible]	7-16 1951	[illegible]

Tuesday, July 06, 2004

CompuChem
a Division of Liberty Analytical Corp.

GC/MS VOA Batch Sheet - Water 8260W 25ml

IP 250/460/462/475/480B/483

Department: VOC

Method:

Batch No.: 7699

CCN	Samp Typ	Client ID	pH	Time	Date	INST #	Operator	H/T	Volume	Bottle #	Report	Comments
39349	MB	VBLKLG	-	1114	7-7	73	2558	07/16/04	25ml		✓	
39350	MB	VBLKLH						07/16/04				
39351	MB	VBLKLI						07/16/04				
39352	LCS	VLGLCS	-	1154	7-7	73	2558	07/16/04			✓	
39353	LCS	VLHLCS						07/16/04				
39354	LCS	VLILCS						07/16/04				
39355	MS	SW-2(353901MS)	1	1239	7-7	73	2558	07/07/04	25ml	2	✓	
39356	MSD	SW-2(353901MSD)	1	1305	1	1	1	07/07/04	1	3	✓	
353901	SAMPLE	SW-2						07/07/04				
353901	SAMPLE	SW-2	1	0623	7-7	73	2513	07/07/04	25ml	1	✓	
353902	SAMPLE	EB-070204	7	0607	↓	↓	↓	07/16/04	↓	↓	✓R	
353903	SAMPLE	TW-070204	1	0541				07/16/04		1		
353903R			1	2129		71	2513		25ml	2	RR	

Due 7-15

TCL4
closed

9

Exception Report

SDG#: 3539 Date: 7-19-01

Client Services Representative: _____

Sample ID#	Comments	Initial /Date
3539 03	is being reported with a hit of 2-Butanone and a hit of Toluene. The sample was re-run and verifies both hits.	7-19-01

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SW-2MS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 39355

Sample wt/vol: 25 (g/ml) ML Lab File ID: 39355A73

Level: (low/med) LOW Date Received: 06/25/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	5.9	
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	2.9	B
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.45	J
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.18	J
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	1.9	J
67-66-3	Chloroform	0.16	J
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	6.4	
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	6.3	
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	6.5	B
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SW-2MS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 39355

Sample wt/vol: 25 (g/ml) ML Lab File ID: 39355A73

Level: (low/med) LOW Date Received: 06/25/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	6.2	B
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SW-2MSD

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 39356

Sample wt/vol: 25 (g/ml) ML Lab File ID: 39356A73

Level: (low/med) LOW Date Received: 06/25/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	5.4	
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	3.2	B
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.42	J
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.20	J
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	1.5	J
67-66-3	Chloroform	0.16	J
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	6.3	
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	6.1	
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	6.4	B
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SW-2MSD

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 39356

Sample wt/vol: 25 (g/ml) ML Lab File ID: 39356A73

Level: (low/med) LOW Date Received: 06/25/04

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	6.1	B
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VBLKHA

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 38487

Sample wt/vol: 25 (g/ml) ML Lab File ID: 38487B73_3539

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 07/06/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.41	J
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	1.2	J
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.30	J
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VBLKHA

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 38487

Sample wt/vol: 25 (g/ml) ML Lab File ID: 38487B73_3539

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 07/06/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

VBLKHA

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 38487

Sample wt/vol: 25 (g/ml) ML Lab File ID: 38487B73_3539

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 07/06/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	556-67-2	CYCLOTETRASILOXANE, OCTAMETH	12.57	0.61	NJ
2.	110-57-6	2-BUTENE, 1,4-DICHLORO-, (E)	12.94	0.51	NJ
3.		LABORATORY ARTIFACT	14.01	1.7	J
4.		STRAIGHT-CHAIN ALKANE	14.93	0.94	J
5.		LABORATORY ARTIFACT	15.92	1.7	J
6.		LABORATORY ARTIFACT	17.42	0.65	J
7.		LABORATORY ARTIFACT	18.38	1.0	J
8.					
9.					
10.					
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VBLKLG

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 39349

Sample wt/vol: 25 (g/ml) ML Lab File ID: 39349A73_3539

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	0.98	J
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.18	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VBLKLG

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 39349

Sample wt/vol: 25 (g/ml) ML Lab File ID: 39349A73_3539

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.13	J
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

VBLKLG

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 39349

Sample wt/vol: 25 (g/ml) ML Lab File ID: 39349A73_3539

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VHBLCS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 38491

Sample wt/vol: 25 (g/ml) ML Lab File ID: 38491B73_3539

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 07/06/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	4.6	
74-87-3	Chloromethane	4.8	
75-01-4	Vinyl Chloride	4.7	
74-83-9	Bromomethane	4.0	
75-00-3	Chloroethane	5.0	
75-69-4	Trichlorofluoromethane	4.7	
75-35-4	1,1-Dichloroethene	4.7	B
75-15-0	Carbon disulfide	4.7	
76-13-1	1,1,2-trichloro-1,2,2-triflu	4.4	
67-64-1	Acetone	21	B
79-20-9	Methyl acetate	4.2	
75-09-2	Methylene Chloride	4.1	B
156-60-5	trans-1,2-Dichloroethene	4.8	
1634-04-4	Methyl-tert-butyl ether	4.5	
75-34-3	1,1-Dichloroethane	4.9	
156-59-2	cis-1,2-Dichloroethene	4.8	
78-93-3	2-butanone	21	
67-66-3	Chloroform	4.8	
71-55-6	1,1,1-Trichloroethane	4.5	
56-23-5	Carbon Tetrachloride	4.4	
71-43-2	Benzene	4.8	
107-06-2	1,2-Dichloroethane	4.7	
79-01-6	Trichloroethene	4.6	
78-87-5	1,2-Dichloropropane	4.8	
75-27-4	Bromodichloromethane	4.6	
10061-01-5	cis-1,3-Dichloropropene	4.8	
108-10-1	4-Methyl-2-pentanone	21	
108-88-3	Toluene	4.8	
10061-02-6	trans-1,3-Dichloropropene	4.6	
79-00-5	1,1,2-Trichloroethane	4.7	
127-18-4	Tetrachloroethene	4.6	
591-78-6	2-hexanone	20	
124-48-1	Dibromochloromethane	4.6	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VHBLCS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 38491

Sample wt/vol: 25 (g/ml) ML Lab File ID: 38491B73_3539

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 07/06/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
106-93-4	1,2-Dibromoethane	4.8	
108-90-7	Chlorobenzene	4.8	
100-41-4	Ethylbenzene	4.7	
108-38-3	m,p-Xylene	9.6	
95-47-6	o-Xylene	4.9	
100-42-5	Styrene	4.7	
75-25-2	Bromoform	4.4	
98-82-8	Isopropyl Benzene	4.7	
79-34-5	1,1,2,2-Tetrachloroethane	4.8	
541-73-1	1,3-Dichlorobenzene	5.1	
106-46-7	1,4-Dichlorobenzene	5.0	
95-50-1	1,2-Dichlorobenzene	5.0	
96-12-8	1,2-Dibromo-3-Chloropropane	4.2	
120-82-1	1,2,4-Trichlorobenzene	4.5	
1330-20-7	Xylene (total)	15	
110-82-7	Cyclohexane	4.4	
108-87-2	Methylcyclohexane	4.5	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VLGLCS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 39352

Sample wt/vol: 25 (g/ml) ML Lab File ID: 39352A73_3539

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	4.2	
74-87-3	Chloromethane	5.3	
75-01-4	Vinyl Chloride	5.4	
74-83-9	Bromomethane	5.3	
75-00-3	Chloroethane	6.1	
75-69-4	Trichlorofluoromethane	5.5	
75-35-4	1,1-Dichloroethene	4.9	
75-15-0	Carbon disulfide	5.1	
76-13-1	1,1,2-trichloro-1,2,2-triflu	4.4	
67-64-1	Acetone	23	B
79-20-9	Methyl acetate	4.9	
75-09-2	Methylene Chloride	4.4	
156-60-5	trans-1,2-Dichloroethene	5.4	
1634-04-4	Methyl-tert-butyl ether	5.0	
75-34-3	1,1-Dichloroethane	5.5	
156-59-2	cis-1,2-Dichloroethene	5.3	
78-93-3	2-butanone	24	
67-66-3	Chloroform	5.5	
71-55-6	1,1,1-Trichloroethane	5.1	
56-23-5	Carbon Tetrachloride	4.9	
71-43-2	Benzene	5.5	
107-06-2	1,2-Dichloroethane	5.3	
79-01-6	Trichloroethene	5.2	
78-87-5	1,2-Dichloropropane	5.6	
75-27-4	Bromodichloromethane	5.3	
10061-01-5	cis-1,3-Dichloropropene	5.5	
108-10-1	4-Methyl-2-pentanone	23	
108-88-3	Toluene	5.2	B
10061-02-6	trans-1,3-Dichloropropene	4.8	
79-00-5	1,1,2-Trichloroethane	5.1	
127-18-4	Tetrachloroethene	5.0	
591-78-6	2-hexanone	23	
124-48-1	Dibromochloromethane	4.8	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VLGLCS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 39352

Sample wt/vol: 25 (g/ml) ML Lab File ID: 39352A73_3539

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 07/07/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
106-93-4	1,2-Dibromoethane	4.9	
108-90-7	Chlorobenzene	5.3	B
100-41-4	Ethylbenzene	5.3	
108-38-3	m,p-Xylene	10	
95-47-6	o-Xylene	5.2	
100-42-5	Styrene	5.0	
75-25-2	Bromoform	4.4	
98-82-8	Isopropyl Benzene	5.2	
79-34-5	1,1,2,2-Tetrachloroethane	5.1	
541-73-1	1,3-Dichlorobenzene	5.6	
106-46-7	1,4-Dichlorobenzene	5.6	
95-50-1	1,2-Dichlorobenzene	5.5	
96-12-8	1,2-Dibromo-3-Chloropropane	4.3	
120-82-1	1,2,4-Trichlorobenzene	5.6	
1330-20-7	Xylene (total)	16	
110-82-7	Cyclohexane	4.5	
108-87-2	Methylcyclohexane	4.7	

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

	CLIENT SAMPLE NO.	SMC1 (DBF) #	SMC2 (DCE) #	SMC3 (TOL) #	SMC4 (BFB) #	TOT OUT
01	VBLKHA	109	104	110	109	0
02	VHBLCS	101	95	107	109	0
03	TW-070204	112	107	110	109	0
04	EB-070204	115	112	115	120	0
05	SW-2	113	112	112	113	0
06	VBLKLG	106	102	101	104	0
07	VLGLCS	107	100	104	106	0
08	SW-2MS	108	103	114	114	0
09	SW-2MSD	105	104	107	113	0
10						
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		QC LIMITS
SMC1 (DBF)	= Dibromofluoromethane	(65-150)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(59-150)
SMC3 (TOL)	= Toluene-d8	(61-145)
SMC4 (BFB)	= Bromofluorobenzene	(63-143)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 3
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix Spike - Sample No.: SW-2

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	5	0.1708	5.923	115	50-150
Benzene	5	0.0	6.357	127	76-134
Trichloroethene	5	0.0	6.283	126	71-143
Toluene	5	0.2419	6.525	126	70-137
Chlorobenzene	5	0.0	6.244	125	74-136

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	5	5.398	105	9	14	50-150
Benzene	5	6.271	125	1	11	76-134
Trichloroethene	5	6.065	121	4	14	71-143
Toluene	5	6.38	123	2	13	70-137
Chlorobenzene	5	6.106	122	2	13	74-136

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

3A
WATER VOLATILE LAB CONTROL SAMPLE

VHBLCS

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	5	4.679	94	50-150
Benzene	5	4.78	96	76-134
Trichloroethene	5	4.557	91	71-143
Toluene	5	4.757	95	70-137
Chlorobenzene	5	4.758	95	74-136

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

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS: _____

3A
WATER VOLATILE LAB CONTROL SAMPLE

VLGLCS

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	5	4.857	97	50-150
Benzene	5	5.519	110	76-134
Trichloroethene	5	5.193	104	71-143
Toluene	5	5.156	103	70-137
Chlorobenzene	5	5.25	105	74-136

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

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS: _____

FORM III VOA-1

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO

VBLKHA

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Lab File ID: 38487B73_3539 Lab Sample ID: 38487

Date Analyzed: 07/06/04 Time Analyzed: 2225

GC Column: ZB-624 ID: 0.32 (mm) Heated Purge: (Y/N) N

Instrument ID: 5972HP73

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VHBLCS	38491	38491B73_353	2300
02	TW-070204	353903	353903B73	0541
03	EB-070204	353902	353902B73	0607
04	SW-2	353901	353901B73	0633
05				
06				
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COMMENTS:

CompuChem

a division of Liberty Analytical Corp.

26-Jul-04

DAN PETERMAN
BLASLAND, BOUCK & LEE, INC.
3700 REGENCY PARKWAY
SUITE 140
Cary, NC 27511

Subject:
Report of Data-Project: SUTTON STEAM Workorder: 3539

Attn.: DAN PETERMAN

Enclosed are the results of analytical work performed in accordance with the referenced account number.

This report covers sample(s) appearing on the attached listing.

Thank you for selecting CompuChem for your sample analysis. If you should have questions or require additional analytical services, please contact your representative at 1-800-833-5097.

Sincerely,

CompuChem
A Division of Liberty Analytical

Attachment

TOTAL NUMBER
OF PAGES 40

501 Madison Avenue, Cary, NC 27513 Tel: 919-379-4100 Fax: 919-379-4050

CompuChem, a division of Liberty Analytical

Hsn	Client ID	Wordorder	Matrix	Account	Project	Report
353901	SW-2	3539	W	BB&L	SUTTON STEAM	
353902	EB-070204	3539	W	BB&L	SUTTON STEAM	
353903	TW-070204	3539	W	BB&L	SUTTON STEAM	7/20/2004

CompuChem

a division of Liberty Analytical Corporation
501 Madison Avenue
Cary, N.C. 27513
Tel: 919/379-4100 Fax: 919/379-4050

SDG NARRATIVE
SDG # 3539
PROTOCOL: SW-846

SAMPLE IDENTIFICATIONS:
EB-070204
SW-2

The two water samples listed above were received intact, properly refrigerated, with proper documentation, in sealed shipping containers, on June 29, 2004. The samples were scheduled for the requested analyses of the semivolatile fraction. SW-846, 3rd Edition, Update 3, Separatory Funnel extraction (Method 3510C), and Method 8270C were used to prepare and analyze these samples, with the exceptions and/or additions requested by the client. This portion of the SDG narrative deals with the semivolatile fraction only. All pertinent Quality Assurance notices are included in the narrative section and all pertinent Laboratory notices for SDG # 3539 are included in the sample data sections.

Semivolatile

Extraction and analysis holding time requirements were met for all of these samples.

There were no semivolatile analytes identified above the Quantitation Limit (QL) in any of these samples.

Tentatively Identified Compound (TIC) was found in sample SW-2. The TIC was characterized as unknown.

Manual quantitations were performed on one or more of the process files associated with this SDG. The reasons have been coded with explanations provided in the notice included in the narrative section of the SDG.

All QC criteria were met for all initial and continuing calibration standards associated to this SDG.

All of the surrogates met recovery and retention time criteria in the analyses of these samples.

All the associated method blank met all quality control criteria.

Sample SW-2 was used as the original to prepare the duplicate matrix spikes as requested. The associated duplicate matrix spikes (MS/MSD) met all accuracy and precision criteria.

All the associated Laboratory Control Samples (LCS) prepared and analyzed along with these samples met all accuracy criteria.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Elsie S. Byrd
Senior Scientist I
July 21, 2004

GC and GC/MS Column and Trap Specifications Table

COLUMNS

Brand Name	Coating Material	ID (mm)	Film Thickness (um)	Length (m)
GC Laboratory				
Restek	RTX-1701	0.53	0.5	30
J & W	DB-608	0.53	0.83	30
Restek	CLPesticides	0.53	0.5	30
Restek	CLPesticides II	0.53	0.42	30
GC Volatiles Laboratory				
Restek	RTX-1	0.53	0.5	105
Restek	RTX-502.2	0.53	0.5	105
GC/MS Volatiles Laboratory				
J & W	DB-624	0.53	3.0	30/75
J & W	DB-624	0.25	1.4	60
J & W	DB-624	0.32	1.8	60
Restek	RTX-624	0.32	1.8	60
Restek	RTX-VMS*	0.18	1.0	20
Supelco	SPB-624	0.32	1.4	60
Supelco	Equity™-624	0.53	3.0	75
Zebron	ZB-624	0.32	1.8	60
GC/MS Semivolatiles Laboratory				
Restek	RTX-5MS	0.25	0.25	30
Restek	RTX-5MS	0.32	0.25	30
HPLC Laboratory				
Supelco	Supelcosil LC-PAH	4.6	5.0	15 cm
Supelco	Discovery RP Amide C16	4.6	5.0	25 cm
Restek	Pinnacle Cyano	4.6	5.0	25 cm
Restek	Allure C18	4.6	5.0	25 cm

*Note: The RTX-VMS column is currently not used for EPA CLP analyses.

TRAPS

GC and GC/MS Volatiles Laboratory	
Tekmar 3	* 8 cm of 2,6-diphenylene oxide polymer (Tenax) * 8 cm of silica gel * 7 cm of coconut charcoal * 0.5 cm of silanized glass wool at each end
Tekmar 5	* 1 cm of methyl silicone packing (OV-1 coating) * 8 cm of 2,6-diphenylene oxide polymer (Tenax) * 8 cm of silica gel * 7 cm of coconut charcoal * 0.5 cm of silanized glass wool at each end
Supelco K (Vocarb3000)	* 10 cm of Carbopack B (Graphitized Carbons) * 6 cm of Carboxen 1000 (Carbon molecular sieves) * 1 cm of Carboxen 1001 (Carbon molecular sieves)

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CompuChem's Pagination Convention

As required by the current EPA CLP Statement of Work (SOW) documents, data to be delivered must be paginated (by machine or hand). In the event that the initial numbering is incorrect (a page numbered twice or a page skipped, for example), it is CompuChem's policy to add in an alphabetic suffix to a page number when necessary (e.g., 100A, 100B, etc.).

Notification Regarding Manual Editing/Integration Flags

In some instances, manual adjustments to the software output are necessary to provide accurate data. These manual integrations are performed by the data reviewers, GC/MS operators, or GC chemists. An Extracted Ion Current Profile (EICP) or a GC chromatographic peak has been provided for the manual integration performed on each compound to demonstrate the accuracy of that process. The manual integrations are flagged on the quantitation report in the far right column beyond the FINAL concentration for GC/MS analysis, and in the "Flags" column for GC analysis. The manual editing/integration flags are:

M - Denotes that a manual integration has been performed for this compound. The manual integration was performed in order to provide the most accurate area count possible for the peak.

H - Denotes that the data reviewer, GC/MS operator, or GC Chemist has chosen an alternate peak within the retention time window from that chosen by the software for that compound. No manual integration is performed in choosing an alternate peak. The software still performs the integration.

MH - Denotes that an alternate peak has been chosen within the retention time window from that chosen by the software for that compound and also a manual integration of the chosen peak has been performed. The manual integration was performed in order to provide the most accurate area count possible for the peak.

L - Denotes that a data reviewer or GC/MS operator has selected an alternate library search. This is typically done when an additional tentatively identified compound (TIC) has been added to the number of peaks searched. No manual integration is performed in choosing an alternate peak. The software still performs the integration.

ML - Denotes that an alternate library search has been selected and a manual integration has also been performed. This is typically done when an additional TIC has been added and the TIC peak also required a manual integration.

The EPA CLP SOW documents require additional explanations for manual editing/integration. In the accompanying raw data packages, additional codes have been applied to the "M" flag and carry the following meanings;

M1 - The compound was not found by the automatic integration routine.

M2 - The compound was incorrectly integrated by the automatic integration routine.

M3 - The co-eluting compounds were incorrectly integrated by the automatic integration routine.

These codes will appear in the GC/MS and GC data packages.

Robert E. Meierer

Robert E. Meierer
Vice President

DATA REPORTING QUALIFIERS (continued)

C : This flag applies to GC or HPLC results where the identification has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, this flag is not applied; a laboratory-defined flag is used instead (see the X/Y/Z qualifier.)

B : This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. This flag is used for a TIC as well as for a positively identified target compound. The combination of flags BU or UB is not an allowable policy. Blank contaminants are flagged B only when they are detected in the sample.

E : This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range, the sample or extract will be diluted and reanalyzed. All such compounds with a response greater than the upper level of the calibration range will have the concentration flagged with an E on Form I for the original analysis.

D : If a sample or extract is reanalyzed at a higher dilution factor, for example when the concentration of an analyte exceeds the upper calibration range, the DL suffix is appended to the sample number on Form I for the more diluted sample, and all reported concentrations on that Form I are flagged with the D flag. This flag alerts data users that any discrepancies between the reported concentrations may be due to dilution of the sample or extract.

NOTE 1: The D flag is not applied to compounds which are not detected in the sample analysis i.e. compounds reported with the CRQL (or Reporting Limit) and the U flag.

NOTE 2: Separate Form Is are used for reporting the original analysis (Client Sample No. XXXXX) and the more diluted sample analysis (Client Sample No. XXXXXDL) i.e. the results from both analyses <u>are not combined</u> on a single Form I.

A : This flag indicates that a TIC is a suspected aldol-condensation product.

X/Y/Z : Other specific flags may be required to properly define the results. If used, the flags will be fully described in the SDG Narrative. The laboratory-defined flags are limited to X, Y and Z.

DATA REPORTING QUALIFIERS

On the Form I, under the column labeled "Q" for qualifier, each result is flagged with the specific data reporting qualifiers listed below, as appropriate. Up to five qualifiers may be reported on Form I for each compound. The qualifiers used are:

U : This flag indicates the compound was analyzed for but not detected. The Contract Required Quantitation Limit (CRQL), or reporting limit, will be adjusted to reflect any dilution and, for soils, the percent moisture.

J : This flag indicates an estimated value. The flag is used as detailed below:

1. When estimating a concentration for tentatively identified compounds (TICs) where a response factor of 1.0 is assumed for the TIC analyte,

2. When the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the CRQL (or Reporting Limit) but greater than zero, and

3. When the retention time data indicate the presence of a compound that meets the pesticide/Arocior or other GC or HPLC identification criteria, and the result is less than the CRQL (or Reporting Limit) but greater than zero. For example, if the CRQL (or Reporting Limit) is 10 µg/L, but a concentration of 3 µg/L is calculated, it is reported as 3J.

N : This flag indicates presumptive evidence of a compound. This flag is only used for TICs, where the identification is based on a mass spectral library search. For generic characterization of a TIC such as 'chlorinated hydrocarbon', the N flag is not used.

P : In the EPA's Contract Laboratory Program (CLP), this flag is used for a pesticide/Aroclor target analyte, when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a P.
For SW-846 GC and HPLC analyses, when the Relative Percent Difference (RPD) is greater than 40% and there is no evidence of chromatographic anomalies or interferences, then the higher of the two values is reported and flagged with a P. When the RPD is equal to or less than 40%, our policy is to also report the higher of the two values, although the choice could be a project specific issue. For certain HPLC analyses, if one of the HPLC columns displays co-elution of target analytes, all results are reported from a primary column displaying no co-elution. Results are still flagged with a P if the RPD between columns is greater than 40%.

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SW-2MS

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 38677

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 38677A66

Level: (low/med) LOW Date Received: 06/25/04

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/29/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/07/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	46	
108-95-2	Phenol	20	
111-44-4	Bis(2-chloroethyl)ether	53	
95-57-8	2-Chlorophenol	43	
95-48-7	2-Methylphenol	54	
108-60-1	2,2'-oxybis(1-Chloropropane)	53	
98-86-2	Acetophenone	50	
106-44-5	4-Methylphenol	100	
621-64-7	N-Nitroso-di-N-propylamine	50	
67-72-1	Hexachloroethane	51	
98-95-3	Nitrobenzene	57	
78-59-1	Isophorone	58	
88-75-5	2-Nitrophenol	41	
105-67-9	2,4-Dimethylphenol	40	
111-91-1	Bis(2-chloroethoxy)methane	57	
120-83-2	2,4-Dichlorophenol	46	
91-20-3	Naphthalene	56	
106-47-8	4-Chloroaniline	54	
87-68-3	Hexachlorobutadiene	56	
105-60-2	Caprolactam	18	
59-50-7	4-Chloro-3-methylphenol	47	
91-57-6	2-Methylnaphthalene	50	
77-47-4	Hexachlorocyclopentadiene	30	
88-06-2	2,4,6-Trichlorophenol	53	
95-95-4	2,4,5-Trichlorophenol	75	
92-52-4	1,1'-Biphenyl	57	
91-58-7	2-Chloronaphthalene	60	
88-74-4	2-Nitroaniline	63	
131-11-3	Dimethylphthalate	72	
606-20-2	2,6-Dinitrotoluene	70	
208-96-8	Acenaphthylene	63	
99-09-2	3-Nitroaniline	57	
83-32-9	Acenaphthene	66	

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SW-2MS

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 38677

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 38677A66

Level: (low/med) LOW Date Received: 06/25/04

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/29/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/07/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	41	
100-02-7	4-Nitrophenol	24	
121-14-2	2,4-Dinitrotoluene	75	
132-64-9	Dibenzofuran	62	
84-66-2	Diethylphthalate	72	
7005-72-3	4-Chlorophenyl-phenylether	71	
86-73-7	Fluorene	68	
100-01-6	4-Nitroaniline	56	
534-52-1	4,6-Dinitro-2-methylphenol	63	
86-30-6	N-Nitrosodiphenylamine (1)	67	
101-55-3	4-Bromophenyl-phenylether	72	
118-74-1	Hexachlorobenzene	73	
1912-24-9	Atrazine	64	
87-86-5	Pentachlorophenol	53	
85-01-8	Phenanthrene	71	
120-12-7	Anthracene	77	
86-74-8	Carbazole	77	
84-74-2	Di-n-butylphthalate	70	
206-44-0	Fluoranthene	76	
129-00-0	Pyrene	70	
85-68-7	Butylbenzylphthalate	67	
91-94-1	3,3'-Dichlorobenzidine	23	
117-81-7	bis(2-ethylhexyl)Phthalate	67	
56-55-3	Benzo(a)anthracene	74	
218-01-9	Chrysene	75	
117-84-0	Di-n-octylphthalate	65	
205-99-2	Benzo(b)fluoranthene	74	
207-08-9	Benzo(k)fluoranthene	73	
50-32-8	Benzo(a)pyrene	75	
193-39-5	Indeno(1,2,3-cd)pyrene	76	
53-70-3	Dibenzo(a,h)anthracene	71	
191-24-2	Benzo(g,h,i)perylene	80	

(1) - Cannot be separated from Diphenylamine

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SW-2MSD

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 38678

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 38678A66

Level: (low/med) LOW Date Received: 06/25/04

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/29/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/07/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	55	
108-95-2	Phenol	25	
111-44-4	Bis(2-chloroethyl)ether	63	
95-57-8	2-Chlorophenol	53	
95-48-7	2-Methylphenol	66	
108-60-1	2,2'-oxybis(1-Chloropropane)	65	
98-86-2	Acetophenone	61	
106-44-5	4-Methylphenol	130	
621-64-7	N-Nitroso-di-N-propylamine	57	
67-72-1	Hexachloroethane	62	
98-95-3	Nitrobenzene	69	
78-59-1	Isophorone	69	
88-75-5	2-Nitrophenol	52	
105-67-9	2,4-Dimethylphenol	50	
111-91-1	Bis(2-chloroethoxy)methane	71	
120-83-2	2,4-Dichlorophenol	57	
91-20-3	Naphthalene	69	
106-47-8	4-Chloroaniline	59	
87-68-3	Hexachlorobutadiene	70	
105-60-2	Caprolactam	21	
59-50-7	4-Chloro-3-methylphenol	57	
91-57-6	2-Methylnaphthalene	61	
77-47-4	Hexachlorocyclopentadiene	44	
88-06-2	2,4,6-Trichlorophenol	59	
95-95-4	2,4,5-Trichlorophenol	82	
92-52-4	1,1'-Biphenyl	66	
91-58-7	2-Chloronaphthalene	71	
88-74-4	2-Nitroaniline	72	
131-11-3	Dimethylphthalate	76	
606-20-2	2,6-Dinitrotoluene	78	
208-96-8	Acenaphthylene	72	
99-09-2	3-Nitroaniline	62	
83-32-9	Acenaphthene	73	

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SW-2MSD

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 38678

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 38678A66

Level: (low/med) LOW Date Received: 06/25/04

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/29/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/07/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	51	
100-02-7	4-Nitrophenol	34	
121-14-2	2,4-Dinitrotoluene	79	
132-64-9	Dibenzofuran	67	
84-66-2	Diethylphthalate	77	
7005-72-3	4-Chlorophenyl-phenylether	77	
86-73-7	Fluorene	77	
100-01-6	4-Nitroaniline	60	
534-52-1	4,6-Dinitro-2-methylphenol	70	
86-30-6	N-Nitrosodiphenylamine (1)	73	
101-55-3	4-Bromophenyl-phenylether	78	
118-74-1	Hexachlorobenzene	77	
1912-24-9	Atrazine	73	
87-86-5	Pentachlorophenol	54	
85-01-8	Phenanthrene	75	
120-12-7	Anthracene	79	
86-74-8	Carbazole	81	
84-74-2	Di-n-butylphthalate	75	
206-44-0	Fluoranthene	82	
129-00-0	Pyrene	74	
85-68-7	Butylbenzylphthalate	69	
91-94-1	3,3'-Dichlorobenzidine	28	
117-81-7	bis(2-ethylhexyl)Phthalate	71	
56-55-3	Benzo(a)anthracene	77	
218-01-9	Chrysene	78	
117-84-0	Di-n-octylphthalate	73	
205-99-2	Benzo(b)fluoranthene	80	
207-08-9	Benzo(k)fluoranthene	78	
50-32-8	Benzo(a)pyrene	82	
193-39-5	Indeno(1,2,3-cd)pyrene	83	
53-70-3	Dibenzo(a,h)anthracene	76	
191-24-2	Benzo(g,h,i)perylene	87	

(1) - Cannot be separated from Diphenylamine

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SLCSWJ

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 38676

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 38676A66_T4

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/29/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/07/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	44	
108-95-2	Phenol	21	
111-44-4	Bis(2-chloroethyl)ether	57	
95-57-8	2-Chlorophenol	46	
95-48-7	2-Methylphenol	57	
108-60-1	2,2'-oxybis(1-Chloropropane)	56	
98-86-2	Acetophenone	57	
106-44-5	4-Methylphenol	110	
621-64-7	N-Nitroso-di-N-propylamine	54	
67-72-1	Hexachloroethane	56	
98-95-3	Nitrobenzene	60	
78-59-1	Isophorone	61	
88-75-5	2-Nitrophenol	46	
105-67-9	2,4-Dimethylphenol	28	
111-91-1	Bis(2-chloroethoxy)methane	61	
120-83-2	2,4-Dichlorophenol	51	
91-20-3	Naphthalene	65	
106-47-8	4-Chloroaniline	55	
87-68-3	Hexachlorobutadiene	67	
105-60-2	Caprolactam	15	
59-50-7	4-Chloro-3-methylphenol	51	
91-57-6	2-Methylnaphthalene	59	
77-47-4	Hexachlorocyclopentadiene	35	
88-06-2	2,4,6-Trichlorophenol	53	
95-95-4	2,4,5-Trichlorophenol	76	
92-52-4	1,1'-Biphenyl	63	
91-58-7	2-Chloronaphthalene	68	
88-74-4	2-Nitroaniline	63	
131-11-3	Dimethylphthalate	69	
606-20-2	2,6-Dinitrotoluene	66	
208-96-8	Acenaphthylene	69	
99-09-2	3-Nitroaniline	58	
83-32-9	Acenaphthene	69	

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SLCSWJ

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 38676

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 38676A66_T4

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/29/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/07/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	34	
100-02-7	4-Nitrophenol	26	
121-14-2	2,4-Dinitrotoluene	66	
132-64-9	Dibenzofuran	62	
84-66-2	Diethylphthalate	68	
7005-72-3	4-Chlorophenyl-phenylether	73	
86-73-7	Fluorene	69	
100-01-6	4-Nitroaniline	54	
534-52-1	4,6-Dinitro-2-methylphenol	53	
86-30-6	N-Nitrosodiphenylamine (1)	65	
101-55-3	4-Bromophenyl-phenylether	74	
118-74-1	Hexachlorobenzene	71	
1912-24-9	Atrazine	66	
87-86-5	Pentachlorophenol	44	
85-01-8	Phenanthrene	68	
120-12-7	Anthracene	73	
86-74-8	Carbazole	70	
84-74-2	Di-n-butylphthalate	66	
206-44-0	Fluoranthene	72	
129-00-0	Pyrene	66	
85-68-7	Butylbenzylphthalate	62	
91-94-1	3,3'-Dichlorobenzidine	37	
117-81-7	bis(2-ethylhexyl)Phthalate	62	
56-55-3	Benzo(a)anthracene	70	
218-01-9	Chrysene	71	
117-84-0	Di-n-octylphthalate	59	
205-99-2	Benzo(b)fluoranthene	70	
207-08-9	Benzo(k)fluoranthene	63	
50-32-8	Benzo(a)pyrene	69	
193-39-5	Indeno(1,2,3-cd)pyrene	73	
53-70-3	Dibenzo(a,h)anthracene	68	
191-24-2	Benzo(g,h,i)perylene	78	

(1) - Cannot be separated from Diphenylamine

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SLCSYB

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 39467

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 39467A64

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted:07/06/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/13/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	30	
108-95-2	Phenol	23	
111-44-4	Bis(2-chloroethyl)ether	57	
95-57-8	2-Chlorophenol	40	
95-48-7	2-Methylphenol	51	
108-60-1	2,2'-oxybis(1-Chloropropane)	65	
98-86-2	Acetophenone	56	
106-44-5	4-Methylphenol	100	
621-64-7	N-Nitroso-di-N-propylamine	71	
67-72-1	Hexachloroethane	46	
98-95-3	Nitrobenzene	60	
78-59-1	Isophorone	68	
88-75-5	2-Nitrophenol	48	
105-67-9	2,4-Dimethylphenol	46	
111-91-1	Bis(2-chloroethoxy)methane	65	
120-83-2	2,4-Dichlorophenol	46	
91-20-3	Naphthalene	60	
106-47-8	4-Chloroaniline	50	
87-68-3	Hexachlorobutadiene	49	
105-60-2	Caprolactam	22	
59-50-7	4-Chloro-3-methylphenol	57	
91-57-6	2-Methylnaphthalene	51	
77-47-4	Hexachlorocyclopentadiene	24	
88-06-2	2,4,6-Trichlorophenol	53	
95-95-4	2,4,5-Trichlorophenol	66	
92-52-4	1,1'-Biphenyl	59	
91-58-7	2-Chloronaphthalene	66	
88-74-4	2-Nitroaniline	78	
131-11-3	Dimethylphthalate	68	
606-20-2	2,6-Dinitrotoluene	71	
208-96-8	Acenaphthylene	72	
99-09-2	3-Nitroaniline	67	
83-32-9	Acenaphthene	71	

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SLCSYB

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 39467

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 39467A64

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted:07/06/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/13/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	52	
100-02-7	4-Nitrophenol	33	
121-14-2	2,4-Dinitrotoluene	76	
132-64-9	Dibenzofuran	59	
84-66-2	Diethylphthalate	71	
7005-72-3	4-Chlorophenyl-phenylether	71	
86-73-7	Fluorene	70	
100-01-6	4-Nitroaniline	63	
534-52-1	4,6-Dinitro-2-methylphenol	64	
86-30-6	N-Nitrosodiphenylamine (1)	67	
101-55-3	4-Bromophenyl-phenylether	68	
118-74-1	Hexachlorobenzene	68	
1912-24-9	Atrazine	67	
87-86-5	Pentachlorophenol	51	
85-01-8	Phenanthrene	73	
120-12-7	Anthracene	76	
86-74-8	Carbazole	72	
84-74-2	Di-n-butylphthalate	74	
206-44-0	Fluoranthene	77	
129-00-0	Pyrene	71	
85-68-7	Butylbenzylphthalate	71	
91-94-1	3,3'-Dichlorobenzidine	44	
117-81-7	bis(2-ethylhexyl)Phthalate	70	
56-55-3	Benzo(a)anthracene	73	
218-01-9	Chrysene	72	
117-84-0	Di-n-octylphthalate	75	
205-99-2	Benzo(b)fluoranthene	75	
207-08-9	Benzo(k)fluoranthene	75	
50-32-8	Benzo(a)pyrene	74	
193-39-5	Indeno(1,2,3-cd)pyrene	65	
53-70-3	Dibenzo(a,h)anthracene	62	
191-24-2	Benzo(g,h,i)perylene	57	

(1) - Cannot be separated from Diphenylamine

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SBLKWJ

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 38675

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 38675A66_T4

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/29/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/07/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	Bis(2-chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-N-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	Bis(2-chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	10	U

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SBLKWJ

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 38675

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 38675A66_T4

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/29/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/07/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
121-14-2	2,4-Dinitrotoluene	10	U
132-64-9	Dibenzofuran	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
117-81-7	bis(2-ethylhexyl)Phthalate	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKWJ

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 38675

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 38675A66_T4

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/29/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/07/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

FORM I SV-TIC

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SBLKYB

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 39466

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 39466A64

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted:07/06/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/13/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	Bis(2-chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-N-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	Bis(2-chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	10	U

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SBLKYB

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 39466

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 39466A64

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted:07/06/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/13/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
121-14-2	2,4-Dinitrotoluene	10	U
132-64-9	Dibenzofuran	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
117-81-7	bis(2-ethylhexyl)Phthalate	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKYB

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix: (soil/water) WATER Lab Sample ID: 39466

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 39466A64

Level: (low/med) LOW Date Received: _____

% Moisture: _____ decanted: (Y/N)___ Date Extracted:07/06/04

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/13/04

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	21.07	8.7	J
2.		UNKNOWN	24.97	180	J
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
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FORM I SV-TIC

FORM 2
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

	CLIENT SAMPLE NO.	S1 (2FP)#	S2 (PHL)#	S3 (NBZ)#	S4 (FBP)#	S5 (TBP)#	S6 (TPH)#	S7 #	S8 #	TOT OUT
01	SBLKWJ	47	29	74	81	103	93			0
02	SLCSWJ	44	31	73	85	97	83			0
03	SW-2MS	43	28	63	75	92	80			0
04	SW-2MSD	52	36	81	81	98	82			0
05	SW-2	48	31	47	48	60	64			0
06	SBLKYB	51	36	83	82	91	92			0
07	SLCSYB	41	35	76	78	89	84			0
08	EB-070204	47	33	71	68	76	76			0
09										
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	QC LIMITS
S1 (2FP) = 2-Fluorophenol	(16-110)
S2 (PHL) = Phenol-d5	(10-110)
S3 (NBZ) = Nitrobenzene-d5	(35-110)
S4 (FBP) = 2-Fluorobiphenyl	(41-110)
S5 (TBP) = 2,4,6-Tribromophenol	(27-125)
S6 (TPH) = Terphenyl-d14	(48-133)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

FORM 3
WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Matrix Spike - Sample No.: SW-2

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Phenol	80	0	19.9	25	10-116
2-Chlorophenol	80	0	42.71	53	10-150
N-Nitroso-di-N-prop.(1)	80	0	50.07	63	10-150
4-Chloro-3-methylphenol	80	0	47.2	59	10-150
Acenaphthene	80	0	66.01	83	11-149
4-Nitrophenol	80	0	24.42	31	10-150
2,4-Dinitrotoluene	80	0	74.52	93	19-150
Pentachlorophenol	80	0	52.86	66	10-150
Pyrene	80	0	70.07	88	18-150

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
Phenol	80	24.91	31	22	50	10-116
2-Chlorophenol	80	53.05	66	22	50	10-150
N-Nitroso-di-N-prop.(1)	80	56.97	71	13	35	10-150
4-Chloro-3-methylphenol	80	56.99	71	19	50	10-150
Acenaphthene	80	73.36	92	10	40	11-149
4-Nitrophenol	80	33.8	42	32	50	10-150
2,4-Dinitrotoluene	80	78.71	98	5	34	19-150
Pentachlorophenol	80	54.4	68	3	50	10-150
Pyrene	80	73.78	92	5	35	18-150

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 9 outside limits
Spike Recovery: 0 out of 18 outside limits

COMMENTS: _____

3C
WATER SEMIVOLATILE LAB CONTROL SAMPLE

SLCSWJ

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Phenol	80	20.91	26	15-100
2-Chlorophenol	80	46.05	58	39-102
N-Nitroso-di-N-prop.(1)	80	53.94	67	23-121
4-Chloro-3-methylphenol	80	50.61	63	45-110
Acenaphthene	80	69.15	86	33-100
4-Nitrophenol	80	25.59	32	10-100
2,4-Dinitrotoluene	80	65.55	82	36-116
Pentachlorophenol	80	44.14	55	12-150
Pyrene	80	66.35	83	29-114

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

Spike Recovery: 0 out of 9 outside limits

COMMENTS: _____

FORM III SV-1

3C
WATER SEMIVOLATILE LAB CONTROL SAMPLE

SLCSYB

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Phenol	80	22.82	29	15-100
2-Chlorophenol	80	39.5	49	39-102
N-Nitroso-di-N-prop.(1)	80	71.13	89	23-121
4-Chloro-3-methylphenol	80	57.24	72	45-110
Acenaphthene	80	71.38	89	33-100
4-Nitrophenol	80	32.57	41	10-100
2,4-Dinitrotoluene	80	75.81	95	36-116
Pentachlorophenol	80	51.44	64	12-150
Pyrene	80	70.79	88	29-114

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

Spike Recovery: 0 out of 9 outside limits

COMMENTS: _____

FORM III SV-1

FORM 4
SEMIVOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO

SBLKWJ

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Lab File ID: 38675A66_T4 Lab Sample ID: 38675

Instrument ID: 5972HP66 Date Extracted: 06/29/04

Matrix: (soil/water) WATER Date Analyzed: 07/07/04

Level: (low/med) LOW Time Analyzed: 1225

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	SLCSWJ	38676	38676A66_T4	07/07/04
02	SW-2MS	38677	38677A66	07/07/04
03	SW-2MSD	38678	38678A66	07/07/04
04	SW-2	353901	353901JA66	07/08/04
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COMMENTS:

FORM 4
SEMIVOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NC

SBLKYB

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3539

Lab File ID: 39466A64 Lab Sample ID: 39466

Instrument ID: 5972HP64 Date Extracted: 07/06/04

Matrix: (soil/water) WATER Date Analyzed: 07/13/04

Level:(low/med) LOW Time Analyzed: 1820

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	SLCSYB	39467	39467A64	07/13/04
02	EB-070204	353902	353902A64	07/13/04
03				
04				
05				
06				
07				
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COMMENTS:

CompuChem
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CHAIN OF CUSTODY

501 Madison Ave.
Cary, NC 27513
Phone: 919-379-4100 Fax 919-379-4040

Courier: BBL
Airbill No.:
Sampling Complete? Y or N

33

Company Name: BBL Inc.	Project Name: Progress Energy - Sutton
Address: 3700 Regency Pkwy ste 140	Sampling Location: Wilmington, NC - OAP
City: Cary State: NC Zip: 27511	Turnaround time: STANDARD
Project Contact: Scott Davies	Batch QC or Project Specific? If Specific, which Sample ID?
Phone #: (919) 469-1952 ext:17	Are aqueous samples field filtered for metals? Y or (N)
Sampler's Name: Dan Petermann	Are high concentrations expected? Y or (N) If yes, which ID(s)?

GW - Ground water
WW - Waste water
SW - Surface water
SO - Soil/Sediment
TB - Trip Blank
RI - Rinsate
WP - Wipe
O - Other

Field ID	Collection Date	Collection Time	Matrix	# of bottles	Number of Preserved Bottles: HCl	NaOH	HNO3	H2SO4	MEOH	Other	TCL VOCs (8260) 40ml	As, Fe, Se, Ca (6010) 1-PL	Carbonate/Bicarbonate-SUB	TOC 2-40ml	DOC 2-40ml	Sulfate 1-PL
349011 TW-062304	-	-	TB	2			(1)			4°	X					
352010 MW-17	6/24/04	1545	GW	7			1	4		4°		X	X	X	X	X
352011 MW-18	6/24/04	1730	GW	7			1	4		4°		X	X	X	X	X
352012 MW-19	6/24/04	1645	GW	7			1	4		4°		X	X	X	X	X
352013 DUP-062404	6/24/04	-	GW	7			1	4		4°		X	X	X	X	X

Sample Unpacked By: Shawna Byrd
Sample Order Entry By: Marlesha Gumbs
Samples Received in Good Condition? (Y) or N
If no, explain:

Cyanide samples checked for sulfide & chlorine? Y or (NA)
625 & Phenol samples checked for chlorine? Y or (NA)
608 samples checked for pH between 5.0-9.0? Y or (NA)

MUST meet NCAC 2L GW STANDARDS for reporting limits
X No trip on samples. CFB 6/25/04
X No trip on samples. CFB 6/25/04

Relinquished by: Dan P	Date/Time: 6/25/04 1400	Received by: [redacted]	Date/Time: 6/25/04 14:00
Relinquished by:	Date/Time:	Received by:	Date/Time:

Subcontract? Y or N If yes, where?
[redacted] Seal(s) intact? Y or N
On Ice (Y) or N
Cooler Temp: 29.7 5.2 4.8 °C

White & Yellow copy to lab • Pink copy for customer

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CHAIN OF CUSTODY

501 Madison Ave.
Cary, NC 27513
Phone: 919-379-4100 Fax 919-379-4040

Page 1 of 2

Courier: [illegible] GBC

Airbill No.

Sampling Complete? Y or N

34

Company Name: BBL, INC.	Project Name: PROGRESS ENERGY - SUTTON
Address: 3700 Regency Pkwy, Ste. 140	Sampling Location: WILMINGTON, NC - FADA
City: CARY State: NC Zip: 27511	Turnaround time: STANDARD
Project Contact: SCOTT DAVIES	Batch QC or Project Specific? If Specific, which Sample ID?
Phone #: (919) 469. 1952, ext: 17	Are aqueous samples field filtered for metals? Y or (N)
Sampler's Name: DAN PETERMAN ext. 31	Are high concentrations expected? Y or (N) If yes, which ID(s)?

GW - Ground water
WW - Waste water
SW - Surface water
SO - Soil/Sediment
TB - Trip Blank
RI - Rinsate
WP - Wipe
O - Other

	Field ID	Collection Date	Collection Time	Matrix	# of bottles	Number of Preserved Bottles: HCl	NaOH	NHO3	H2SO4	MEOH	Other 4°	TCL VOCs (8260) 3-40ml	TCL SVOCs (8270) 2-AL	HSL Metals (6010) 1PL							
349008	SW-1	6/23/04	1020	SW	6	3		1				X	X	X	2-AL	1-PL	3-40ml				
353901	SW-2	6/23/04	0900	SW	6	3		1				X	X	X	(3-PL)	(6-AL)	9-40ml				
~~354501~~	SD-1	6/23/04	0850	SO	3						4°	X	X	X	~~3-40z~~	~~3-40z~~	~~3-40z~~				
354401	SD-2	6/23/04	0930	SO	3						4°	X	X	X	2-AL	6/25/04	(3-40z)	(3-40z)	(3-40z)		
353901	SW-2 MS	6/23/04	0915	SW	6	3		1				X	X	X							
353901	SW-2 MSD	6/23/04	0915	SW	6	3		1				X	X	X							
354401	SD-2 MS	6/23/04	0940	SO	3						4°	X	X	X							
354402	SD-2 MSD	6/23/04	0940	SO	3						4°	X	X	X							
349009	DUP-062304	6/23/04	-	SW	6	3		1				X	X	X	1PL	2AL	3-40ml				
	DUP-062304-SD	6/23/04	-	SD	3						4°	X	X	X							
349010	EB-062304	6/23/04	1840	RI	6	3		1				X	X	X	1PL	2AL	3-40ml				

Sample Unpacked By: Pauline Ball	Cyanide samples checked for sulfide & chlorine? Y or (NA)
Sample Order Entry By: Marlene A. Smith	625 & Phenol samples checked for chlorine? Y or (NA)
Samples Received in Good Condition? (Y) or N	608 samples checked for pH between 5.0-9.0? Y or (NA)
If no, explain: Did not collect SD-1 (MB) 6/25/04	MUST Meet NCAC 2L GW Standards For Respective Limits. ~~No time on Sample's (GB) 6/25/04 (GB)~~

Relinquished by: Dan Peterman	Date/Time: 6/25/04 (1700)	Received by: [illegible]	Date/Time: 6/25/04 14:40
Relinquished by:	Date/Time:	Received by:	Date/Time:
Subcontract? Y or N If yes, where?	Custody Seal(s) intact? Y or (N)	On Ice? (Y) or N	Cooler Temp: 6.2, 6.7

White & Yellow copy to lab • Pink copy for customer

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a division of Liberty Analytical Corp.

CHAIN OF CUSTODY

501 Madison Ave.
Cary, NC 27513
Phone: 919-379-4100 Fax 919-379-4040

Courier: (DP) BBL
Airbill No.
Sampling Complete? Y or N

35

Company Name: BBL, INC.	Project Name: PROGRESS ENERGY - SUTTON
Address: 3708 Regency Pkwy, ste 140	Sampling Location: WILMINGTON, NC - EAP
City: Cary State: NC Zip: 27511	Turnaround time: STANDARD
Project Contact: Scott Davies	Batch QC or Project Specific? If Specific, which Sample ID?
Phone #: (919) 469-1952, ext. 57	Are aqueous samples field filtered for metals? Y or (N)
Sampler's Name: DAN PETERSMAN	Are high concentrations expected? Y or (N) If yes, which ID(s)?

GW - Ground water
WW - Waste water
SW - Surface water
SO - Soil/Sediment
TB - Trip Blank
RI - Rinsate
WP - Wipe
O - Other

	Field ID	Collection Date	Collection Time	Matrix	# of bottles	Number of Preserved Bottles: HCl	NaOH	NHO3	H2SO4	MEOH	Other 40	As, Fe, Se, Ca (6010) PL	CARBONATE/BICARBONATE 500ml	TOC 2.40ml	DOC 2.40ml	Sulfate PL
354001	MW-3A ✓	6/23/04	1520	GW	7			1	4		4°	X	X	X	X	X
354002	MW-3B ✓	6/23/04	1550	GW	7			1	4		4°	X	X	X	X	X
354003	MW-1A ✓	6/23/04	1805	GW	7			1	4		4°	X	X	X	X	X
354004	MW-1B ✓	6/23/04	1800	GW	7			1	4		4°	X	X	X	X	X
354005	MW-2A ✓	6/24/04	1100	GW	7			1	4		4°	X	X	X	X	X
354006	MW-2B ✓	6/24/04	1500	GW	7			1	4		4°	X	X	X	X	X
354007	MW-2C ✓	6/24/04	1125	GW	7			1	4		4°	X	X	X	X	X
	~~MW-3A~~ (DP)															
	~~MW-3B~~ (DP)															
354008	MW-5A ✓	6/24/04	0930	GW	7			1	4		4°	X	X	X	X	X
354009	MW-5B ✓	6/24/04	0935	GW	7			1	4		4°	X	X	X	X	X

Sample Unpacked By: Marcus Boyd
Sample Order Entry By: Melissa Smith
Samples Received in Good Condition? (Y) or N
If no, explain:

Cyanide samples checked for sulfide & chlorine? Y or (NA)
625 & Phenol samples checked for chlorine? Y or (NA)
608 samples checked for pH between 5.0-9.0? Y or (NA)

Analyses must meet NCAC 2L GW Standards for reportable Limits
MW-3B time was 15:40 on 6/25/04
MW-1B time 17:40 6/25/04

Relinquished by:	Date/Time: 6/25/04 (1400)	Received by:	Date/Time: 6/25/04 14:00
Relinquished by:	Date/Time:	Received by:	Date/Time:

Subcontracted Y or N If yes, where?
Custody Seal(s) intact? Y or (N)
On Ice (Y) or N
Cooler Temp: 3.7, 3.9°C

White & Yellow copy to lab • Pink copy for customer

LL 2 1

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CHAIN OF CUSTODY

501 Madison Ave.
Cary, NC 27513
Phone: 919-379-4100 Fax 919-379-4040

Courier BBL, Inc
Airbill No. 36
Sampling Complete? (Y) or N

Client/Reporting Information

Company Name: BBL, INC.
Address: 3700 REGENCY PKWY
City: CARY State: NC Zip: 27511
Project Contact: SCOTT DAVIES
Phone #: (919) 469-1952, ext 17
Sampler's Name: DANIEL PEEKMAN

Project Information

Project Name: PROGRESS ENERGY - FADA
Sampling Location: WILMINGTON, NC
Turnaround time: STANDARD
Batch QC or Project Specific? If Specific, which Sample ID?: -
Are aqueous samples field filtered for metals? Y or N: -
Are high concentrations expected? Y or N? If yes, which ID(s)?: -

Requested Analysis (include method and bottle type)

Lab #	Field ID	Collection Date	Collection Time	Matrix	# of bottles	HCl	NaOH	NHO3	H2SO4	MEOH	Other	TCL VOCs (8260) 4oz	TCL SVOCs (8270) 4oz	HSL Metals (6010) 4oz	Sample Temp.
354402	SD-1	7/2/04	1045	SO	3						3	X	X	X	
354403	SD-91	7/02/04	NR	SO	3						3	X	X	X	1
353902	EB-070204	7/02/04	1130	RI	6	3		1			2	X	X	X	4
353903	TW-070204	7/2/04	NR	TB	2						2	X			

Matrix Codes
GW - Ground water
WW - Waste water
SW - Surface water
SO - Soil/Sediment
TB - Trip Blank
RI - Rinsate
WP - Wipe
O - Other

Sample Unpacked By: Pascale Davis
Sample Order Entry By: Marlene Schlept
Samples Received in Good Condition? (Y) or N
If no, explain:

Cyanide samples checked for sulfide & chlorine? Y or (N/A)
625 & Phenol samples checked for chlorine? Y or (N/A)
608 samples checked for pH between 5.0-9.0? Y or (N/A)

MUST MEET QP-2E RG
STANDARDS
NO HP on trip blanks and one 40ml smaller than normal size & the other normal size air

Relinquished by: Daniel Peekman	Date/Time: 7/2/04 1430	Received by:	Date/Time: 7-2-04 2:42 pm
Relinquished by:	Date/Time:	Received by:	Date/Time:

Subcontact? Y or N If yes, where?
Custody Seal(s) intact? Y or (N)
On Ice? (Y) or N
Cooler Temp: 2.6 °C

CompuChem, a Division of Liberty Analytical

Extract Chain of Custody

Batch: 4528 Date: 6/29/2004

Department: Organic Extractions

Sample ID	Client ID	Product	Matrix	Hold Date
339414	04177G09	SW8270X	W	7/2/2004
341902	RB-2	SWN8270X	W	6/30/2004
348109	EQ062404	SW8270X	W	7/1/2004
349008	SW-1	SW8270X	W	6/30/2004
349009	DUP-062304	SW8270X	W	6/30/2004
349010	EB-062304	SW8270X	W	6/30/2004
350626	04177G09	SW8270X	W	7/2/2004
353901	SW-2	SW8270X	W	6/30/2004
38675	SBLKWJ	SW8270X	W	7/6/2004
38676	SLCSWJ	SW8270X	W	7/6/2004
38677	SW-2MS	SW8270X	W	6/30/2004
38678	SW-2MSD	SW8270X	W	6/30/2004

7-1-3

Relinquished By:	Received By:	Date/Time
KAP	GC/MS #3 Mfpig	7/1/04 1:45pm
GCMS Rf 3	G. Mikel	7/7 8:00
G. Mikel	GCMS Rf 3	7/7 10:00
GCMS Rf 3	G. Mikel	7/8 8:00
G Mikel	GCMS Rf 3	7/8 10:00
		7/13/04 MH

ASSIGNED TO: LEIGH/MARGARET/JESSICA

CompuChem
EXTRACTION WORKSHEET
SEMI-VOLATILE WATER
Method 3510C for 8270C

DATE EXTRACTED/POSTED: [redacted]/2004

EMP ID NUMBER: 2578 / 1258

BATCH NO.: 4528

38

	COMPUCHEM SAMPLE NUMBER	CLIENT SAMPLE ID	QC SAMPLE TYPE	SAMPLE VOLUME (ml)	FINAL VOLUME (ml)	Adjusted pH: A/N	Adjusted pH: BASE	COMMENTS
1	~~339414~~	~~04177G09~~	~~SAMPLE~~					
2	341902	RB-2	SAMPLE	1000	1.0	1.6	12.0	
3	348109	EQ062404	SAMPLE	1000		1.6	12.0	
4	349008	SW-1	SAMPLE	1000		1.6	12.0	
5	349009	DUP-062304	SAMPLE	1000		1.6	12.0	
6	349010	EB-062304	SAMPLE	1000		1.6	12.0	
7	350626	04177G09	SAMPLE	1000		1.6	12.0	
8	353901	SW-2	SAMPLE	1000		1.6	12.0	QC
9	38678	SW-2MSD	MSD	1000		1.6	12.0	
10	38677	SW-2MS	MS	1000		1.6	12.0	
11	38675	SBLKWJ	MB	1000		1.6	12.0	
12	38676	SLCSWJ	LCS	1000		1.6	12.0	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								KLP 7/1/04

		VOL	8270	8270
SURROGATE	NO.	393		
	AMT.	1.0 ml		
	LOT	516546		
SPIKE	NO.		VALID. I	VALID. II
	AMT.		1.0 ml	1.0 ml
	LOT		516529	916563

FINAL VOLUME VERIFIED: KLP

SUPERVISOR REVIEWED: Karen Parker

SURROGATE & SPIKE ADDED BY: JS / 6-29-04
Initials Date

Analyst initials. Extracted JL/MK/LCKD JL/LB/NB N2 JL/LB/MK Bottle up JL/LB

Witness LW / 6-29-04
Initials Date

Manufacturer and lot number of reagents/solvents used Na_2SO_4: 2XX2-203-3; CH_2Cl_2: CK058; H_2SO_4: 51506; NaOH: 918572

REV. 7/18/03:dce

CompuChem, a Division of Liberty Analytical

Extract Chain of Custody

Batch: 4581 Date: 7/6/2004

Department: Organic Extractions

Sample ID	Client ID	Product	Matrix	Hold Date
353902	EB-070204	SW8270X	W	7/9/2004
359501	A47901	SWN8270X	W	7/7/2004
359502	A47902	SWN8270X	W	7/7/2004
359503	A47903	SWN8270X	W	7/7/2004
359504	A47904	SWN8270X	W	7/7/2004
359505	A47905	SWN8270X	W	7/7/2004
39466	SBLKYB	SW8270X	W	7/13/2004
39467	SLCSYB	SW8270X	W	7/13/2004
39468	A47901MS	SW8270X	W	7/7/2004
39469	A47901MSD	SW8270X	W	7/7/2004

7-6-1

Relinquished By:	Received By:	Date/Time
R.B	GCMS#3	7-6-04 7:00
GCMS #3	G.Mikel	7/13 12:00
G. Mikel	GCMS #3	7/13 14:00

7/19 later DH

7/15

ASSIGNED TO: LEIGH/JESSICA/MARGARET
RICHARD

EMP ID NUMBER:

CompuChem
EXTRACTION WORKSHEET
SEMI-VOLATILE WATER
Method 3510C for 8270C

DATE EXTRACTED/POSTED: 7/6/04

BATCH NO.: 4581

40

	COMPUCHEM NUMBER	CLIENT SAMPLE ID	QC SAMPLE TYPE	SAMPLE VOLUME (ml)	FINAL VOLUME (ml)	Adjusted pH A/N	Adjusted pH BASE	COMMENTS
1	353902	EB-070204	SAMPLE	1000	1.0	1.6	12.0	
2	359501	A47901	SAMPLE	1000		1.6	12.0	QC
3	359502	A47902	SAMPLE	1000		1.6	12.0	
4	359503	A47903	SAMPLE	1000		1.6	12.0	
5	359504	A47904	SAMPLE	1000		1.6	12.0	
6	359505	A47905	SAMPLE	1000		1.6	12.0	
7	39469	A47901MSD	MSD	1000		1.6	12.0	
8	39468	A47901MS	MS	1000		1.6	12.0	
9	39466	SBLKYB	MB	1000		1.6	12.0	
10	39467	SLCSYB	LCS	1000	1.0	1.6	12.0	
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								KB

		8011	8270	8270
SURROGATE	NO.	393		
	AMT.	1.0 ml		
	LOT	56565		
SPIKE	NO.		VALID. I	VALID. II
	AMT.		1.0 ml	1.0 ml
	LOT		56529	56563

FINAL VOLUME VERIFIED: R.B

SUPERVISOR REVIEWED: R.B

SURROGATE & SPIKE ADDED BY: RB, 7-6-04
Initials Date

Witness RT, 7/6/04
Initials Date

Analyst initials. Extracted LW KD RB/NB N2 RB Bottle up LB

Manufacturer and lot number of reagents/solvents used CH_2Cl_2 CKR62 Na_2SO_4 2XX2-2063 NaOH X41505 H_2SO_4 51506

REV. 7/18/03:dce