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Thomas C. Richardson
Project Manager

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Agency Review Draft

RFI Report: Former International Paper Folding Carton Facility, Wilmington, North Carolina

Prepared for

International Paper
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Memphis, Tennessee 38197

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October 2002

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Acronyms and Abbreviations

1,1-DCA	1,1-dichloroethane
2L standards	North Carolina Groundwater Quality Standards
AOC	area of concern
AST	aboveground storage tank
bgs	below ground surface
CAP	Corrective Action Plan
CAS	Columbia Analytical Services
Consent Order	Administrative Order on Consent
CoPC	chemical of potential concern
CSF	cancer slope factor
DENR	North Carolina Department of Environment and Natural Resources
EPA	U.S. Environmental Protection Agency
EPC	exposure-point concentration
FPB	Federal Paper Board Company
GC/MS	gas chromatography/mass spectrometry
HHRA	human health risk assessment
HQ	hazard quotient
HWS	Hazardous Waste Section
IMAC	Interim Maximum Allowable Concentration
ICP-MS	inductively coupled plasma-mass spectrometry
MEK	methyl ethyl ketone
NHP	Natural Heritage Program
NOTI	Notice of Technical Inadequacy
OEEB	Department of Human Health/Occupational and Environmental Epidemiology Branch
PRG	preliminary remediation goal
QC	quality control
RAGS	Risk Assessment Guidance for Superfund
RCRA	Resource Conservation and Recovery Act
RFA	RCRA facility assessment
RfD	reference dose
RFI	RCRA facility investigation
RME	reasonable maximum exposure
SAP	sampling and analysis plan
SSL	soil screening level
SVOC	semivolatile organic compound
SWMU	solid waste management unit
the facility	former International Paper Folding Carton Facility in Wilmington, North Carolina
the permit	Hazardous Waste Management Permit No. NCD 072 022 726
TCE	trichloroethene
TOC	total organic carbon
UIC	underground injection control

UCLM	upper confidence limit of the mean
UST	underground storage tank
VOC	volatile organic compound

1 Introduction

This Resource Conservation and Recovery Act (RCRA) facility investigation (RFI) report has been developed for the former International Paper Folding Carton Facility in Wilmington, North Carolina (the facility) (Figure 1). This RFI report was prepared in partial fulfillment of the requirements under Section V.F.3 of the facility's Hazardous Waste Management Permit No. NCD 072 022 726 (the permit), which was issued to International Paper on July 25, 1997 (DEHNR 1997), and amended with a Class 2 permit modification on June 6, 2001 (DENR 2001a). The RFI was performed in accordance with the *RFI Work Plan: International Paper Folding Carton Facility, Wilmington, North Carolina* (RFI work plan; Exponent 2001a), as approved by the North Carolina Department of Environment and Natural Resources (DENR) in correspondence dated March 8, 2002 (DENR 2002a).

A RCRA facility assessment (RFA), to identify solid waste management units (SWMUs) and areas of concern (AOCs), was completed by A.T. Kearney, Inc. and the North Carolina Hazardous Waste Section (HWS) for the U.S. Environmental Protection Agency (EPA) Region IV in June 1996 (Kearney 1996). Based on the results of the RFA, Appendix D of the permit lists 23 SWMUs and 2 AOCs at the facility. Of these, the HWS identified five SWMUs and one AOC that required further investigation. The permit specified that an RFI be performed for the following two SWMUs:

- SWMU 16—Abandoned Underground Storage Tank (UST) Farm
- SWMU 17—Old Pump Room.

The permit also required that confirmatory sampling be performed in the following four areas, to assess whether hazardous constituents have been released to the environment:

- SWMU 9—Outside Holding Tank
- SWMU 19—Former Waste Storage Area
- SWMU 21—North Drainage Ditch
- AOC B—Outside Solvent Pump Area.

International Paper performed confirmatory sampling in these four areas in 1999, in accordance with the approved confirmatory sampling work plan (Radian 1998a), and submitted a confirmatory sampling report to the HWS on June 21, 1999. In correspondence dated March 7, 2001 (DENR 2001b), the DENR issued a Notice of Technical Inadequacy (NOTI) for the confirmatory sampling report. International Paper submitted a revised confirmatory sampling report to the HWS in May 2001 (Exponent 2001b), and HWS approved this report on September 12, 2001 (DENR 2001c). Based on the findings of the confirmatory sampling, the HWS determined that no further sampling is required for SWMUs 9, 19, and AOC B. The HWS also determined that further investigation was required for SWMU 21.

Based on the findings of the confirmatory sampling and the permit's RFI requirements, the RFI focused on assessing the nature and extent of hazardous constituents at SWMUs 16, 17, and 21.

In addition to presenting the results from the RFI, this report integrates available historical information to help in assessing the nature and extent of contaminants in soils and groundwater at the site.

1.1 Investigation Objectives

The overall objectives of the RFI were to investigate the nature and extent of hazardous constituents in soil and groundwater at SWMUs 16, 17, and 21, and identify potential transport pathways and receptors. SWMU 16 was investigated previously during the former UST-area investigation completed in 1989 and 1990 (Radian 1990a,b). SWMU 21 was investigated previously during the confirmatory sampling completed in 1999 (Exponent 2001b). No previous investigations had been performed at SWMU 17.

Specifically, the following objectives were established for the three SWMUs, to address data gaps related to the nature and extent of hazardous constituents in soil and groundwater:

- SWMU 16—Identify the present-day concentrations of hazardous constituents in soil in this area, delineate the nature and extent of hazardous constituents in soil, and determine whether hazardous constituents are present in groundwater immediately downgradient of this SWMU.
- SWMU 17—Determine whether hazardous constituents have been released from the old pump room to the environment, delineate the nature and extent of hazardous constituents that may be present in the soil, and evaluate the potential for soil-to-groundwater migration of hazardous constituents.
- SWMU 21—Further delineate the horizontal and vertical extent of hazardous constituents in soil, and evaluate the potential for soil-to-groundwater migration of hazardous constituents.

1.2 Document Overview

This RFI report includes the following sections:

- *Background* (Section 2) describes the environmental setting, including geology, hydrogeology, climate, surface hydrology, and surrounding land use. This section also provides information about historical and current facility operations, the site's regulatory history, and a description of SWMUs 16, 17, and 21.
- *Field and Laboratory Procedures* (Section 3) summarizes sampling locations, procedures, frequency and type of field quality control samples, and chemical analyses.

- *RFI Results and Screening* (Section 4) summarizes data collected at SWMUs 16, 17, and 21 during the RFI, and details the data screening approach and results.
- *Risk Evaluation and Discussion* (Section 5) provides an overview of the site conceptual model. This section includes a discussion of chemical sources and transport pathways, a human health risk assessment, and a description of ecological receptors.
- *Summary and Conclusions* (Section 6) summarizes the RFI findings and provides recommendations based on an evaluation of historical and RFI data, and the results of the human health risk assessment.

The following appendices are provided after the main text:

- Appendix A—Historical Soil and Groundwater Data
- Appendix B—Soil and Groundwater Field Forms
- Appendix C—Data Quality Assurance Review
- Appendix D—Laboratory Analytical Reports
- Appendix E—Calculation of Site-Specific Soil Screening Levels
- Appendix F—Human Health Risk Assessment Parameter Estimates and Calculations.

2 Background

This section describes the site's environmental setting, and includes a discussion of the local geology, hydrogeology, adjacent surface-water bodies, and climate. A description of the site's general operations and waste management practices is also provided. The site description specifically focuses on the three SWMUs investigated during this RFI.

2.1 Environmental Setting

The former International Paper Folding Carton Facility is located at 2221 J.R. Kennedy Drive in Wilmington, New Hanover County, North Carolina, at approximate latitude 34°15'N and longitude 77°55'W (Figure 1).

2.1.1 Geology

The geology of the site is characterized by a stratigraphic sequence that includes Quaternary and Tertiary surficial deposits overlying Tertiary limestone and Cretaceous sand and clay deposits. The upper geologic unit at the site consists of undifferentiated surficial deposits of medium- to fine-grained quartz sands, interbedded with discontinuous silt and clay layers. These deposits form the uppermost 15–17 ft of the stratigraphic sequence beneath the facility. Underlying the surficial deposits, a layer of "cap rock," consisting of approximately 3 ft of siliceous limestone (Caste Hayne Formation), separates the upper water-bearing zone from the lower water-bearing zone. Figure 2 presents a typical stratigraphic section developed for the facility by Radian Corporation (Radian 1994). Both the Castle Hayne and Peedee Formations dip gently to the southeast.

2.1.2 Hydrogeology

Groundwater beneath the facility occurs in two water-bearing units, designated the upper and lower water-bearing zones. Depth to groundwater in the shallow, unconsolidated deposits is generally 3 to 8 ft below ground surface (bgs), depending on the location within the facility property and the time of year. Figure 3 depicts groundwater elevation contours and groundwater flow directions in the shallow water-bearing zone based on groundwater-level measurements taken on April 29, 2002. This flow pattern is consistent over time (Exponent 2000a; International Paper 2001; Radian 1994), although it is common for groundwater elevations in individual wells to vary seasonally by more than 3 ft in response to fluctuations in precipitation and groundwater recharge. The average calculated hydraulic gradient beneath the facility building is 0.005 ft/ft, and 0.016 ft/ft in the area to the west of the facility building. Groundwater elevations measured in shallow and deep well pairs indicate that the hydraulic gradient between the upper and lower water-bearing zones is in the downward direction. The typical hydraulic conductivity of the upper water-bearing zone beneath the facility is 10 ft/day, based on the results of several slug tests and pumping tests performed by Radian Corporation at the facility (Radian 1994). Total porosity values measured at the site range from 34 to

45 percent, and the effective porosity was estimated by Radian Corporation at 17 percent based on grain-size distribution (Radian 1994). Groundwater in the upper water-bearing zone is assumed to discharge ultimately to Burnt Mill Creek, located approximately 1,500 ft west of the facility building. The curvature of the groundwater elevation contours in the immediate vicinity of the south drainage ditch, running parallel to the facility's southwest boundary, suggest that some groundwater may also discharge at this location.

The lower water-bearing zone consists of sediments of the Peedee Formation, which is a regionally significant water-supply aquifer (Radian 1994). Beneath the facility, the Peedee Formation deposits contain a larger fraction of fine-grained material than other areas, resulting in low water yields from wells completed in this unit (Radian 1994). As part of the underground injection control (UIC) permit application, a well survey was conducted to identify wells in the vicinity of the facility. No local water-supply or production wells were identified within at least a quarter-mile radius from the facility. Monitoring data from wells completed in the lower water-bearing zone indicate that the unconfined, upper water-bearing zone is isolated from the lower water-bearing zone by the Castle Hayne Formation. Slug-test results indicate that the hydraulic conductivity is one to two orders of magnitude less in the lower water-bearing zone than in the surficial deposits (Radian 1994).

screened

only one well?

2.1.3 Surface Water

Two shallow, unlined drainage ditches are situated just north and south of the facility property, and a small retention pond, which receives runoff from the employee parking lot, is located to the north of the facility building (Figure 1). In addition, the facility's western property boundary is marked by Burnt Mill Creek, whose 100- and 500-year flood plains cover the western portion of the property. The facility building is located approximately 450 ft upslope of the 500-year flood-plain boundary (Kearney 1996). Burnt Mill Creek is a tributary to Smith Creek, which in turn, discharges to the Cape Fear River. Monitoring data collected by the Center for Marine Science at the University of North Carolina at Wilmington indicate that Burnt Mill Creek has been affected by pollutants (i.e., nitrogen, phosphorus, and fecal coliform) that are thought to enter the stream from urban sources located near its headwaters, approximately 3 miles upstream (CMS 2002).

how will this affect the construction?

2.1.4 Climate

The maritime location of Wilmington makes the climate mild for its latitude. Onshore winds (i.e., wind directions from the east-northeast through the southwest) have some moderating effect on temperatures throughout the year, because the ocean is relatively warm in winter and cool in summer. The climate is characterized as moderate and humid. Average daily temperatures range from 45 °F in January to 80 °F in July. Average annual precipitation in the area is approximately 54 in. per year, and about half of the rainfall occurs between June and September. The average annual wind speed is 9.2 miles per hour (HCN 2001). The Atlantic tropical cyclone season's peak is in early September, and on average, a tropical storm or hurricane makes landfall once every 4 years along the North Carolina coast (SCO 2002).

2.2 Site Description

The Federal Paper Board Company (FPB) owned and operated the facility from 1974 until International Paper acquired FPB in March 1996. In August 2002, control of facility operations was transferred to Oracle Packaging of North Carolina, with International Paper retaining ownership of the facility building and property. The facility property is generally rectangular in shape and occupies an area of about 35 acres. The main plant building is located on the approximate eastern third of the property. The remainder of the property consists of approximately 19 acres of undeveloped land that extends approximately 1,500 ft west of the main building to Burnt Mill Creek.

The area surrounding the site is largely industrial. A beverage distributor is located to the south, and a film studio is located to the north of the facility. The eastern edge of the property abuts 23rd Street, which is a through street between the Wilmington International Airport, located1 mile northeast of the facility and one of Wilmington's residential and business districts located approximately 0.5 miles south of the site.

2.2.1 Facility Operations

The facility manufacturing process consists of printing, laminating, and folding paperboard containers to customer specifications. Raw materials used in the production process include rolls of plain and foiled paper, mylar, water- and solvent-based inks, water-based adhesive, and bulk solvents. Products range from laminated or non-laminated, plain or foil-lined containers that are ultimately used by clients to package goods such as laundry detergent, aluminum foil, food, drugstore items, tissue, and mail. Five presses accomplish the printing and cutting portion of the manufacturing process, while a laminating machine laminates, folds, and applies water-based adhesive to foil and/or mylar paperboard stock.

2.2.2 Waste Management

There are four major waste streams at the facility. These consist of spent inks and solvents, wastewater, waste paper, and routine maintenance waste. The spent inks and solvents are excess materials discharged from the presses. Wastewater is generated from floor-cleaning activities and from the laminating operations. Waste paper is generated primarily at the presses. Routine maintenance wastes, such as used motor oil, are generated in small quantities, primarily in the machine shop. All manufacturing and maintenance activities occur inside the main plant building.

Waste solvents generated from cleaning press parts are treated in an onsite distillation unit for solvent recovery. The recovered solvent is reused in the cleaning process, and the remaining still bottoms are drummed and disposed of as hazardous waste. Spent inks from the printing process are stored in the 90-day storage area prior to being sent offsite for disposal. Floor cleaning is performed to maintain sanitary conditions in the production areas. A liquid wax product is used to clean the floors, and the wastewater is collected in 55-gal drums for offsite disposal. Until 1990, the wastewater was discharged to the storm drain in the north parking lot.

Waste generated from maintenance activities (e.g., used oil) is stored in up to two 55-gal drums prior to being collected and transferred for offsite recycling.

2.2.3 Regulatory History

RCRA interim status compliance inspections began at the facility in 1983. In March of 1989, FPB and the North Carolina Department of Human Resources, Division of Health Services, Hazardous Waste Branch (now the DENR), signed an Administrative Order on Consent (Consent Order) to address conditions in and around the FPB facility, including organic compounds detected in groundwater beneath and downgradient from the former solvent tank farm area (designated SWMU 14 during the RFA). The Consent Order specified a series of actions that would be necessary for FPB to comply with RCRA and North Carolina's Solid Waste Management Act. FPB filed a RCRA Part A permit application in March 1989, followed by a RCRA Part B permit application in June 1994. The final RFA report was issued in 1996. The DENR issued the final RCRA Part B Hazardous Waste Permit on July 25, 1997. FPB's application for the Part B permit included a proposed Corrective Action Plan (CAP) for mitigation of volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) associated with the former aboveground storage tank (AST) farm (SWMU 14). The CAP was incorporated into the final Part B permit issued in 1997. Organic compounds (primarily methyl ethyl ketone [MEK], toluene, acetone, and benzene) were first discovered in groundwater after an accidental release from the former AST farm in 1985. The tank farm was relocated slightly to the north in late 1990, and soils beneath the former tank farm were closed in place with an engineered cap in 1991. In 1999, International Paper filed a request for a Class 2 permit modification to change the CAP for SWMU 14 from a dual-phase (i.e., groundwater and soil vapor) extraction system to an enhanced (with Oxygen Release Compound®) natural attenuation system. The elements of the revised CAP are detailed in the *Corrective Action Plan for the International Paper Retail Packaging Facility, Wilmington, North Carolina* (Exponent 2000a). The permit modification was approved on June 6, 2001, and corrective action for SWMU 14 was initiated during the same month (Exponent 2001c).

To satisfy the requirements of the facility's Part B permit, International Paper also continues to perform semiannual groundwater monitoring at the site in accordance with the *Groundwater Sampling and Analysis Plan for Corrective Action and Compliance Monitoring* (Radian 1998b) and the *Addendum to the Groundwater Sampling and Analysis Plan for Corrective Action and Compliance Monitoring* (Exponent 2000b).

1996

The final RFA report identified 23 SWMUs and 2 AOCs (Kearney 1996). Confirmatory sampling was required for three SWMUs (SWMU 9,outside holding tank; SWMU 19, former hazardous waste drum storage area; and SWMU 21, north drainage ditch) and one AOC (AOC B, outside solvent pump header), and an RFI was required at two SWMUs (SWMU 16, abandoned underground storage tank farm; and SWMU 17, old pump room). Under the 1984 Hazardous Solid Waste Amendments to RCRA, no further action was specified for the remaining units.

The confirmatory sampling work plan was completed in October 1998 (Radian 1998a), and International Paper submitted a revised confirmatory sampling report on May 8, 2001 (Exponent

2001b). After reviewing the confirmatory sampling report, the DENR HWS determined that no additional soil sampling would be required at SWMUs 9 and 19, and AOC B, and requested that further soil sampling be conducted at SWMU 21 during the RFI.

2.2.4 SWMU Descriptions and Summary of Existing Data

The locations of the three SWMUs investigated during the RFI are shown in Figures 4 and 5. Information and data gathered during previous investigations on background concentrations and the distribution of the hazardous constituents at the three RFI SWMUs are summarized below. The SWMUs that require no further investigation under the provisions of the facility's RCRA hazardous waste permit (Table 1) are not described further in this report.

2.2.4.1 Background Sampling and Analysis

Five background samples (BG-1 through BG-5) were collected as surface grab samples near the northeast corner of the main building during the 1999 confirmatory sampling investigation (Figure 6). These samples were analyzed for arsenic, chromium, copper, lead, and selenium. Analytical results for background soil samples are provided in Table A-1 (Appendix A).

2.2.4.2 SWMU 16—Abandoned Underground Storage Tank Farm

The former UST farm consists of 12 galvanized steel USTs that were filled with sand and decommissioned in 1980 (Figure 4). The former UST area is located within the fenced perimeter of the facility on the south side of the main facility building, and extends from near the old pump room to beneath and slightly beyond the washroom annex. The footprint of the tank area is approximately 215 ft long and 30 ft wide, and is covered with a combination of concrete and asphalt.

Before being decommissioned, the USTs held solvents and resins (toluene, MEK, styrene, isopropanol, isopropyl acetate, *n*-propyl acetate, nitrocellulose top lacquer, and hexane) used for printing. After being decommissioned, storage of these products was transferred to the former solvent tank farm area (SWMU 14) along the west side of the main facility building.

In late 1989, FPB initiated a phased soil and groundwater investigation after chemical odors were noted in two geotechnical boreholes. During the investigation, three monitoring wells (MW-28 through MW-30) were installed, and a total of 30 soil samples and 22 groundwater samples were collected and submitted for analysis of VOCs (Radian 1990a,b). As indicated in Table A-2 (Appendix A), concentrations of MEK, toluene, and methylene chloride exceeded North Carolina HWS soil screening levels (SSLs) and/or EPA Region IX Residential and Industrial Risk-Based Preliminary Remediation Goals (PRGs) in soil samples collected from beneath the far western portion of the concrete tank pad (soil boreholes B2, B2A, B2B, and HA-06; Figure 7). Groundwater samples contained detectable concentrations of carbon disulfide, 1,1-dichloroethane (1,1-DCA), methylene chloride, toluene, and trichloroethene (TCE) (Table A-3; Appendix A). The highest toluene concentration in groundwater was detected at 4 ft bgs at sample location HC-08, near the northwestern edge of the concrete tank pad (Figure 8).

4 RFI Results and Screening

This section presents the results of the RFI sampling at SWMUs 16, 17, and 21, and compares those results to established screening criteria to identify chemicals of potential concern (CoPCs). Historical soil and groundwater data, including background metals concentrations, are provided in Appendix A (Tables A-1 through A-4). Tables 2 through 5 contain the results for all of the samples collected during this investigation. Analytical results for the field QC samples are presented in Table 6. Results of the data quality assurance review for the sampling event are presented in Appendix C. Laboratory analytical reports are provided in Appendix D.

In accordance with DENR guidance, soil sample results are compared to the North Carolina HWS SSLs and EPA Region IX Residential and Industrial Risk-Based PRGs. Groundwater sample results are compared to North Carolina Groundwater Quality Standards (2L standards) or Interim Maximum Allowable Concentrations (IMACs). The SSLs are conservative screening values that are intended to be protective of groundwater at all sites. SSLs are calculated using default soil-to-groundwater transport and fate parameters, in consideration of acceptable groundwater concentrations (i.e., current 2L standards, IMACs, or a recommended groundwater standard developed by the Department of Human Health/Occupational and Environmental Epidemiology Branch [OEEB]) (DENR 2000). As a result of this theoretical calculation, some of the listed SSLs are below the method reporting limits obtained by the analytical laboratory. Analytes that were not detected in any of the samples and have method reporting limits above screening levels were not considered to exceed the screening-level concentrations.

For organic constituents detected at concentrations exceeding the HWS's SSLs, site-specific SSLs were calculated using the TOC concentrations measured at individual SWMUs and the equations provided in the HWS's *Guidelines for Determining Soil and Groundwater Clean-Up Levels at RCRA Hazardous Waste Sites* (DENR 2000). A summary of the site-specific SSL calculations is provided in Appendix E.

As described in the data evaluation section of the RFI work plan (Exponent 2001a), if detected concentrations exceed the screening levels defined above, further evaluation is required to ensure protection of human health and the environment. Therefore, for those analytes exceeding SSLs or PRGs, a more comprehensive screening evaluation is performed as described in this section. The first step in this additional screening is to determine whether exposure pathways are present. If exposure pathways exist, then the chemical is defined as a CoPC, and a quantitative risk assessment that considers exposure scenarios is performed (see Section 5). If no exposure pathways are identified, further evaluation is not performed.

4.1 SWMU 16—Abandoned Underground Storage Tank Farm

MEK (2-butanone) (3,500 μg/kg; SB-16-3, 7–8 ft bgs), chloroform (1.1 *J* μg/kg; SB-16-4, 0.75–1.75 ft bgs), and toluene (17,000 μg/kg; SB-16-3, 0.75–1.75 ft bgs) were detected at concentrations that exceed the North Carolina HWS SSLs in 1 of the 16 soil samples collected from the eight boreholes installed at SWMU 16 (Table 2). Concentrations of methylene

The results of the former UST area investigation indicate that a release of solvents formerly stored in the USTs occurred at SWMU 16, and that VOC contamination was mainly limited to the area beneath and directly adjacent to the western portion of the concrete tank pad. Hazardous constituents in soil (primarily MEK and toluene) were found to be concentrated in near-surface soils near the west-northwest portion of the concrete tank pad, and low concentrations of VOCs were detected in soil boreholes installed in the area immediately surrounding the concrete tank pad. In groundwater, toluene was detected at a concentration of 1,850 μg/L in a grab sample collected from near the northwestern corner of the tank pad. Methylene chloride was the most widely distributed hazardous constituent detected in groundwater, occurring in 6 of 22 samples.

Any soil remedial needed?

2.2.4.3 SWMU 17—Old Pump Room

The old pump room is a 7.5×21.5-ft room located on the south side of the main facility building near the wash room (Figure 4). Prior to 1980, this unit contained pumps that transferred solvents from the former UST area through overhead pipes to the press room inside the plant. The pumps were removed after the UST area was decommissioned. No historical environmental sample data are available from this SWMU.

2.2.4.4 SWMU 21—North Drainage Ditch

The north drainage ditch consists of an unlined ditch approximately 3 ft wide and 2 ft deep, which is located parallel to the northern property boundary (Figure 5). SWMU 21 formerly received washwater from a floor-cleaning machine used in the plant building. The floor-cleaning machine used a non-hazardous, liquid Johnson Wax® cleaning product. Until 1990, this washwater was discharged to a storm drain in the north parking lot and flowed through a concrete culvert and outlet to the drainage ditch. The north drainage ditch also receives runoff from two tributary ditches on the movie studio lot north of the facility, and from an onsite storm water retention pond that receives runoff from the employee parking lot.

During the confirmatory sampling investigation conducted in 1999, three soil samples were collected from the 0-to-1-ft depth interval (Figure 9). All samples were submitted for analysis of VOCs, SVOCs, and five metals typically used in the printing operation (arsenic, chromium, copper, lead, and selenium) (Exponent 2001b). Benzene was the only organic constituent detected above the North Carolina HWS SSLs, and arsenic and chromium were detected above site-specific background concentrations (Table A-4, Appendix A).

3 Field and Laboratory Procedures

The RFI field sampling activities were conducted during May 1–3, 2002 in accordance with the RFI work plan (Exponent 2001a). Any exceptions to the RFI work plan are noted in this section.

3.1 Sampling Locations

To achieve the RFI objectives, a total of 13 boreholes and 2 wellpoints were installed at the facility. The boreholes and wellpoints were distributed as follows: eight boreholes (SB-16-1 through SB-16-8) and two wellpoints (WP-16-1 and WP-16-2) at SWMU 16 (Figures 10 and 11, respectively); two boreholes (SB-17-1 and SB-17-2) at SWMU 17 (Figure 12); and three boreholes (SB-21-1 and SB-21-2) at SWMU 21 (Figure 9).

3.2 Sampling Summary

Boreholes were installed at SWMUs 16 and 21 in 4-ft increments using a Geoprobe® equipped with a drive-shoe sampler. A 1-in. concrete drill was used to penetrate the 9-in.-thick concrete floor at SWMU 17. Due to the constrained space available for borehole completion at SWMU 17, boreholes were installed manually with a 1-in.-diameter corer equipped with a 2-ft-long drive-shoe sampler. At every location, soil samples were collected continuously for lithologic logging, and two samples from each borehole were submitted for the SWMU-specific laboratory analyses described in the RFI work plan. At SWMUs 16 and 17, the upper 1-ft interval selected for laboratory analysis consisted of the interval beginning immediately below the concrete, asphalt, or coarse fill material encountered beneath the surface covering. Similarly, at SWMU 21, the upper 1-ft interval selected for laboratory analysis consisted of the interval beginning immediately below the interval characterized by abundant vegetative matter (i.e., root stems and leaf litter). At each of the three SWMUs, the lower sample collected for laboratory analyses was selected as the 1-ft interval above the water table, as determined by the field geologist. Borehole logs are provided in Appendix B.

Soil samples for VOC analysis were collected using three 5-g EnCore® samplers, in accordance with EPA Method 5035. EnCore® samples were collected from the soil sampler immediately after it was retrieved and opened. Samples for SVOCs, metals, and total organic carbon (TOC) analyses were homogenized and transferred to the appropriate sample containers before being submitted to the laboratory.

After soil sampling and logging were completed at boreholes SB-16-1 and SB-16-2, temporary 1-in.-diameter PVC wellpoints were installed to 12 ft bgs (WP-16-1 and WP-16-2, respectively). Each of the wellpoints was installed so that the 10-ft-long slotted screen intersected the water table (approximately 2 to 12 ft bgs).

Static water levels were measured in the wellpoints using an electronic water-level indicator before purging and sampling. The wellpoints were purged using a peristaltic pump with new

polyethylene and silicon tubing. At every purge volume, an aliquot of groundwater was transferred to a polyethylene beaker, and field parameters (pH, temperature, specific conductivity, Eh, and turbidity) were measured and recorded. A LaMotte 2020® Turbidimeter, an Orion Model 250A® pH meter, and an Orion Model 122® conductivity meter were used to measure the field parameters listed above and were calibrated and operated in accordance with the manufacturer's recommendations. Six well volumes were purged to stabilize field parameters. Throughout purging, turbidity remained elevated, and samples were collected after it became apparent that turbidity measurements would not stabilize within a reasonable time. VOC samples were collected with a stainless-steel, bottom-loading micro-bailer, as specified in the sampling and analysis plan (SAP) included as Appendix C in the RFI work plan (Exponent 2001a). Groundwater sampling forms are provided in Appendix B. Equipment decontamination followed the procedures outlined in the SAP.

3.3 Field Quality Control Samples

Field quality control (QC) samples were collected as outlined in the SAP. QC samples consisted of one pre-cleaned soil equipment blank, one field-cleaned groundwater equipment blank, three soil duplicates, one groundwater duplicate, and three trip blanks. Deionized water for blanks was supplied by Columbia Analytical Services (CAS) in Jacksonville, Florida.

3.4 Chemical Analyses

Chemical analyses for VOCs, SVOCs, metals, and TOC were performed by CAS. Soil and groundwater samples were analyzed for VOCs using gas chromatography/mass spectrometry (GC/MS) (EPA SW-846 Method 8260B). Soil samples were analyzed for SVOCs using GC/MS (EPA SW-846 Method 8270B), for metals using inductively coupled plasma-mass spectrometry (ICP-MS) (EPA SW-846 Method 6020), and for TOC using an induction furnace in accordance with the method described by Plumb (U.S. EPA 1981).

chloride that exceed the HWS SSL (22 μg/kg) ranged between 35 and 74 μg/kg in 10 samples. Site-specific SSLs calculated for SWMU 16 are equal to or slightly lower than the HWS SSLs (Appendix E). Maximum soil concentrations for other VOCs detected in samples from SWMU 16 are 1,900 *J* μg/kg for acetone, 2.4 μg/kg for benzene, 24 μg/kg for ethylbenzene, and 65 μg/kg for total xylenes. Acetone, benzene, ethylbenzene, and xylenes were not detected at concentrations that exceed any of the screening criteria (Table 2). Apparent hydrocarbon staining was observed in soils collected from borehole SB-16-3, and may be associated with the toluene and MEK detected at this location (see borehole log SB-16-3, Appendix B).

Analytical results and field parameter measurements for the groundwater samples collected at SWMU 16 are summarized in Table 3. Near-neutral pH (6.79 and 6.99) was measured in both wellpoints. Measured specific conductivity values ranged from 866 to 1,086 μS/cm, Eh ranged from 49 to 72 mV, and the measured temperature was 24.7 °C in both wellpoints. *Meta*- and *para*-xylenes were detected at concentrations of 0.91 *J* and 0.73 *J* μg/L in both of the groundwater samples collected from wellpoint WP-16-1. These detections are well below the 2L standard of 530 μg/L for total xylenes. Toluene was detected in one of the two samples collected from wellpoint WP-16-1 at a concentration of 0.39 *J* μg/L, well below the 2L standard of 1,000 μg/L for toluene. No VOCs were detected in groundwater at concentrations exceeding 2L or IMAC standards (Table 3).

Based on the results of the RFI, and consistent with historical soil sample results (Figure 7), the soil contamination associated with SWMU 16 is primarily limited to the area beneath the western and northwestern portion of the former UST pad. Four constituents (MEK, chloroform, toluene, and methylene chloride) were detected at concentrations exceeding the HWS SSLs, but none exceeded risk-based PRGs. The absence of VOCs in groundwater (with the exception of the low concentrations, below the 2L standard, of toluene and xylenes collected in one wellpoint a short distance downgradient of the former UST area) suggests that migration of VOCs via the soil-to-groundwater pathway is not significant at SWMU 16, and that this does not constitute a significant exposure pathway. Therefore, none of the constituents detected at SWMU 16 was identified as a CoPC.

Concentrations of most constituents detected during the RFI are significantly lower than in historical soil and groundwater samples collected from SWMU 16 (Figures 7 and 8, and Tables A-2 and A-3 in Appendix A). For example, the detected concentration of toluene in the upper intervals of boreholes B-02A (Figure 7) and SB-16-3 (Figure 10), which are located 5 ft apart in the northwestern portion of the former UST pad, has decreased by 99 percent (from 1,350,000 to 17,000 μg/kg) since 1990. Similar decreases can be seen at other locations (e.g., boreholes B-02B and SB-16-4) and for other previously detected constituents (e.g., hexane and *n*-propyl acetate).

4.2 SWMU 17—Old Pump Room

Maximum soil concentrations of analytes detected in samples from SWMU 17 are 25 μg/kg for acetone, 0.49 *J* μg/kg for chloroform, 11 μg/kg for ethylbenzene, and 28 μg/kg for total xylenes (Table 4). The maximum detected concentrations of these analytes do not exceed PRGs or SSLs and these constituents were not identified as CoPCs. Toluene (22,000 μg/kg; SB-17-1, 6–7 ft bgs)

was the only analyte detected in soil samples from SWMU 17 that exceeded the HWS SSLs (7,720 μg/kg) (Table 4). Apparent hydrocarbon staining and odor were noted in soils collected from borehole SB-17-1 (see borehole log SB-17-1, Appendix B), and may be associated with the toluene detected at this location. However, this detected toluene concentration is lower than the site-specific SSL of 27,150 μg/kg calculated from site-specific TOC data (Appendix E), and therefore, toluene was not identified as a CoPC. No constituents were identified as CoPCs at SWMU 17.

4.3 SWMU 21—North Drainage Ditch

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Acetone (two detections at a maximum concentration of 23 μg/kg from six natural samples) and chloroform (one detection at a concentration of 0.46 *J* μg/kg from six natural samples) were detected at SWMU 21. The only SVOC detected was bis[2-ethylhexyl]phthalate, which was detected in one of six soil samples at a concentration of 48 μg/kg (Table 5). The only organic constituent detected in soil samples from SMWU 21 that exceeds HWS SSLs was methylene chloride (26 μg/kg; SB-21-3, 0.75–1.75 ft bgs). The site-specific SSL calculated for methylene chloride at SWMU 21 is equal to the HWS SSL of 22 μg/kg (Appendix E). Methylene chloride was also detected at a concentration of 18 μg/kg in borehole SB-21-2 (1–2 ft bgs). Although no detections were noted in associated laboratory method blanks, methylene chloride is a common laboratory contaminant. Because there is no known history of methylene chloride use at the facility, these detections may be false positives. In addition, methylene chloride was not detected in the 1.75–2.75 ft bgs sample interval immediately below the interval in which it was detected, which indicates that it is not migrating toward groundwater. Due to the limited spatial extent of methylene chloride detections, and because it only slightly exceeds the SSLs, it is probable that methylene chloride is not a significant source of groundwater contamination, and that an exposure pathway is not present for this constituent. Therefore, no organic constituents were identified as CoPCs at SWMU 21.

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For metals, the maximum detected arsenic concentration in SWMU 21 soils was 7.04 mg/kg (Table 5). Arsenic concentrations exceeded EPA Region IX's residential PRG (0.39 mg/kg) in all six soil samples, and EPA Region IX's industrial PRG (2.7 mg/kg) in five samples. Chromium was detected at concentrations exceeding site-specific background concentrations (Table A-1, Appendix A), but did not exceed any of the screening levels. Detected concentrations of the other metals were below site-specific background concentrations. Because arsenic exceeds PRGs in near-surface soils from which there are potential exposure pathways, it has been identified as a CoPC for SWMU 21, and is evaluated further in the human health risk assessment (HHRA) in Section 5.1.

In general, concentrations of detected constituents in SWMU 21 decrease with increasing depth, and no lateral concentration trends are apparent.

5 Risk Evaluation and Discussion

This section evaluates and discusses the potential human health and ecological risks associated with this site. As described in the conceptual site model provided in the RFI work plan (Exponent 2001a), the potential for ecological exposure is limited and is evaluated qualitatively. The possible sources of chemicals in environmental media and potential release and transport pathways are described in the discussion of site background (Section 2).

5.1 Human Health Risk Assessment

The screening process described in Section 4 identifies arsenic in SWMU 21 (north drainage ditch) soils as the only CoPC for the site. All other chemicals in all media at SWMU 16 (abandoned UST farm) and SWMU 17 (old pump room) were eliminated from the list of CoPCs. Therefore, this HHRA evaluates the potential for human health risk from arsenic in soils at the SWMU 21. The HHRA includes a determination of potential receptors and exposure pathways, a toxicity assessment, calculation of an exposure point concentration (EPC) and potential risks, and a discussion of the results. The general results are presented in this section, and specific details regarding the risk equations, input parameters, and toxicity values are provided in Appendix F.

5.1.1 Potential Human Receptors and Pathways

A complete exposure pathway exists only when a receptor population can be exposed to chemical constituents in a particular medium. Potential human receptors that have been identified in the conceptual site model are current and future onsite plant workers, potential future workers who may be onsite to perform activities that could include utility installation or other infrastructure projects such as paving ("trench workers"), current and future trespassers, and area residents (Figure 13). This site is surrounded by a 6-ft chain-link fence, and monitored by a security guard, and therefore, access is limited for non-employees. The adjacent land is used primarily for light industrial purposes. The onsite workers and potential future trench workers are assumed to be male or female adults. The current or future trespasser was assumed to be a male or female teenager between the ages of 13 and 18, and the offsite residents were assumed to include males and females of all ages. Because the CoPCs are limited to arsenic in soils at SWMU 21, none of the groundwater pathways shown in Figure 13 would be complete.

5.1.1.1 Exposure Pathways via Surface Soils

Three pathways exist for potential human exposure to chemicals in soil at SWMU 21: ingestion, inhalation, and dermal contact. For dermal exposures, Risk Assessment Guidance for Superfund (RAGS), Part E, specifies that the dermal route be included for a particular chemical only if dermal exposures are expected to be greater than 10 percent of oral exposure using standard residential inputs (U.S. EPA 2001). For arsenic, EPA guidance indicates that dermal exposures are only 0.55 percent of oral exposure, and accordingly, are not included in this

assessment (U.S. EPA 2001). All potential receptors could conceivably be exposed via volatile emissions or particulate transport from surface soil. However, because the only CoPC is arsenic, which is not volatile at atmospheric pressure and temperature, the volatilization pathway is incomplete, and is excluded from further evaluation. Likewise, the exposure pathway via inhalation of suspended particulates from surface soils can also be excluded because the soil type (i.e., damp, organic soil) and vegetative cover (i.e., shrubs and leaf litter) within SWMU 21 would be expected to limit the amount of soil particulates that could become airborne and exposures would thus be insignificant. Limiting the evaluation to exposure via ingestion is also consistent with EPA's soil screening guidance (U.S. EPA 1996), in which the level of exposure via particulate inhalation and dermal contact is not considered to approach that of soil ingestion for most chemicals, including arsenic. Therefore, inhalation and dermal exposures to arsenic in surface soil at this site are expected to be insignificant relative to ingestion exposure, and are not characterized further. The exposures via surface soils that are expected to be complete and potentially significant are thus ingestion exposure by onsite workers, future trench workers, and trespassers via incidental ingestion.

future residential?

5.1.1.2 Exposure to Subsurface Soils

There is no potential for contact with subsurface soils by any of the current receptors identified in the site conceptual model. A future trench worker might be exposed to subsurface soils via dermal contact, incidental ingestion, inhalation of volatile emissions, or inhalation of suspended particles during activities that entail digging. As was the case for surface soils, the volatilization pathway is incomplete, because arsenic is not volatile at atmospheric pressure and temperature. Inhalation of suspended particulates from subsurface soil is expected to be insignificant because the soil type (i.e., damp, organic soil) would be expected to limit the amount of soil particulates that could become airborne. Additionally, a preliminary calculation of intake via inhalation of suspended particulates from subsurface soils showed that it is anticipated to be less than 1 percent of intake via ingestion. Thus, exposure via inhalation was excluded from further consideration. Exposures via the dermal route were also excluded from consideration for the reasons discussed in the previous section on surface soils (Section 5.1.1.1). The exposure pathways for subsurface soils that are expected to be complete and significant are thus exposure by future trench workers via incidental soil ingestion.

Based on an evaluation of the potential exposure pathways for arsenic in soils at SWMU 21, the potential exposure pathways that were retained for further consideration were exposures to surface soil for the onsite worker, future trench worker, and trespassers via ingestion, and exposures to subsurface soil via ingestion for the future trench worker.

5.1.2 Exposure-Point Concentration

This section describes the derivation of the EPC concentration for surface and subsurface soils. Typically, soils data would be segregated by depth, and a separate EPC would be calculated for surface and subsurface soils. However, because of the small sample size for arsenic at SWMU 21, the data from all depths were grouped together, and a single EPC was calculated to represent both surface and subsurface soils. For the EPC used in risk calculations, EPA recommends using the 95-percent upper confidence limit of the mean (UCLM), which

represents an upper boundary of the long-term average concentration to which the receptor might be exposed. The distribution of most environmental data sets is generally considered to be lognormal; therefore, a lognormal distribution was assumed for the arsenic concentration data, and the UCLM was calculated using the appropriate equation (U.S. EPA 1992). Because of the small sample size for this site, the calculated UCLM exceeded the maximum measured concentration. In such cases, the maximum measured value, rather than the UCLM, is selected as the EPC (U.S. EPA 1992). Therefore, the maximum measured concentration for arsenic (7.04 mg/kg from SB-21-1 [4–5 ft bgs]) from either surface or subsurface soils was used as the EPC for all three scenarios.

5.1.3 Evaluation of Risks from Arsenic in Soil

Exposure to arsenic in soil via incidental ingestion was evaluated under an onsite worker, future trench worker, and trespasser scenario for carcinogenic and noncarcinogenic risks using standard EPA equations and reasonable maximum exposure (RME) assumptions, with modifications based on site conditions and use (U.S. EPA 1989, 1991a) (Table F-1, Appendix F). The details of the exposure inputs, calculations, and toxicity values used to evaluate carcinogenic and noncarcinogenic risks from incidental ingestion of arsenic in soils are presented in Appendix F.

In risk assessments, two potential health-effect end points are characterized—cancer and noncancer. For carcinogenic chemicals, risk estimates are calculated by multiplying the average lifetime daily dose by the carcinogenic slope factor (CSF), expressed in $(mg/kg\text{-}day)^{-1}$. This yields a unitless estimate of risk, and should be interpreted as the probability of increased incidence of cancer in a lifetime. Therefore, a cancer risk estimate of 1×10^{-6}, the target risk level set by EPA, indicates a probability of 1 in 1,000,000, or 1 cancer in a population of 1,000,000 people exposed to the average lifetime daily dose, assuming that all individuals have the RME (U.S. EPA 1991b).

For noncancer health effects, risk estimates are provided in the form of Hazard Quotients (HQs). The HQ represents the estimated exposure for a specific chemical divided by the reference dose (RfD), expressed in mg/kg-day. As such, HQs indicate the site-related exposure in comparison to an exposure level that is unlikely to result in adverse health effects. If an HQ value is less than 1, then it can reasonably be assumed that the chemical exposure will not be associated with toxicity. As HQ values increase above 1, the potential for toxicity increases.

Using the inputs, equations, and toxicity values detailed in Appendix F, the results of the risk calculations for arsenic in soils at SWMU 21 indicate that, for all three scenarios, the carcinogenic risk falls below 1×10^{-6}, and the noncancer HQs fall well below 1. Specifically, the carcinogenic risks are 2×10^{-7}, 1×10^{-8}, and 1×10^{-8} for the current onsite worker, future trench worker, and trespasser, respectively. The noncancer risks are 0.001, 0.00004, and 0.000007 for the current onsite worker, future trench worker, and trespasser, respectively. Thus, the results of this HHRA indicate that arsenic concentrations in soil are not expected to pose a significant risk to any foreseeable population that may contact soils at the site.

5.2 Ecological Description

This section provides a general description of the ecology within the RFI-related SWMUs, and the area adjacent to the facility in general.

The initial step in determining an appropriate conceptual site model for ecological receptors is to determine whether potentially complete ecological exposure pathways exist at a facility. SWMU 16 is completely covered with a concrete pad, and is currently in use, so there is no ecological habitat in this area. SWMU 17 is an interior room with a concrete floor, and no ecological habitat is present at this location. Due to incomplete exposure pathways, no further evaluation from an ecological risk perspective is required at these two SWMUs. SWMU 21 (north drainage ditch) is a small, ephemeral surface-water body that only carries discharge from precipitation events and is located in a light industrial area. Therefore, a detailed evaluation of ecological habitat in this area has not been completed and is not currently planned.

Information regarding the ecology within the area adjacent to the facility was obtained during the RFI field investigation. During the RFI, the facility and ecological study area were observed, but no ecological sampling was conducted. As detailed in Section 2 above, the facility is located in a light industrial area, and is bordered to the west by Burnt Mill Creek. Two shallow, unlined drainage ditches are situated just north and south of the facility property, and a small retention pond is located to the north of the facility building. The Wilmington area generally belongs to the Coastal Plain physiographic province. The undeveloped sandy soils at the site support several types of deciduous and pine trees, and grassy fields.

Several songbirds were present in the wooded areas on the property. There were no visible signs of mammals, but a snake and a turtle were observed on the property. The DENR, Division of Parks and Recreation, Natural Heritage Program (NHP) was contacted in August 2002 regarding the occurrence of any endangered, threatened, or special concern plants and animals and exemplary natural communities near the facility. NHP's records indicate that a bluefin killifish (*Lucania goodei*) was last reported in Burnt Mill Creek in 1994. This species is considered a species of special concern in North Carolina. Also, the state threatened American alligator (*Alligator mississippiensis*) has been documented in Smith Creek, downstream of Burnt Mill Creek (DENR 2002b).

6 Summary and Conclusions

The results of the RFI sampling at SWMU 16 show that some residual soil contamination is present, primarily beneath the western and northwestern portion of the former UST pad. All detected concentrations of hazardous constituents are below risk-based PRGs. Although four constituents (MEK, chloroform, toluene, and methylene chloride) were detected at concentrations exceeding HWS and site-specific SSLs, only toluene and xylenes were detected in groundwater directly downgradient of SWMU 16 (at concentrations below 1 μg/L). This indicates that the affected soils are not a significant source of groundwater contamination and no exposure pathways were identified. In comparison to historical soil and groundwater samples collected from SWMU 16, concentrations of hazardous constituents detected during the RFI are significantly lower.

At SWMU 17, hazardous constituents were not detected at concentrations that exceeded risk-based PRGs. Toluene was detected in one sample at a concentration exceeding HWS SSLs, but was below the site-specific SSL. This result indicates that the soils beneath SWMU 17 are not expected to be a source of groundwater contamination and no exposure pathways were identified.

Samples collected from SWMU 21 indicate the presence of arsenic at concentrations that exceed EPA Region IX's residential and industrial PRGs. However, the results of the HHRA demonstrate that, based on the likely exposure scenarios, arsenic is not present at concentrations that constitute a significant risk. Methylene chloride was the only constituent detected in soil samples from SWMU 21 that exceeded the HWS and site-specific SSLs. However, due to the limited spatial extent, and because it only slightly exceeded the SSLs, it is probable that methylene chloride is not a significant source of groundwater contamination and that no significant exposure pathway exists.

In each of these three SWMUs, the nature of site-related chemicals has been determined, and the extent of hazardous constituents has been demarcated. Further, an HHRA was conducted to evaluate the potential exposure scenarios and a significant risk to human health was not identified. Therefore, further sampling or action is not recommended for these three areas.

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Figures

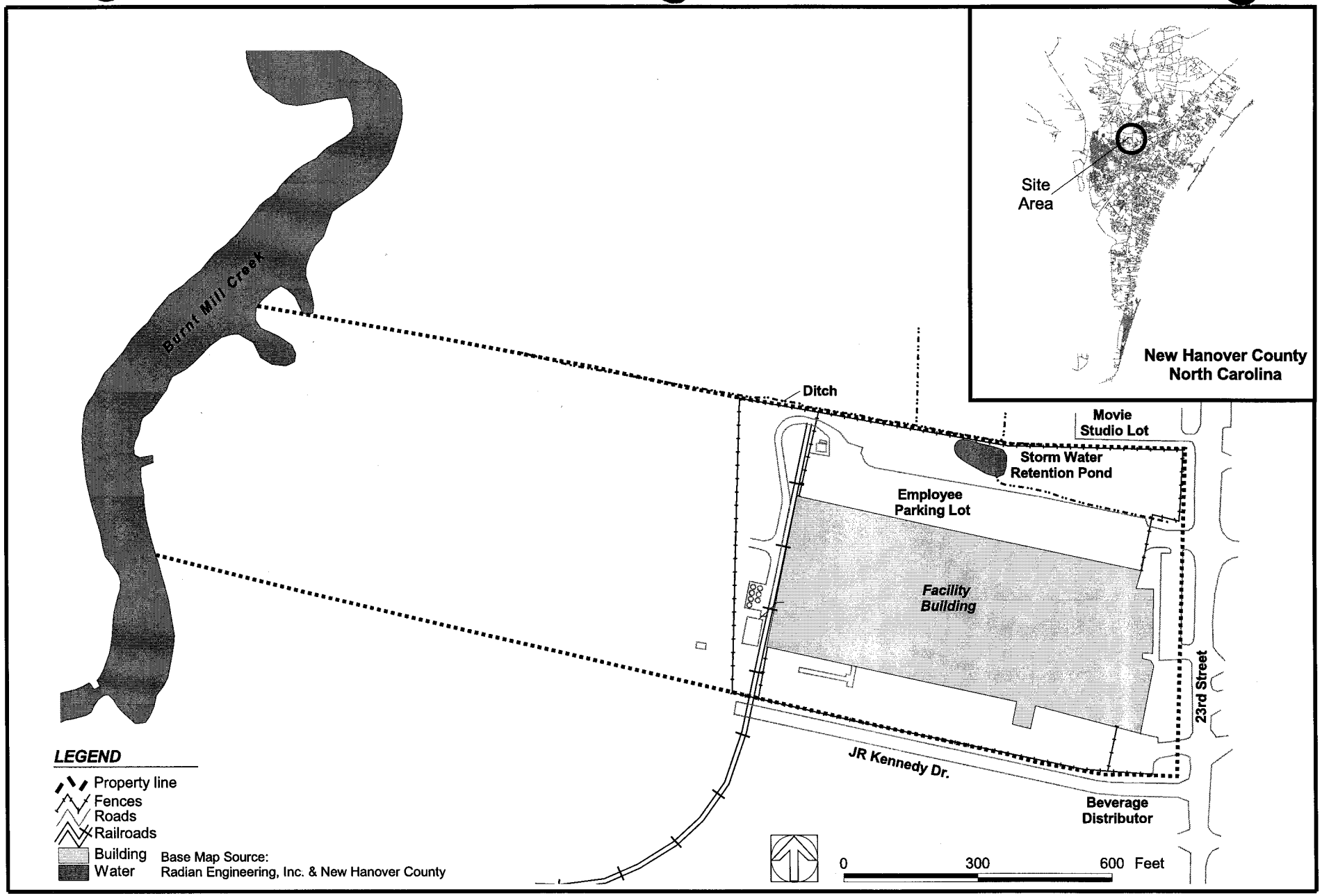
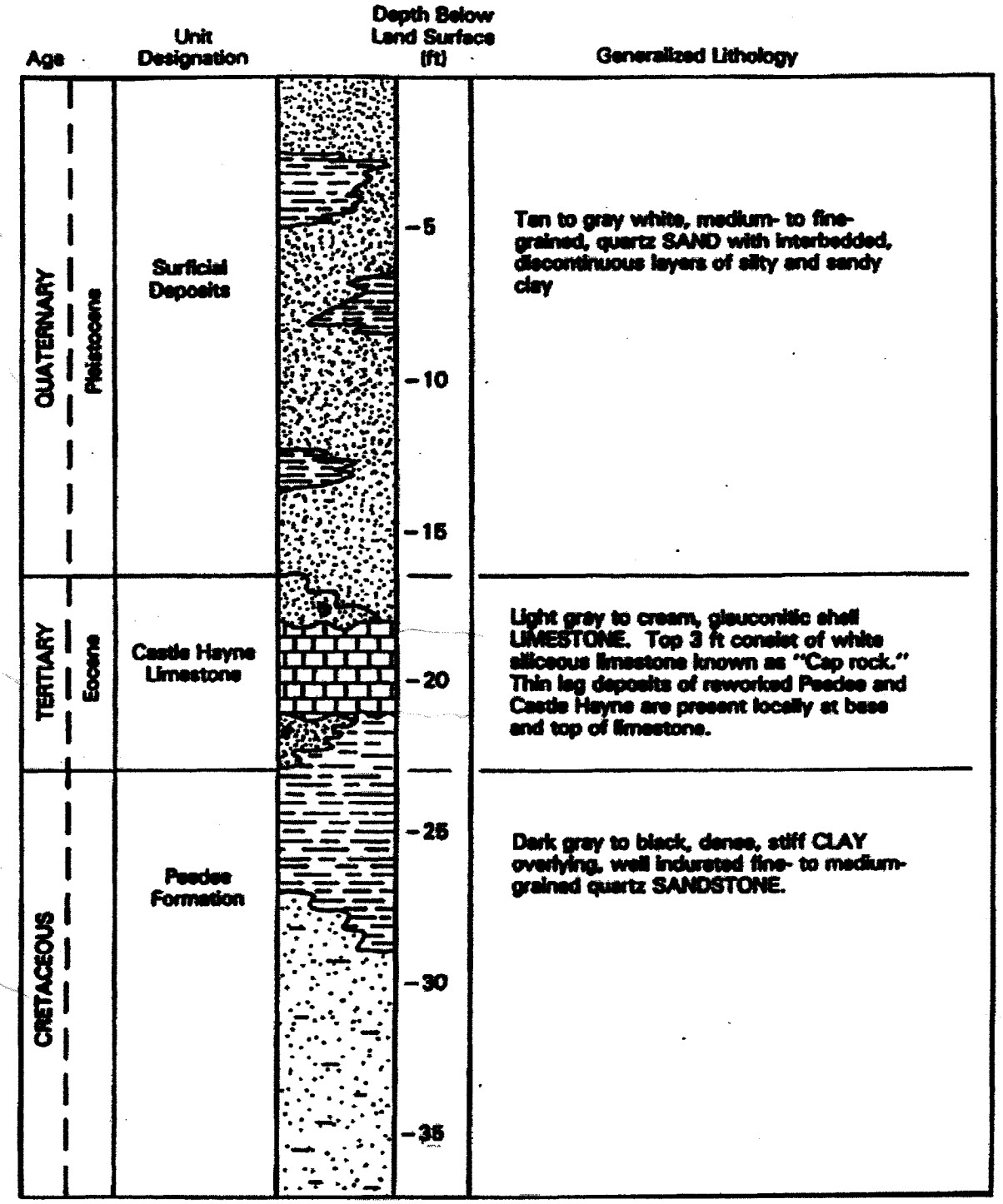


Figure 1. Former International Paper facility, Wilmington, North Carolina.



Source: Radian 1994.

Figure 2. Typical stratigraphic section, former International Paper Facility, Wilmington, North Carolina.

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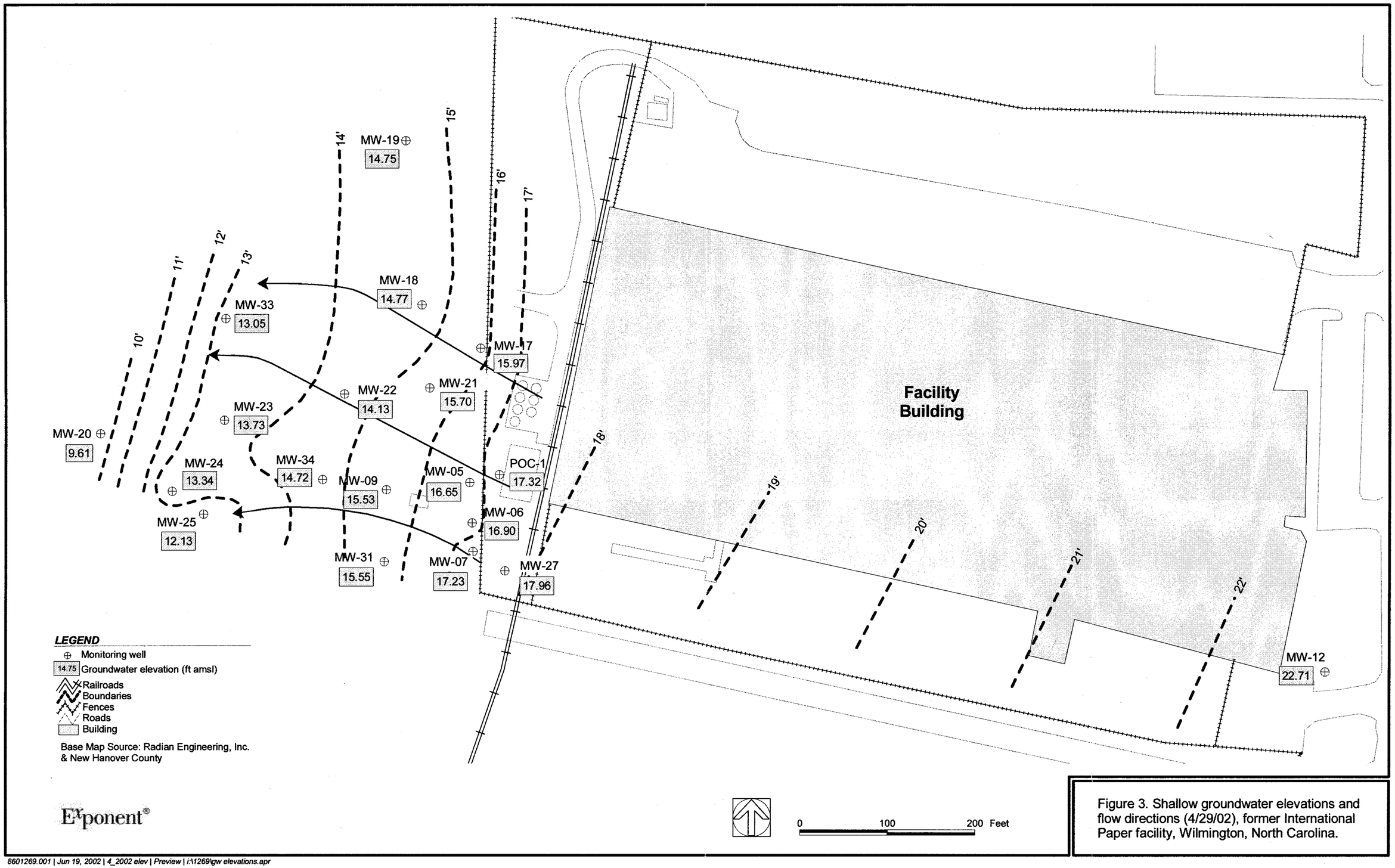

Figure 3. Shallow groundwater elevations and flow directions (4/29/02), former International Paper facility, Wilmington, North Carolina.

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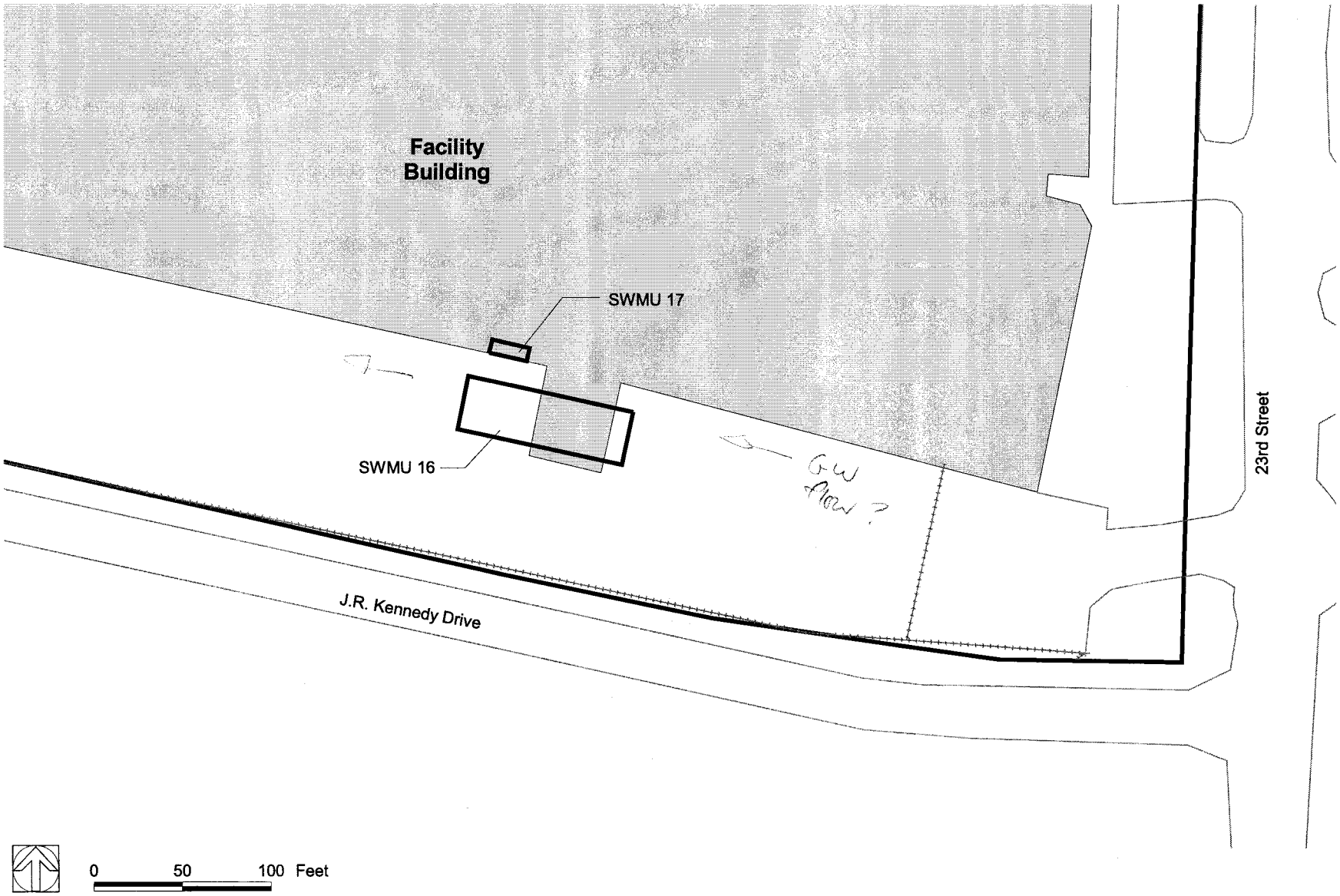


Figure 4. SWMU 16 and SWMU 17 locations, former International Paper facility, Wilmington, North Carolina.

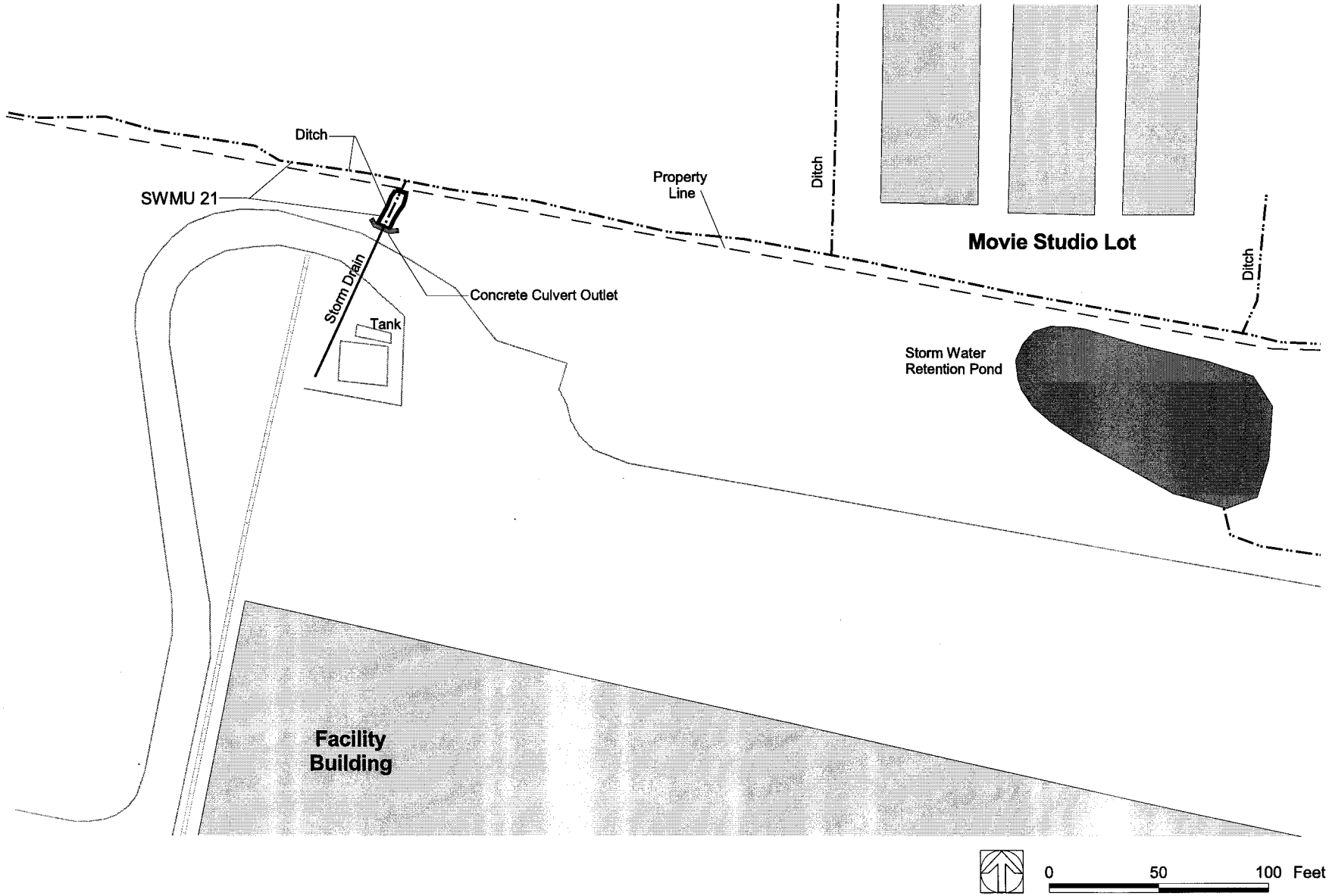


Figure 5. SWMU 21 location, former International Paper facility, Wilmington, North Carolina.

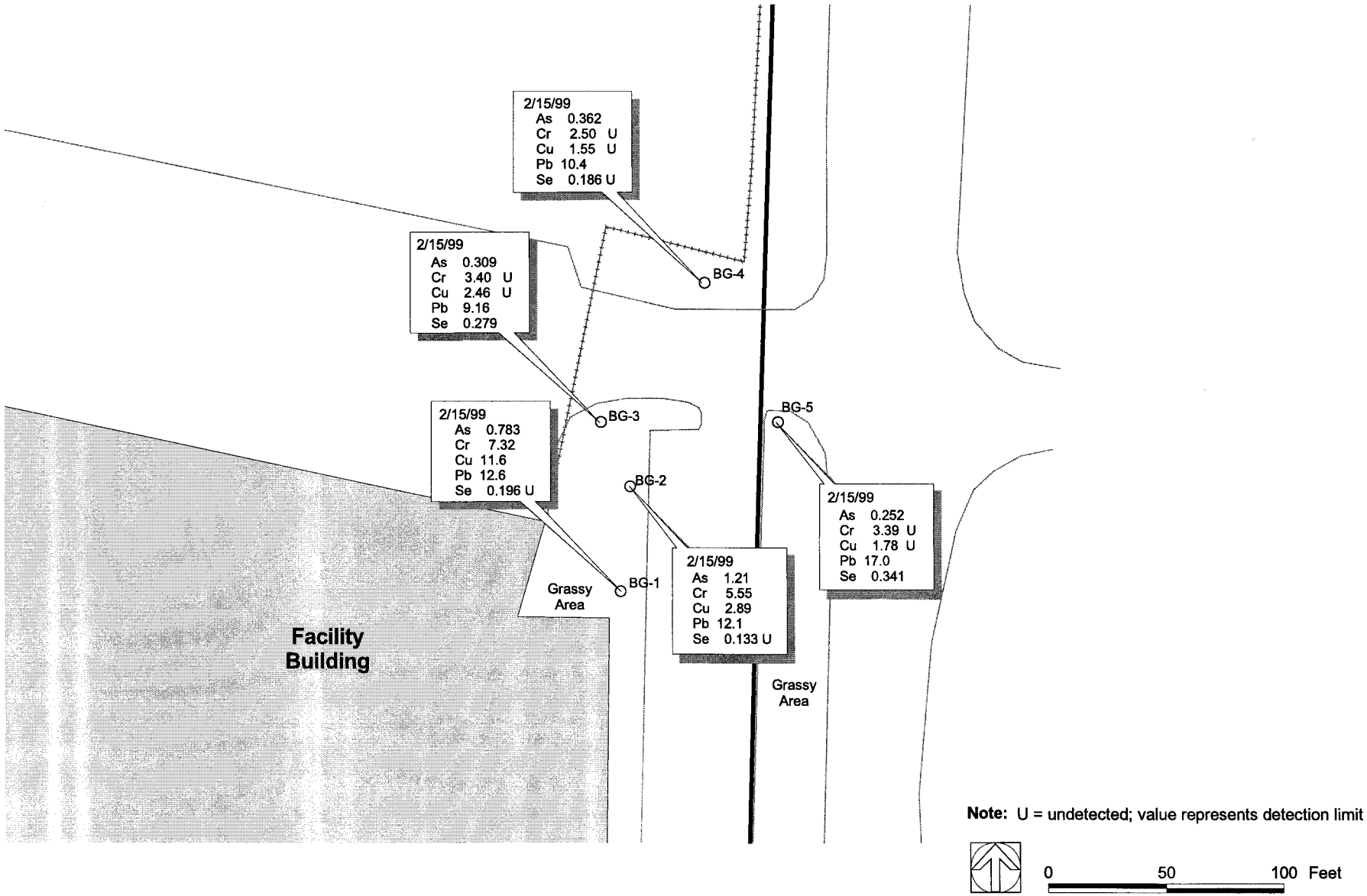


Figure 6. Background soil sampling results (mg/kg), former International Paper facility, Wilmington, North Carolina.

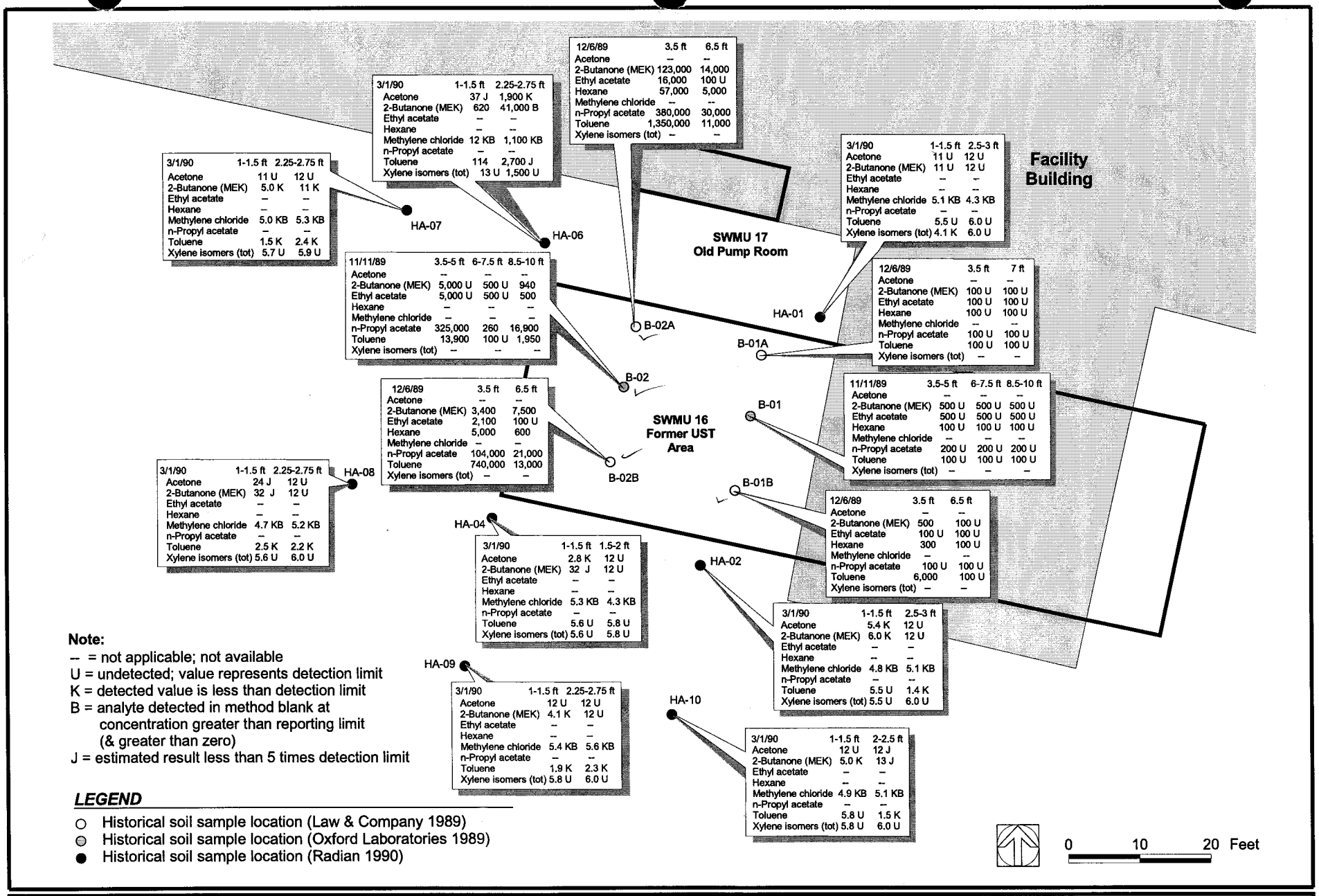


Figure 7. SWMU 16 historical soil sample results (ug/kg), former International Paper facility, Wilmington, North Carolina.

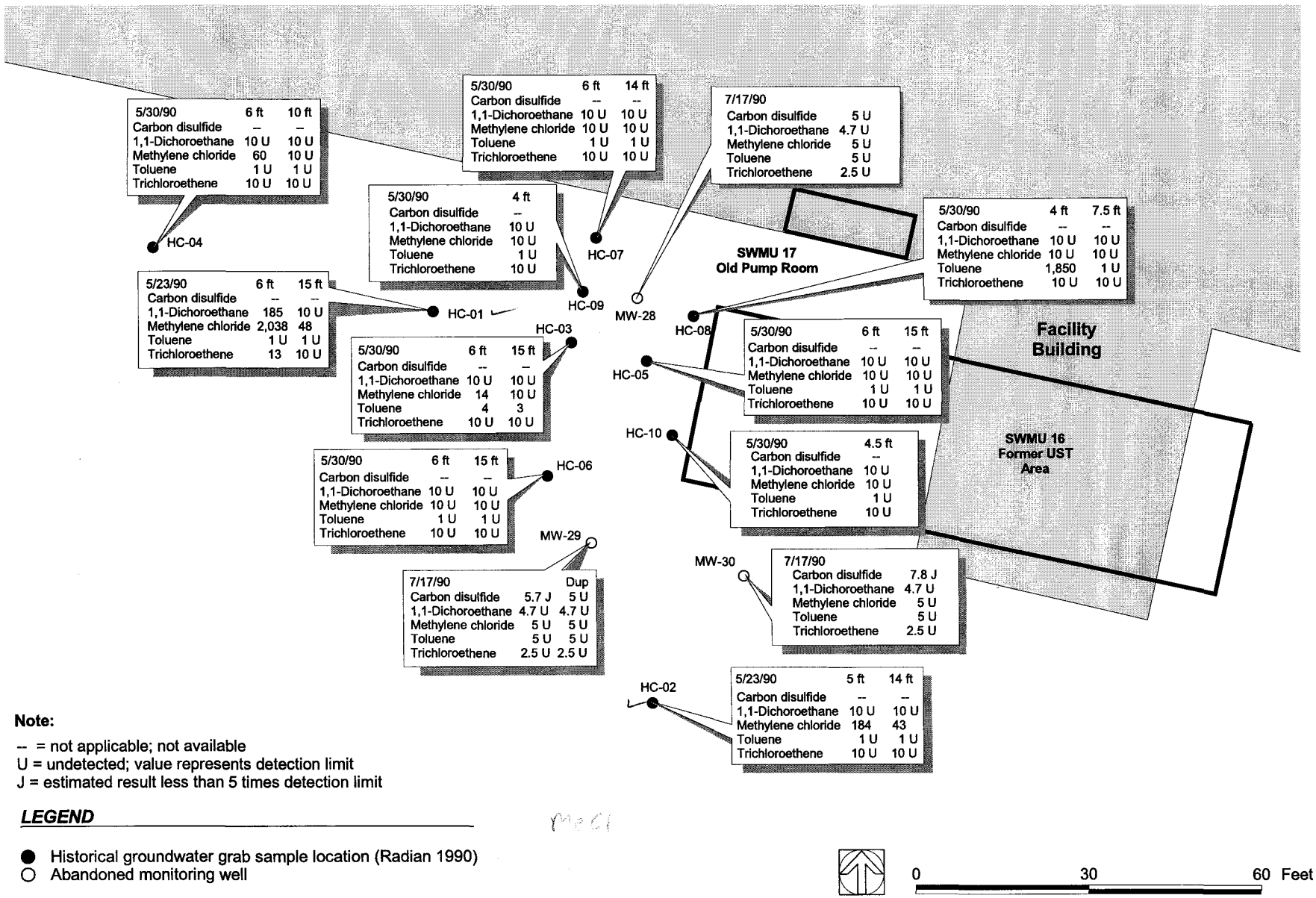
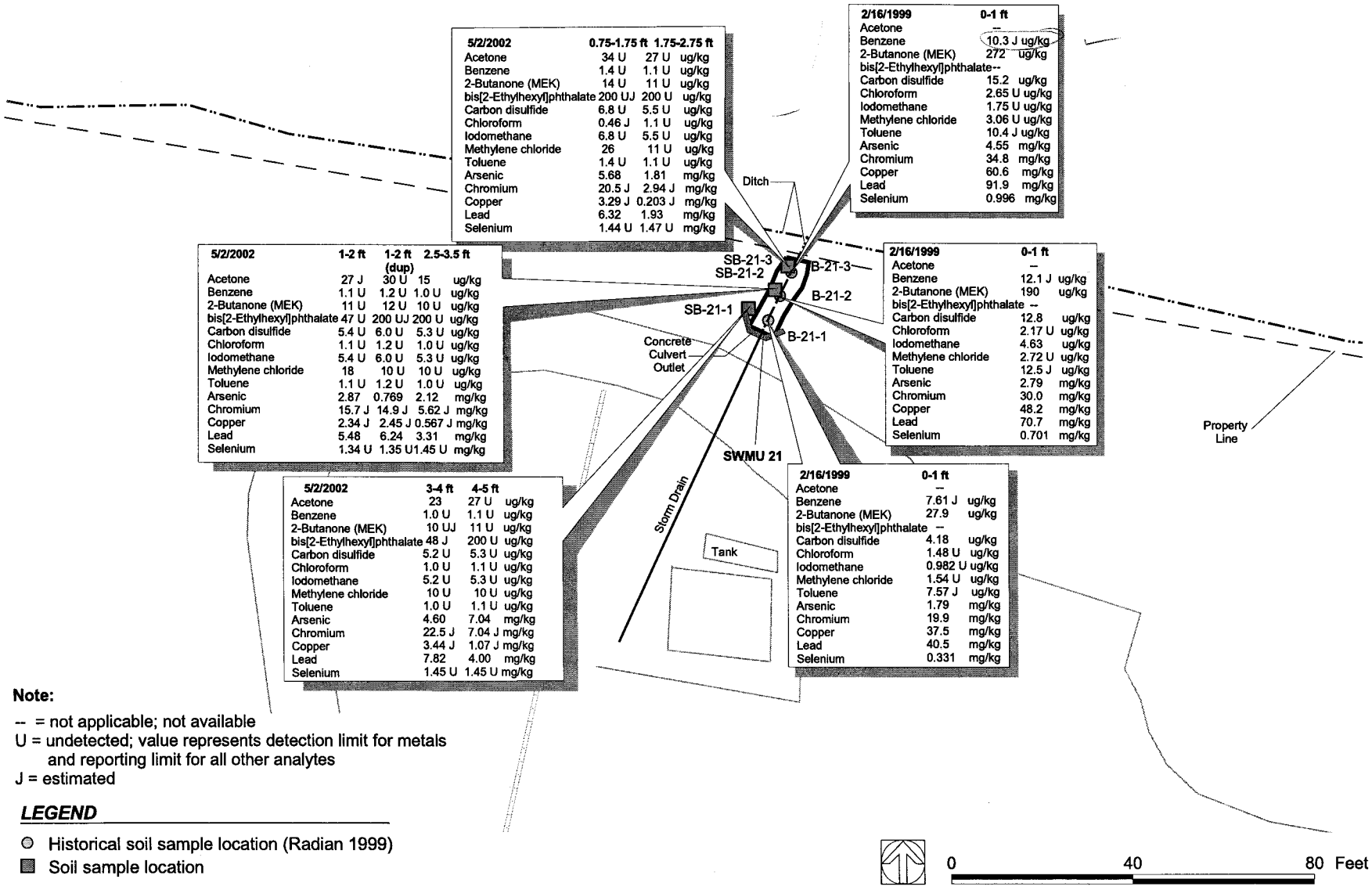


Figure 8. SWMU 16 historical groundwater sample results (ug/L), former International Paper facility, Wilmington, North Carolina.



Note:

-- = not applicable; not available
U = undetected; value represents detection limit for metals and reporting limit for all other analytes
J = estimated

LEGEND

- Historical soil sample location (Radian 1999)
- Soil sample location

Figure 9. SWMU 21 soil sample results, former International Paper facility, Wilmington, North Carolina.

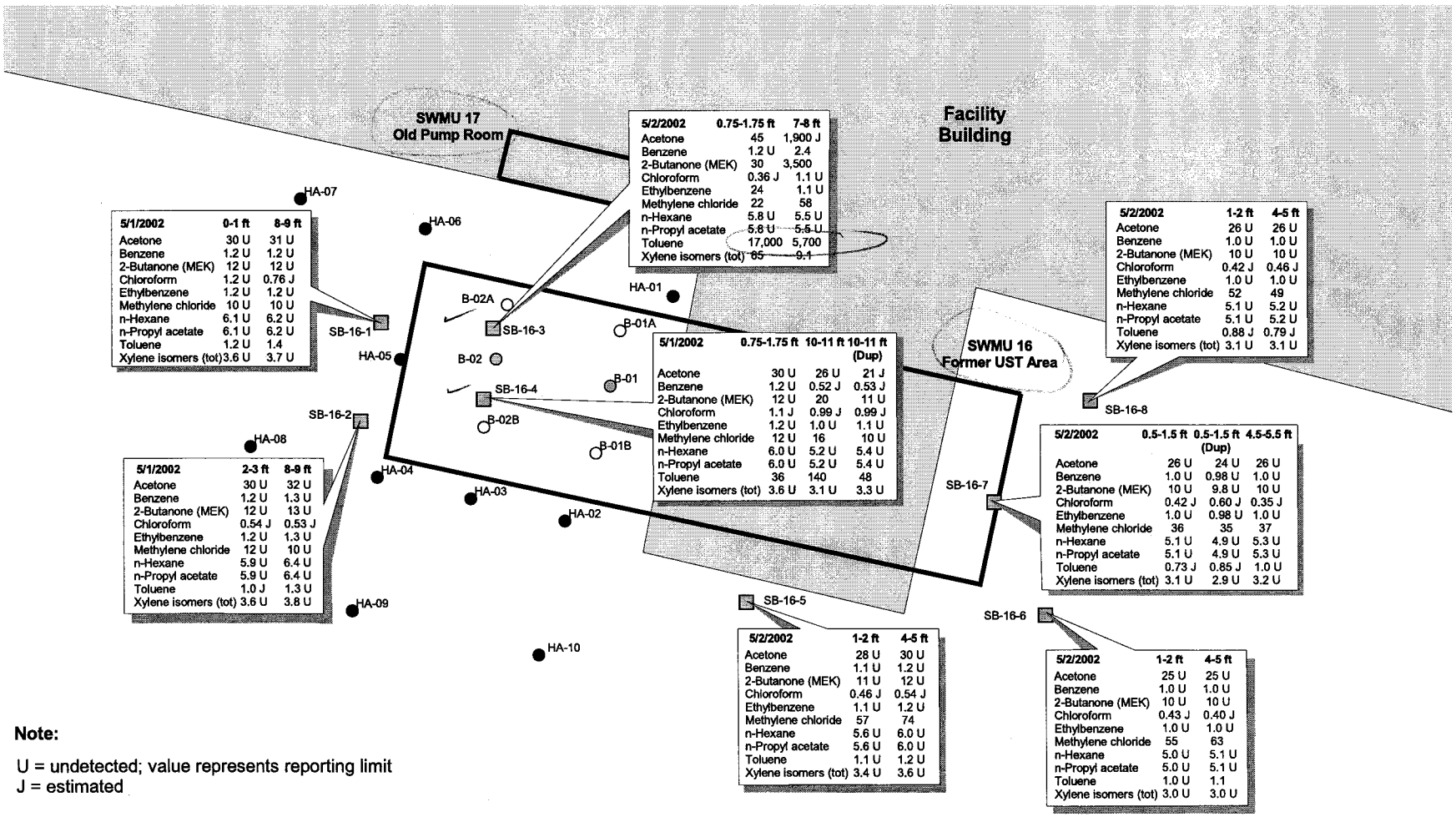
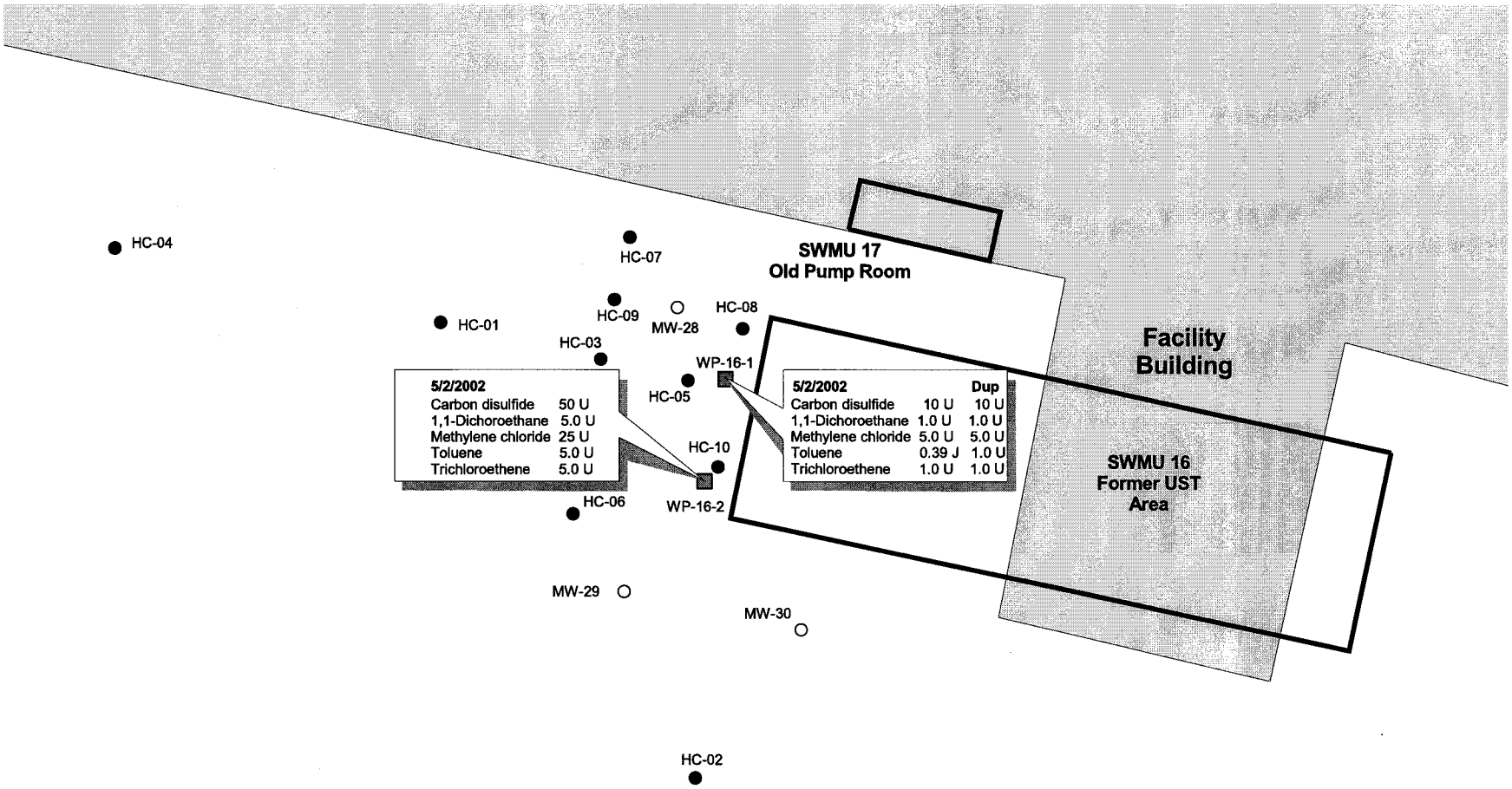


Figure 10. SWMU 16 soil sample results (ug/kg), former International Paper facility, Wilmington, North Carolina.



Note:

U = undetected; value represents reporting limit

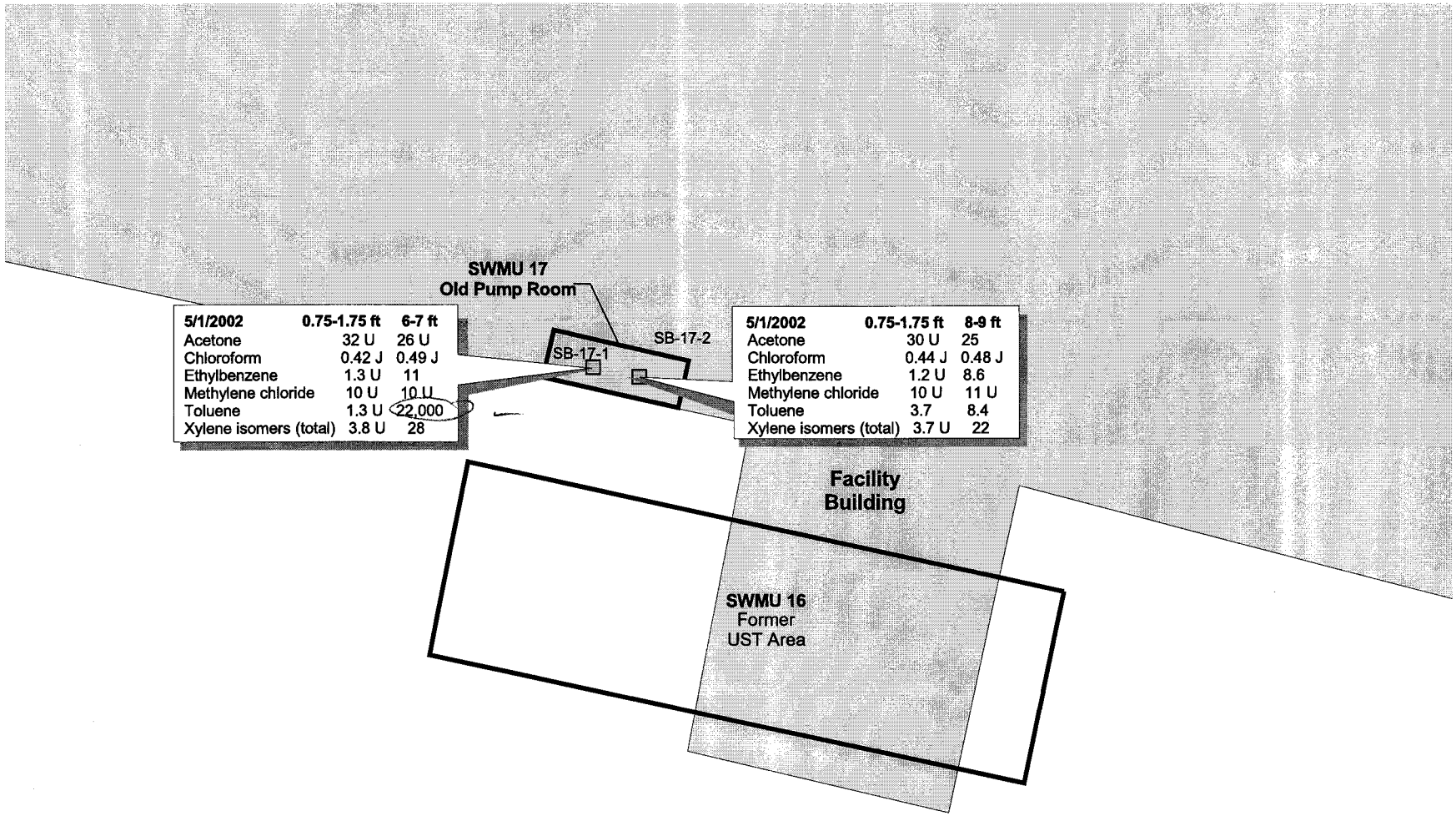
LEGEND

- ● Historical groundwater grab sample location (Radian 1990)
- ○ Abandoned monitoring well
- ■ Groundwater sample location

0 30 60 Feet

Figure 11. SWMU 16 groundwater sample results (ug/L), former International Paper facility, Wilmington, North Carolina.

8601269.003 | Sep 6, 2002 | gw historical& new | gw historical& new | i:\1269\swmu 16 sw results.apr



Note:

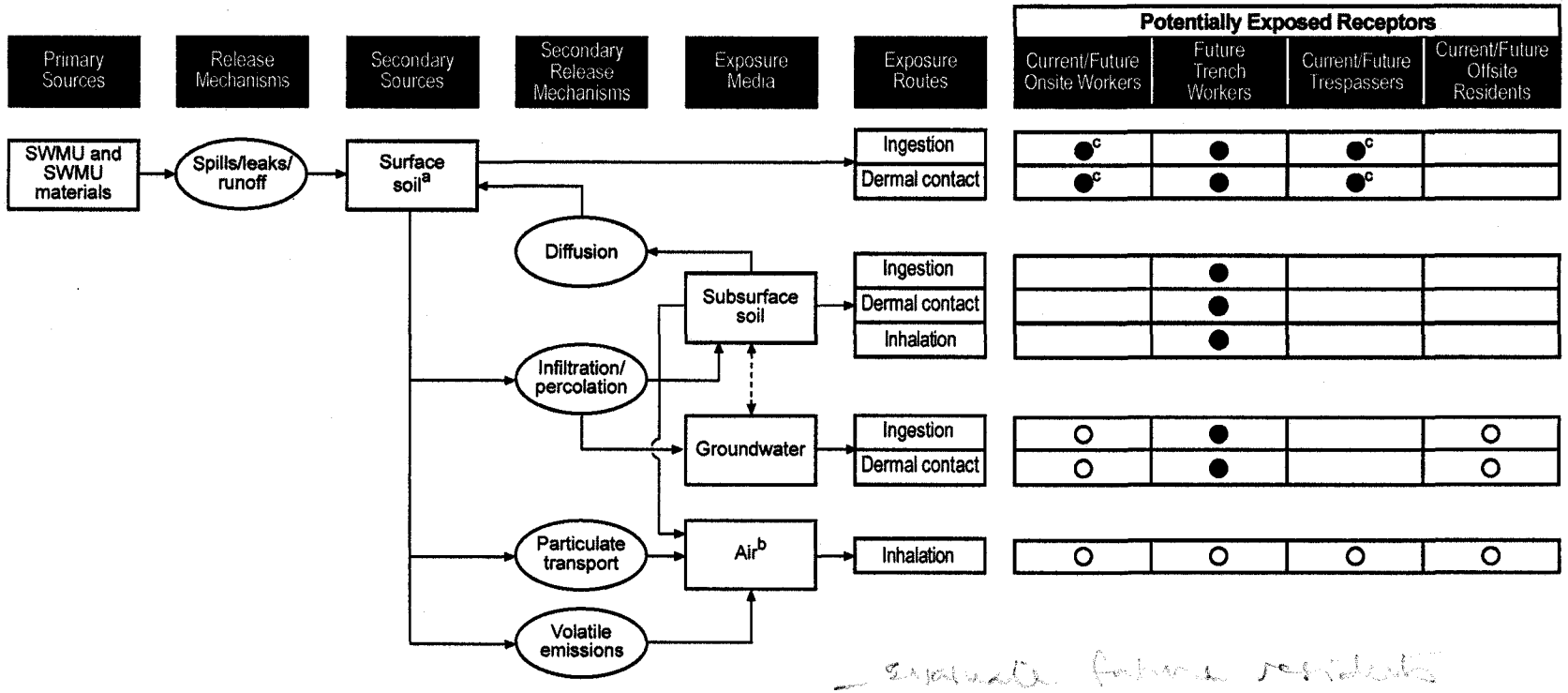
U = undetected; value represents reporting limit
J = estimated

LEGEND

Soil sample location

0 20 40 Feet

Figure 12. SWMU 17 soil sample results (ug/kg), former International Paper facility, Wilmington, North Carolina.



LEGEND

- ● Potential exposure route
- ○ Potential exposure pathway; not included in this phase
- → Complete transport pathway
- ⇢ Potential transport pathway to be evaluated in RFI

[a] With the exception of drainage ditch soils, there are no soils currently exposed

[b] May include infiltration into buildings

[c] SWMU 21 only

Figure 13. Conceptual site model of human receptor exposure, former International Paper facility, Wilmington, North Carolina.

Tables

Table 1. SWMU and AOC summary, former International Paper facility, Wilmington, North Carolina

SWMU No.	SWMU Name	Permit Requirement	Wastes and Materials Managed	Constituents Detected in Previous Investigations
1	Waste Storage Area	NFA	Scrap metal wastes	--
2	Floor Sweeping Dumpster	NFA	Oil dry with waste machine oil, glass, paper	--
3	Waste Oil Accumulation Area	NFA	Waste machine oil	--
4	Outside Waste Oil Tank	NFA	Waste machine oil	--
5	Wastewater Storage Area	NFA	Waste wash water, water-based laminating fluid, water-based adhesive	--
6	Concrete Filled Sump	NFA	Waste wash solvent containing commercial inks, toluene, methyl ethyl ketone, styrene, nitrocellulose top lacquer, isopropyl acetate, isopropanol, n-propyl acetate, and hexane	--
7	Distillation Unit	NFA	Waste wash solvent containing commercial inks, methyl ethyl ketone, styrene, nitrocellulose top lacquer, isopropyl acetate, isopropanol, n-propyl acetate, and hexane	--
8	Floor Drains (2)	NFA	Waste wash water containing commercial inks, toluene, methyl ethyl ketone, styrene, nitrocellulose top lacquer, isopropyl acetate, isopropanol, n-propyl acetate, and hexane	--
9	Outside Holding Tank	NFA[a]	Waste wash water containing commercial inks, toluene, methyl ethyl ketone, styrene, nitrocellulose top lacquer, isopropyl acetate, isopropanol, n-propyl acetate, and hexane	Soil - no VOCs or SVOCs detected; no metals detected above site-specific background levels
10 – 13	Press Nos. 1, 2, 3, and 5 Waste Drums	NFA	Spent inks, toluene, methyl ethyl ketone, styrene, nitrocellulose top lacquer, isopropyl acetate, isopropanol, n-propyl acetate, and hexane	--
14	Former Solvent Tank Farm Area	Post-Closure Corrective Action	Isopropyl acetate, isopropanol, n-propyl acetate, base coat, nitrocellulose top lacquer, hexane/toluene blend; methyl ethyl ketone	Soil - toluene Groundwater - VOCs (acetone, benzene, chlorobenzene, 1,2-dichlorobenzene, ethylbenzene, 2-hexanone, methyl ethyl ketone, 4-methyl-2-pentanone, toluene, xylenes), SVOCs (benzoic acid, benzyl alcohol, 2-methylphenol, 3-methylphenol, 4-methylphenol, N-nitrosopiperdine, naphthalene, phenol)
15	Incinerator	NFA	Solvent exhausts (toluene, methyl ethyl ketone, styrene, nitrocellulose top lacquer, isopropyl acetate, isopropanol, n-propyl acetate, and hexane)	--

Table 1. (cont.)

SWMU No.	SWMU Name	Permit Requirement	Wastes and Materials Managed	Constituents Detected in Previous Investigations
16	Abandoned Underground Storage Tank Farm	RFI	Toluene, methyl ethyl ketone, styrene, nitrocellulose top lacquer, isopropyl acetate, isopropanol, n-propyl acetate, and hexane	Soil - VOCs (acetone, carbon disulfide, ethyl acetate, methyl ethyl ketone, n-propyl acetate, toluene, xylenes) Groundwater - VOCs (methylene chloride, toluene)
17	Old Pump Room	RFI	Toluene, methyl ethyl ketone, styrene, nitrocellulose top lacquer, isopropyl acetate, isopropanol, n-propyl acetate, and hexane	--
18	Metal Pan	NFA	Commercial inks	--
19	Former Hazardous Waste Drum Storage Area	NFA[a]	Waste inks, toluene, methyl ethyl ketone, styrene, nitrocellulose top lacquer, isopropyl acetate, isopropanol, n-propyl acetate, and hexane	Soil - VOCs (methyl ethyl ketone, toluene), no metals detected above site-specific background levels
20	Scrap Metal Dumpster	NFA	Scrap metal and metal shavings	--
21	North Drainage Ditch	RFI	Surface runoff from parking lot; wash water from floor cleaner	Soil - VOCs (benzene, methyl ethyl ketone, carbon disulfide, iodomethane, toluene), metals (arsenic, chromium, copper, lead, selenium)
22	Hazardous Waste Storage Area	NFA	Waste inks, toluene, methyl ethyl ketone, styrene, nitrocellulose top lacquer, isopropyl acetate, isopropanol, n-propyl acetate, and	--
23	Wastewater Storage Area	NFA	Waste from laminator, gluing, air compressor, and floor cleaner; 0.3% 1,1,1-trichloroethane	--
AOC A	Product Storage Area	NFA	Commercial inks	--
AOC B	Outside Solvent Pump Area	NFA[a]	Methyl ethyl ketone, toluene, nitrocellulose top lacquer, isopropanol, isopopyl acetate, n-propyl acetate, and hexane	Soil - VOCs (methyl ethyl ketone, toluene)

Notes: NFA - No further action
RFI - RCRA facility investigation
-- - not applicable

[a] Confirmatory sampling completed

Table 2. Soil analytical results for SWMU 16, former International Paper facility, Wilmington, North Carolina

Analyte	Units	Soil Screening Levels: US EPA Region 9 Industrial Risk-Based PRG	Soil Screening Levels: US EPA Region 9 Residential Risk-Based PRG	Soil Screening Levels: NC HWS Soil Screening Levels	SWMU 16: SB-16-1 5/1/2002 SO0005 0 - 1 ft	SB-16-1 5/1/2002 SO0006 8 - 9 ft	SB-16-2 5/1/2002 SO0007 2 - 3 ft	SB-16-2 5/1/2002 SO0008 8 - 9 ft	SB-16-3 5/2/2002 SO0012 0.75 - 1.75 ft
Volatile Organic Compounds									
Acetone	µg/kg	6,200,000	1,600,000	2,810	30 *U*	31 *U*	30 *U*	32 *U*	45
Benzene	µg/kg	1,500	650	5.62	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
Bromochloromethane	µg/kg	--	--	--	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
Bromodichloromethane	µg/kg	2,400	1,000	3.13	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
Bromoform	µg/kg	310,000	62,000	1.25	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*[a]	1.2 *U*
Bromomethane	µg/kg	13,000	3,900	--	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
2-Butanone	µg/kg	28,000,000	7,300,000	692	12 *U*	12 *U*	12 *U*	13 *U*	30
Carbon disulfide	µg/kg	720,000	360,000	4,940	6.1 *U*	6.2 *U*	5.9 *U*	6.4 *U*	5.8 *U*
Carbon tetrachloride	µg/kg	530	240	2.74	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
Chlorobenzene	µg/kg	540,000	150,000	438	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
Chloroethane	µg/kg	6,500	3,000	13,600	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
Chloroform	µg/kg	520	240	1.01	1.2 *U*[a]	0.76 *J*	0.54 *J*	0.53 *J*	0.36 *J*
Chloromethane	µg/kg	2,700	1,200	--	1.2 *U*	1.2 *UJ*	1.2 *UJ*	1.3 *UJ*	1.2 *U*
Dibromochloromethane	µg/kg	2,700	1,100	1.71	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
1,2-Dibromo-3-chloropropane	µg/kg	4,000	450	0.15	12 *U*[a]	12 *U*[a]	12 *U*[a]	13 *U*[a]	12 *U*[a]
1,2-Dibromoethane	µg/kg	48	6.9	0.00197	1.2 *U*[a]	1.2 *U*[a]	1.2 *U*[a]	1.3 *U*[a]	1.2 *U*[a]
Dibromomethane	µg/kg	240,000	67,000	--	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
1,2-Dichlorobenzene	µg/kg	370,000	370,000	7,270	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
1,3-Dichlorobenzene	µg/kg	52,000	13,000	23,700	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
1,4-Dichlorobenzene	µg/kg	8,100	3,400	1,240	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
Dichlorodifluoromethane	µg/kg	310,000	94,000	306,000	6.1 *U*	6.2 *U*	5.9 *U*	6.4 *U*	5.8 *U*
1,1-Dichloroethane	µg/kg	2,100,000	590,000	3,820	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
1,2-Dichloroethane	µg/kg	760	350	1.84	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
1,1-Dichloroethene	µg/kg	120	54	44.5	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
cis-1,2-Dichloroethene	µg/kg	150,000	43,000	350	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
trans-1,2-Dichloroethene	µg/kg	210,000	63,000	380	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
1,2-Dichloropropane	µg/kg	770	350	2.88	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
cis-1,3-Dichloropropene	µg/kg	--	--	--	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
trans-1,3-Dichloropropene	µg/kg	--	--	--	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
trans-1,4-Dichloro-2-butene	µg/kg	--	--	--	24 *U*	25 *U*	24 *U*	26 *U*	23 *U*

Table 2. (cont.)

Analyte	Units	Soil Screening Levels: US EPA Region 9 Industrial Risk-Based PRG	Soil Screening Levels: US EPA Region 9 Residential Risk-Based PRG	Soil Screening Levels: NC HWS Soil Screening Levels	SWMU 16: SB-16-1 5/1/2002 SO0005 0 - 1 ft	SB-16-1 5/1/2002 SO0006 8 - 9 ft	SB-16-2 5/1/2002 SO0007 2 - 3 ft	SB-16-2 5/1/2002 SO0008 8 - 9 ft	SB-16-3 5/2/2002 SO0012 0.75 - 1.75 ft
Volatile Organic Compounds (cont.)									
Ethylbenzene	µg/kg	230,000	230,000	241	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	24
2-Hexanone	µg/kg	--	--	--	12 *U*	12 *U*	12 *U*	13 *U*	12 *U*
Iodomethane	µg/kg	--	--	--	6.1 *U*	6.2 *U*	5.9 *U*	6.4 *U*	5.8 *U*
Isopropyl acetate	µg/kg	--	--	--	6.1 *U*	6.2 *U*	5.9 *U*	6.4 *U*	5.8 *U*
meta & para Xylenes	µg/kg	--	--	--	2.4 *U*	2.5 *U*	2.4 *U*	2.6 *U*	46
4-Methyl-2-pentanone	µg/kg	2,900,000	790,000	2,280	12 *U*	12 *U*	12 *U*	13 *U*	12 *U*
Methyl-tert-butyl ether	µg/kg	--	--	916	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
Methylene chloride	µg/kg	21,000	8,900	22	10 *U*	10 *U*	12 *U*	10 *U*	22
n-Hexane	µg/kg	110,000	110,000	36,900	6.1 *U*	6.2 *U*	5.9 *U*	6.4 *U*	5.8 *U*
n-Propyl acetate	µg/kg	--	--	--	6.1 *U*	6.2 *U*	5.9 *U*	6.4 *U*	5.8 *U*
ortho-Xylene	µg/kg	--	--	--	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	19
Styrene	µg/kg	1,700,000	1,700,000	2,240	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
1,1,1-Trichloroethane	µg/kg	1,400,000	770,000	1,670	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
1,1,1,2-Tetrachloroethane	µg/kg	7,000	3,000	--	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
1,1,2-Trichloroethane	µg/kg	1,900	840	3.34	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
1,1,2,2-Tetrachloroethane	µg/kg	900	380	0.953	1.2 *U*[a]	1.2 *U*[a]	1.2 *U*[a]	1.3 *U*[a]	1.2 *U*[a]
Tetrachloroethene	µg/kg	19,000	5,700	7.42	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
Toluene	µg/kg	520,000	520,000	7,270	1.2 *U*	1.4	1.0 *J*	1.3 *U*	17,000
Trichloroethene	µg/kg	6,100	2,800	18.3	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
Trichlorofluoromethane	µg/kg	2,000,000	390,000	31,500	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
1,2,3-Trichloropropane	µg/kg	3.1	1.4	--	1.2 *U*	1.2 *U*	1.2 *U*	1.3 *U*	1.2 *U*
Vinyl acetate	µg/kg	1,400,000	430,000	364	12 *U*	12 *U*	12 *U*	13 *U*	12 *UJ*
Vinyl chloride	µg/kg	830	150	0.0952	1.2 *U*[a]	1.2 *U*[a]	1.2 *U*[a]	1.3 *U*[a]	1.2 *U*[a]
Xylene isomers (total)	µg/kg	210,000	210,000	4,960	3.6 *U*	3.7 *U*	3.6 *U*	3.8 *U*	65
Conventionals									
Percent moisture	%	--	--	--	3	16	4	16	16
Total organic carbon	mg/kg	--	--	--	--	200 *U*	--	--	--

Table 2. (cont.)

Analyte	Units	Soil Screening Levels: US EPA Region 9 Industrial Risk-Based PRG	Soil Screening Levels: US EPA Region 9 Residential Risk-Based PRG	Soil Screening Levels: NC HWS Soil Screening Levels	SWMU 16: SB-16-3 5/2/2002 SO0013 7 - 8 ft	SWMU 16: SB-16-4 5/1/2002 SO0009 0.75 - 1.75 ft	SWMU 16: SB-16-4 5/1/2002 SO0010 10 - 11 ft	SWMU 16: SB-16-4 5/1/2002 SO0011 (field dup) 10 - 11 ft	SWMU 16: SB-16-5 5/2/2002 SO0014 1 - 2 ft
Volatile Organic Compounds (cont.)									
Ethylbenzene	µg/kg	230,000	230,000	241	1.1 *U*	1.2 *U*	1.0 *U*	1.1 *U*	1.1 *U*
2-Hexanone	µg/kg	--	--	--	11 *U*	12 *U*	10 *U*	11 *U*	11 *U*
Iodomethane	µg/kg	--	--	--	5.5 *U*	6.0 *U*	5.2 *U*	5.4 *U*	5.6 *U*
Isopropyl acetate	µg/kg	--	--	--	5.5 *U*	6.0 *U*	5.2 *U*	5.4 *U*	5.6 *U*
meta & para Xylenes	µg/kg	--	--	--	6.5	2.4 *U*	2.1 *U*	1.1 *J*	2.2 *U*
4-Methyl-2-pentanone	µg/kg	2,900,000	790,000	2,280	11 *U*	12 *U*	10 *U*	11 *U*	11 *U*
Methyl-tert-butyl ether	µg/kg	--	--	916	1.1 *U*	1.2 *U*	1.0 *U*	1.1 *U*	1.1 *U*
Methylene chloride	µg/kg	21,000	8,900	22	58	12 *U*	16	10 *U*	57
n-Hexane	µg/kg	110,000	110,000	36,900	5.5 *U*	6.0 *U*	5.2 *U*	5.4 *U*	5.6 *U*
n-Propyl acetate	µg/kg	--	--	--	5.5 *U*	6.0 *U*	5.2 *U*	5.4 *U*	5.6 *U*
ortho-Xylene	µg/kg	--	--	--	2.6	1.2 *U*	1.0 *U*	1.1 *U*	1.1 *U*
Styrene	µg/kg	1,700,000	1,700,000	2,240	1.1 *U*	1.2 *U*	1.0 *U*	1.1 *U*	1.1 *U*
1,1,1-Trichloroethane	µg/kg	1,400,000	770,000	1,670	1.1 *U*	1.2 *U*	1.0 *U*	1.1 *U*	1.1 *U*
1,1,1,2-Tetrachloroethane	µg/kg	7,000	3,000	--	1.1 *U*	1.2 *U*	1.0 *U*	1.1 *U*	1.1 *U*
1,1,2-Trichloroethane	µg/kg	1,900	840	3.34	1.1 *U*	1.2 *U*	1.0 *U*	1.1 *U*	1.1 *U*
1,1,2,2-Tetrachloroethane	µg/kg	900	380	0.953	1.1 *U*[a]	1.2 *U*[a]	1.0 *U*[a]	1.1 *U*[a]	1.1 *U*[a]
Tetrachloroethene	µg/kg	19,000	5,700	7.42	1.1 *U*	1.2 *U*	1.0 *U*	1.1 *U*	1.1 *U*
Toluene	µg/kg	520,000	520,000	7,270	5,700	36	140	48	1.1 *U*
Trichloroethene	µg/kg	6,100	2,800	18.3	1.1 *U*	1.2 *U*	1.0 *U*	1.1 *U*	1.1 *U*
Trichlorofluoromethane	µg/kg	2,000,000	390,000	31,500	1.1 *U*	1.2 *U*	1.0 *U*	1.1 *U*	1.1 *U*
1,2,3-Trichloropropane	µg/kg	3.1	1.4	--	1.1 *U*	1.2 *U*	1.0 *U*	1.1 *U*	1.1 *U*
Vinyl acetate	µg/kg	1,400,000	430,000	364	11 *UJ*	12 *U*	10 *U*	11 *U*	11 *U*
Vinyl chloride	µg/kg	830	150	0.0952	1.1 *U*[a]	1.2 *U*[a]	1.0 *U*[a]	1.1 *U*[a]	1.1 *U*[a]
Xylene isomers (total)	µg/kg	210,000	210,000	4,960	9.1	3.6 *U*	3.1 *U*	3.3 *U*	3.4 *U*
Conventionals									
Percent moisture	%	--	--	--	17	9	16	16	4
Total organic carbon	mg/kg	--	--	--	--	--	1,500	410	--

Table 2. (cont.)

Analyte	Units	Soil Screening Levels: US EPA Region 9 Industrial Risk-Based PRG	Soil Screening Levels: US EPA Region 9 Residential Risk-Based PRG	Soil Screening Levels: NC HWS Soil Screening Levels	SWMU 16: SB-16-5 5/2/2002 SO0015 4 - 5 ft	SB-16-6 5/2/2002 SO0016 1 - 2 ft	SB-16-6 5/2/2002 SO0017 4 - 5 ft	SB-16-7 5/2/2002 SO0020 0.5 - 1.5 ft	SB-16-7 5/2/2002 SO0021 (field dup) 0.5 - 1.5 ft
Volatile Organic Compounds									
Acetone	µg/kg	6,200,000	1,600,000	2,810	30 *U*	25 *U*	25 *U*	26 *U*	24 *U*
Benzene	µg/kg	1,500	650	5.62	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
Bromochloromethane	µg/kg	--	--	--	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
Bromodichloromethane	µg/kg	2,400	1,000	3.13	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
Bromoform	µg/kg	310,000	62,000	1.25	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
Bromomethane	µg/kg	13,000	3,900	--	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
2-Butanone	µg/kg	28,000,000	7,300,000	692	12 *U*	10 *U*	10 *U*	10 *U*	9.8 *U*
Carbon disulfide	µg/kg	720,000	360,000	4,940	6.0 *U*	5.0 *U*	5.1 *U*	5.1 *U*	4.9 *U*
Carbon tetrachloride	µg/kg	530	240	2.74	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
Chlorobenzene	µg/kg	540,000	150,000	438	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
Chloroethane	µg/kg	6,500	3,000	13,600	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
Chloroform	µg/kg	520	240	1.01	0.54 *J*	0.43 *J*	0.40 *J*	0.42 *J*	0.60 *J*
Chloromethane	µg/kg	2,700	1,200	--	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
Dibromochloromethane	µg/kg	2,700	1,100	1.71	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
1,2-Dibromo-3-chloropropane	µg/kg	4,000	450	0.15	12 *U*[a]	10 *U*[a]	10 *U*[a]	10 *U*[a]	9.8 *U*[a]
1,2-Dibromoethane	µg/kg	48	6.9	0.00197	1.2 *U*[a]	1.0 *U*[a]	1.0 *U*[a]	1.0 *U*[a]	0.98 *U*[a]
Dibromomethane	µg/kg	240,000	67,000	--	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
1,2-Dichlorobenzene	µg/kg	370,000	370,000	7,270	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
1,3-Dichlorobenzene	µg/kg	52,000	13,000	23,700	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
1,4-Dichlorobenzene	µg/kg	8,100	3,400	1,240	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
Dichlorodifluoromethane	µg/kg	310,000	94,000	306,000	6.0 *U*	5.0 *U*	5.1 *U*	5.1 *U*	4.9 *U*
1,1-Dichloroethane	µg/kg	2,100,000	590,000	3,820	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
1,2-Dichloroethane	µg/kg	760	350	1.84	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
1,1-Dichloroethene	µg/kg	120	54	44.5	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
cis-1,2-Dichloroethene	µg/kg	150,000	43,000	350	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
trans-1,2-Dichloroethene	µg/kg	210,000	63,000	380	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
1,2-Dichloropropane	µg/kg	770	350	2.88	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
cis-1,3-Dichloropropene	µg/kg	--	--	--	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
trans-1,3-Dichloropropene	µg/kg	--	--	--	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
trans-1,4-Dichloro-2-butene	µg/kg	--	--	--	24 *U*	20 *U*	20 *U*	20 *U*	20 *U*

Table 2. (cont.)

Analyte	Units	Soil Screening Levels: US EPA Region 9 Industrial Risk-Based PRG	Soil Screening Levels: US EPA Region 9 Residential Risk-Based PRG	Soil Screening Levels: NC HWS Soil Screening Levels	SWMU 16: SB-16-5 5/2/2002 SO0015 4 - 5 ft	SB-16-6 5/2/2002 SO0016 1 - 2 ft	SB-16-6 5/2/2002 SO0017 4 - 5 ft	SB-16-7 5/2/2002 SO0020 0.5 - 1.5 ft	SB-16-7 5/2/2002 SO0021 (field dup) 0.5 - 1.5 ft
Volatile Organic Compounds (cont.)									
Ethylbenzene	µg/kg	230,000	230,000	241	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
2-Hexanone	µg/kg	--	--	--	12 *U*	10 *U*	10 *U*	10 *U*	9.8 *U*
Iodomethane	µg/kg	--	--	--	6.0 *U*	5.0 *U*	5.1 *U*	5.1 *U*	4.9 *U*
Isopropyl acetate	µg/kg	--	--	--	6.0 *U*	5.0 *U*	5.1 *U*	5.1 *U*	4.9 *U*
meta & para Xylenes	µg/kg	--	--	--	2.4 *U*	2.0 *U*	2.0 *U*	2.0 *U*	2.0 *U*
4-Methyl-2-pentanone	µg/kg	2,900,000	790,000	2,280	12 *U*	10 *U*	10 *U*	10 *U*	9.8 *U*
Methyl-tert-butyl ether	µg/kg	--	--	916	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
Methylene chloride	µg/kg	21,000	8,900	22	74	55	63	36	35
n-Hexane	µg/kg	110,000	110,000	36,900	6.0 *U*	5.0 *U*	5.1 *U*	5.1 *U*	4.9 *U*
n-Propyl acetate	µg/kg	--	--	--	6.0 *U*	5.0 *U*	5.1 *U*	5.1 *U*	4.9 *U*
ortho-Xylene	µg/kg	--	--	--	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
Styrene	µg/kg	1,700,000	1,700,000	2,240	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
1,1,1-Trichloroethane	µg/kg	1,400,000	770,000	1,670	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
1,1,1,2-Tetrachloroethane	µg/kg	7,000	3,000	--	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
1,1,2-Trichloroethane	µg/kg	1,900	840	3.34	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
1,1,2,2-Tetrachloroethane	µg/kg	900	380	0.953	1.2 *U*[a]	1.0 *U*[a]	1.0 *U*[a]	1.0 *U*[a]	0.98 *U*[a]
Tetrachloroethene	µg/kg	19,000	5,700	7.42	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
Toluene	µg/kg	520,000	520,000	7,270	1.2 *U*	1.0 *U*	1.1	0.73 *J*	0.85 *J*
Trichloroethene	µg/kg	6,100	2,800	18.3	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
Trichlorofluoromethane	µg/kg	2,000,000	390,000	31,500	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
1,2,3-Trichloropropane	µg/kg	3.1	1.4	--	1.2 *U*	1.0 *U*	1.0 *U*	1.0 *U*	0.98 *U*
Vinyl acetate	µg/kg	1,400,000	430,000	364	12 *U*	10 *U*	10 *UJ*	10 *UJ*	9.8 *UJ*
Vinyl chloride	µg/kg	830	150	0.0952	1.2 *U*[a]	1.0 *U*[a]	1.0 *U*[a]	1.0 *U*[a]	0.98 *U*[a]
Xylene isomers (total)	µg/kg	210,000	210,000	4,960	3.6 *U*	3.0 *U*	3.0 *U*	3.1 *U*	2.9 *U*
Conventionals									
Percent moisture	%	--	--	--	17	9	15	12	12
Total organic carbon	mg/kg	--	--	--	--	--	3,600	--	--

Table 2. (cont.)

Analyte	Units	Soil Screening Levels: US EPA Region 9 Industrial Risk-Based PRG	Soil Screening Levels: US EPA Region 9 Residential Risk-Based PRG	Soil Screening Levels: NC HWS Soil Screening Levels	SWMU 16: SB-16-7 5/2/2002 SO0022 4.5 - 5.5 ft	SWMU 16: SB-16-8 5/2/2002 SO0018 1 - 2 ft	SWMU 16: SB-16-8 5/2/2002 SO0019 4 - 5 ft
Volatile Organic Compounds							
Acetone	µg/kg	6,200,000	1,600,000	2,810	26 *U*	26 *U*	26 *U*
Benzene	µg/kg	1,500	650	5.62	1.0 *U*	1.0 *U*	1.0 *U*
Bromochloromethane	µg/kg	--	--	--	1.0 *U*	1.0 *U*	1.0 *U*
Bromodichloromethane	µg/kg	2,400	1,000	3.13	1.0 *U*	1.0 *U*	1.0 *U*
Bromoform	µg/kg	310,000	62,000	1.25	1.0 *U*	1.0 *U*	1.0 *U*
Bromomethane	µg/kg	13,000	3,900	--	1.0 *U*	1.0 *U*	1.0 *U*
2-Butanone	µg/kg	28,000,000	7,300,000	692	10 *U*	10 *U*	10 *U*
Carbon disulfide	µg/kg	720,000	360,000	4,940	5.3 *U*	5.1 *U*	5.2 *U*
Carbon tetrachloride	µg/kg	530	240	2.74	1.0 *U*	1.0 *U*	1.0 *U*
Chlorobenzene	µg/kg	540,000	150,000	438	1.0 *U*	1.0 *U*	1.0 *U*
Chloroethane	µg/kg	6,500	3,000	13,600	1.0 *U*	1.0 *U*	1.0 *U*
Chloroform	µg/kg	520	240	1.01	0.35 *J*	0.42 *J*	0.46 *J*
Chloromethane	µg/kg	2,700	1,200	--	1.0 *U*	1.0 *U*	1.0 *U*
Dibromochloromethane	µg/kg	2,700	1,100	1.71	1.0 *U*	1.0 *U*	1.0 *U*
1,2-Dibromo-3-chloropropane	µg/kg	4,000	450	0.15	10 *U*[a]	10 *U*[a]	10 *U*[a]
1,2-Dibromoethane	µg/kg	48	6.9	0.00197	1.0 *U*[a]	1.0 *U*[a]	1.0 *U*[a]
Dibromomethane	µg/kg	240,000	67,000	--	1.0 *U*	1.0 *U*	1.0 *U*
1,2-Dichlorobenzene	µg/kg	370,000	370,000	7,270	1.0 *U*	1.0 *U*	1.0 *U*
1,3-Dichlorobenzene	µg/kg	52,000	13,000	23,700	1.0 *U*	1.0 *U*	1.0 *U*
1,4-Dichlorobenzene	µg/kg	8,100	3,400	1,240	1.0 *U*	1.0 *U*	1.0 *U*
Dichlorodifluoromethane	µg/kg	310,000	94,000	306,000	5.3 *U*	5.1 *U*	5.2 *U*
1,1-Dichloroethane	µg/kg	2,100,000	590,000	3,820	1.0 *U*	1.0 *U*	1.0 *U*
1,2-Dichloroethane	µg/kg	760	350	1.84	1.0 *U*	1.0 *U*	1.0 *U*
1,1-Dichloroethene	µg/kg	120	54	44.5	1.0 *U*	1.0 *U*	1.0 *U*
cis-1,2-Dichloroethene	µg/kg	150,000	43,000	350	1.0 *U*	1.0 *U*	1.0 *U*
trans-1,2-Dichloroethene	µg/kg	210,000	63,000	380	1.0 *U*	1.0 *U*	1.0 *U*
1,2-Dichloropropane	µg/kg	770	350	2.88	1.0 *U*	1.0 *U*	1.0 *U*
cis-1,3-Dichloropropene	µg/kg	--	--	--	1.0 *U*	1.0 *U*	1.0 *U*
trans-1,3-Dichloropropene	µg/kg	--	--	--	1.0 *U*	1.0 *U*	1.0 *U*
trans-1,4-Dichloro-2-butene	µg/kg	--	--	--	21 *U*	20 *U*	21 *U*

Table 2. (cont.)

Analyte	Units	Soil Screening Levels: US EPA Region 9 Industrial Risk-Based PRG	Soil Screening Levels: US EPA Region 9 Residential Risk-Based PRG	Soil Screening Levels: NC HWS Soil Screening Levels	SWMU 16: SB-16-7 5/2/2002 SO0022 4.5 - 5.5 ft	SWMU 16: SB-16-8 5/2/2002 SO0018 1 - 2 ft	SWMU 16: SB-16-8 5/2/2002 SO0019 4 - 5 ft
Volatile Organic Compounds (cont.)							
Ethylbenzene	µg/kg	230,000	230,000	241	1.0 *U*	1.0 *U*	1.0 *U*
2-Hexanone	µg/kg	--	--	--	10 *U*	10 *U*	10 *U*
Iodomethane	µg/kg	--	--	--	5.3 *U*	5.1 *U*	5.2 *U*
Isopropyl acetate	µg/kg	--	--	--	5.3 *U*	5.1 *U*	5.2 *U*
meta & para Xylenes	µg/kg	--	--	--	2.1 *U*	2.0 *U*	2.1 *U*
4-Methyl-2-pentanone	µg/kg	2,900,000	790,000	2,280	10 *U*	10 *U*	10 *U*
Methyl-tert-butyl ether	µg/kg	--	--	916	1.0 *U*	1.0 *U*	1.0 *U*
Methylene chloride	µg/kg	21,000	8,900	22	37	52	49
n-Hexane	µg/kg	110,000	110,000	36,900	5.3 *U*	5.1 *U*	5.2 *U*
n-Propyl acetate	µg/kg	--	--	--	5.3 *U*	5.1 *U*	5.2 *U*
ortho-Xylene	µg/kg	--	--	--	1.0 *U*	1.0 *U*	1.0 *U*
Styrene	µg/kg	1,700,000	1,700,000	2,240	1.0 *U*	1.0 *U*	1.0 *U*
1,1,1-Trichloroethane	µg/kg	1,400,000	770,000	1,670	1.0 *U*	1.0 *U*	1.0 *U*
1,1,1,2-Tetrachloroethane	µg/kg	7,000	3,000	--	1.0 *U*	1.0 *U*	1.0 *U*
1,1,2-Trichloroethane	µg/kg	1,900	840	3.34	1.0 *U*	1.0 *U*	1.0 *U*
1,1,2,2-Tetrachloroethane	µg/kg	900	380	0.953	1.0 *U*[a]	1.0 *U*[a]	1.0 *U*[a]
Tetrachloroethene	µg/kg	19,000	5,700	7.42	1.0 *U*	0.60 *J*	1.0 *U*
Toluene	µg/kg	520,000	520,000	7,270	1.0 *U*	0.88 *J*	0.79 *J*
Trichloroethene	µg/kg	6,100	2,800	18.3	1.0 *U*	1.0 *U*	1.0 *U*
Trichlorofluoromethane	µg/kg	2,000,000	390,000	31,500	1.0 *U*	1.0 *U*	1.0 *U*
1,2,3-Trichloropropane	µg/kg	3.1	1.4	--	1.0 *U*	1.0 *U*	1.0 *U*
Vinyl acetate	µg/kg	1,400,000	430,000	364	10 *UJ*	10 *UJ*	10 *UJ*
Vinyl chloride	µg/kg	830	150	0.0952	1.0 *U*[a]	1.0 *U*[a]	1.0 *U*[a]
Xylene isomers (total)	µg/kg	210,000	210,000	4,960	3.2 *U*	3.1 *U*	3.1 *U*
Conventionals							
Percent moisture	%	--	--	--	17	11	16
Total organic carbon	mg/kg	--	--	--	--	--	3,400

(notes on following page)

Table 2. (cont.)

Note: Boxed values exceed one or more screening criteria.
PRG – Preliminary Remediation Goal
HWS – Hazardous Waste Section
U – undetected; value represents reporting limit
J – estimated
-- – not applicable or not available

[a] Analyte was not detected. Reporting limit exceeds one or more screening criteria.

Table 3. Groundwater field parameter measurements and analytical results for SWMU 16, former International Paper facility, Wilmington, North Carolina

Analyte	Groundwater Screening Levels NC 2L	Groundwater Screening Levels IMAC	WP-16-1 5/2/2002 GW0014	WP-16-1 5/2/2002 GW0015 (field dup)	WP-16-2 5/2/2002 GW0016
Field Parameters					
Temperature (°C)	--	--	24.7	--	24.7
pH (s.u.)	--	--	6.99	--	6.79
Specific Conductance (µS/cm)	--	--	866	--	1,086
Eh[b] (mV)	--	--	49	--	72
Turbidity (NTU)	--	--	161	--	>1,000
Volatile Organic Compounds (µg/L)					
Acetone	700	--	50 *U*	50 *U*	250 *U*
Benzene	1.0	--	1.0 *U*	1.0 *U*	5.0 *U*[a]
Bromochloromethane	--	--	1.0 *U*	1.0 *U*	5.0 *U*
Bromodichloromethane	--	0.6	1.0 *U*[a]	1.0 *U*[a]	5.0 *U*[a]
Bromoform	0.19	--	1.0 *U*[a]	1.0 *U*[a]	5.0 *U*[a]
Bromomethane	--	--	1.0 *U*	1.0 *U*	5.0 *U*
2-Butanone	170	--	25 *U*	25 *U*	120 *U*
Carbon disulfide	--	700	10 *U*	10 *U*	50 *U*
Carbon tetrachloride	0.3	--	1.0 *U*[a]	1.0 *U*[a]	5.0 *U*[a]
Chlorobenzene	50	--	1.0 *U*	1.0 *U*	5.0 *U*
Chloroethane	--	2,800	1.0 *U*	1.0 *U*	5.0 *U*
Chloroform	0.19	--	1.0 *U*[a]	1.0 *U*[a]	5.0 *U*[a]
Chloromethane	--	2.6	1.0 *U*	1.0 *U*	5.0 *U*[a]
Dibromochloromethane	--	0.41	1.0 *U*[a]	1.0 *U*[a]	5.0 *U*[a]
1,2-Dibromo-3-chloropropane	0.025	--	2.0 *U*[a]	2.0 *U*[a]	10 *U*[a]
1,2-Dibromoethane	0.00040	--	1.0 *U*[a]	1.0 *U*[a]	5.0 *U*[a]
Dibromomethane	--	--	1.0 *U*	1.0 *U*	5.0 *U*
1,2-Dichlorobenzene	620	--	1.0 *U*	1.0 *U*	5.0 *U*
1,3-Dichlorobenzene	620	--	1.0 *U*	1.0 *U*	5.0 *U*
1,4-Dichlorobenzene	75	--	1.0 *U*	1.0 *U*	5.0 *U*
Dichlorodifluoromethane	1,400	--	5.0 *U*	5.0 *U*	25 *U*
1,1-Dichloroethane	700	--	1.0 *U*	1.0 *U*	5.0 *U*
1,2-Dichloroethane	0.38	--	1.0 *U*[a]	1.0 *U*[a]	5.0 *U*[a]
1,1-Dichloroethene	7	--	1.0 *U*	1.0 *U*	5.0 *U*
cis-1,2-Dichloroethene	70	--	1.0 *U*	1.0 *U*	5.0 *U*
trans-1,2-Dichloroethene	70	--	1.0 *U*	1.0 *U*	5.0 *U*
1,2-Dichloropropane	0.56	--	1.0 *U*[a]	1.0 *U*[a]	5.0 *U*[a]
cis-1,3-Dichloropropene	--	0.2	1.0 *U*[a]	1.0 *U*[a]	5.0 *U*[a]
trans-1,3-Dichloropropene	--	0.2	1.0 *U*[a]	1.0 *U*[a]	5.0 *U*[a]
trans-1,4-Dichloro-2-butene	--	--	10 *UJ*	10 *UJ*	50 *UJ*
Ethylbenzene	29	--	1.0 *U*	1.0 *U*	5.0 *U*
2-Hexanone	--	280	25 *U*	25 *U*	120 *U*
Iodomethane	--	--	5.0 *U*	5.0 *U*	25 *U*
Isopropyl acetate	--	--	5.0 *U*	5.0 *U*	25 *U*
meta & para Xylenes	530 total xylenes ?	--	0.91 *J*	0.73 *J*	10 *U*
4-Methyl-2-pentanone	--	--	25 *U*	25 *U*	120 *U*
Methyl-tert-butyl ether	200	--	1.0 *U*	1.0 *U*	5.0 *U*
Methylene chloride	5	--	5.0 *U*	5.0 *U*	25 *U*[a]
n-Hexane	420	--	5.0 *U*	5.0 *U*	25 *U*

Table 3. (cont.)

Analyte	Groundwater Screening Levels		WP-16-1 5/2/2002		WP-16-2 5/2/2002
	NC 2L	IMAC	GW0014	GW0015 (field dup)	GW0016
Volatile Organic Compounds (µg/L) (cont.)					
n-Propyl acetate	--	--	5.0 *U*	5.0 *U*	25 *U*
ortho-Xylene	--	--	1.0 *U*	1.0 *U*	5.0 *U*
Styrene	100	--	1.0 *U*	1.0 *U*	5.0 *U*
1,1,1-Trichloroethane	200	--	1.0 *U*	1.0 *U*	5.0 *U*
1,1,1,2-Tetrachloroethane	--	--	1.0 *U*	1.0 *U*	5.0 *U*
1,1,2-Trichloroethane	--	--	1.0 *U*	1.0 *U*	5.0 *U*
1,1,2,2-Tetrachloroethane	--	0.175	1.0 *U*[a]	1.0 *U*[a]	5.0 *U*[a]
Tetrachloroethene	0.7	--	1.0 *U*[a]	1.0 *U*[a]	5.0 *U*[a]
Toluene	1,000	--	0.39 *J*	1.0 *U*	5.0 *U*
Trichloroethene	2.8	--	1.0 *U*	1.0 *U*	5.0 *U*[a]
Trichlorofluoromethane	2,100	--	1.0 *U*	1.0 *U*	5.0 *U*
1,2,3-Trichloropropane	--	0.0050	1.0 *U*[a]	1.0 *U*[a]	5.0 *U*[a]
Vinyl acetate	--	--	5.0 *U*	5.0 *U*	25 *U*
Vinyl chloride	0.015	--	1.0 *U*[a]	1.0 *U*[a]	5.0 *U*[a]
Xylene isomers (total)	530	--	3.0 *U*	3.0 *U*	15 *U*

Note: 2L – Groundwater Quality Standards
IMAC – Interim Maximum Allowable Concentration
U – undetected; value represents reporting limit
J – estimated
-- – not applicable or not available

[a] Analyte was not detected. Reporting limit exceeds one or more screening criteria.
[b] Potential measured with Ag/AgCl reference electrode and corrected to Eh.

Table 4. Soil analytical results for SWMU 17, former International Paper facility, Wilmington, North Carolina

		Soil Screening Levels			SWMU 17			
					SB-17-1 5/1/2002		SB-17-2 5/1/2002	
Analyte	Units	US EPA Region 9 Industrial Risk-Based PRG	US EPA Region 9 Residential Risk-Based PRG	NC HWS Soil Screening Levels	SO0001 0.75 - 1.75 ft	SO0002 6 - 7 ft	SO0003 0.75 - 1.75 ft	SO0004 8 - 9 ft
Volatile Organic Compounds								
Acetone	µg/kg	6,200,000	1,600,000	2,810	32 *U*	26 *U*	30 *U*	25
Benzene	µg/kg	1,500	650	5.62	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
Bromochloromethane	µg/kg	--	--	--	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
Bromodichloromethane	µg/kg	2,400	1,000	3.13	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
Bromoform	µg/kg	310,000	62,000	1.25	1.3 *U*[a]	1.0 *U*	1.2 *U*	1.1 *U*
Bromomethane	µg/kg	13,000	3,900	--	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
2-Butanone	µg/kg	28,000,000	7,300,000	692	13 *U*	10 *U*	12 *U*	11 *U*
Carbon disulfide	µg/kg	720,000	360,000	4,940	6.4 *U*	5.2 *U*	6.1 *U*	5.6 *U*
Carbon tetrachloride	µg/kg	530	240	2.74	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
Chlorobenzene	µg/kg	540,000	150,000	438	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
Chloroethane	µg/kg	6,500	3,000	13,600	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
Chloroform	µg/kg	520	240	1.01	0.42 *J*	0.49 *J*	0.44 *J*	0.48 *J*
Chloromethane	µg/kg	2,700	1,200	--	1.3 *UJ*	1.0 *UJ*	1.2 *UJ*	1.1 *U*
Dibromochloromethane	µg/kg	2,700	1,100	1.71	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
1,2-Dibromo-3-chloropropane	µg/kg	4,000	450	0.15	13 *U*[a]	10 *U*[a]	12 *U*[a]	11 *U*[a]
1,2-Dibromoethane	µg/kg	48	6.9	0.00197	1.3 *U*[a]	1.0 *U*[a]	1.2 *U*[a]	1.1 *U*[a]
Dibromomethane	µg/kg	240,000	67,000	--	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
1,2-Dichlorobenzene	µg/kg	370,000	370,000	7,270	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
1,3-Dichlorobenzene	µg/kg	52,000	13,000	23,700	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
1,4-Dichlorobenzene	µg/kg	8,100	3,400	1,240	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
Dichlorodifluoromethane	µg/kg	310,000	94,000	306,000	6.4 *U*	5.2 *U*	6.1 *U*	5.6 *U*
1,1-Dichloroethane	µg/kg	2,100,000	590,000	3,820	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
1,2-Dichloroethane	µg/kg	760	350	1.84	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
1,1-Dichloroethene	µg/kg	120	54	44.5	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
cis-1,2-Dichloroethene	µg/kg	150,000	43,000	350	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
trans-1,2-Dichloroethene	µg/kg	210,000	63,000	380	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
1,2-Dichloropropane	µg/kg	770	350	2.88	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
cis-1,3-Dichloropropene	µg/kg	--	--	--	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
trans-1,3-Dichloropropene	µg/kg	--	--	--	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
trans-1,4-Dichloro-2-butene	µg/kg	--	--	--	26 *U*	21 *U*	24 *U*	22 *U*

Table 4. (cont.)

Analyte	Units	Soil Screening Levels: US EPA Region 9 Industrial Risk-Based PRG	Soil Screening Levels: US EPA Region 9 Residential Risk-Based PRG	Soil Screening Levels: NC HWS Soil Screening Levels	SWMU 17: SB-17-1 5/1/2002 SO0001 0.75 - 1.75 ft	SWMU 17: SB-17-1 5/1/2002 SO0002 6 - 7 ft	SWMU 17: SB-17-2 5/1/2002 SO0003 0.75 - 1.75 ft	SWMU 17: SB-17-2 5/1/2002 SO0004 8 - 9 ft
Volatile Organic Compounds (cont.)								
Ethylbenzene	µg/kg	230,000	230,000	241	1.3 *U*	11	1.2 *U*	8.6
2-Hexanone	µg/kg	--	--	--	13 *U*	10 *U*	12 *U*	11 *U*
Iodomethane	µg/kg	--	--	--	6.4 *U*	5.2 *U*	6.1 *U*	5.6 *U*
Isopropyl acetate	µg/kg	--	--	--	--	--	--	--
meta & para Xylenes	µg/kg	--	--	--	2.6 *U*	24	2.4 *U*	19
4-Methyl-2-pentanone	µg/kg	2,900,000	790,000	2,280	13 *U*	10 *U*	12 *U*	11 *U*
Methyl-tert-butyl ether	µg/kg	--	--	916	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
Methylene chloride	µg/kg	21,000	8,900	22	10 *U*	10 *U*	10 *U*	11 *U*
n-Hexane	µg/kg	110,000	110,000	36,900	--	--	--	--
n-Propyl acetate	µg/kg	--	--	--	--	--	--	--
ortho-Xylene	µg/kg	--	--	--	1.3 *U*	3.6	1.2 *U*	2.4
Styrene	µg/kg	1,700,000	1,700,000	2,240	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
1,1,1-Trichloroethane	µg/kg	1,400,000	770,000	1,670	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
1,1,1,2-Tetrachloroethane	µg/kg	7,000	3,000	--	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
1,1,2-Trichloroethane	µg/kg	1,900	840	3.34	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
1,1,2,2-Tetrachloroethane	µg/kg	900	380	0.953	1.3 *U*[a]	1.0 *U*[a]	1.2 *U*[a]	1.1 *U*[a]
Tetrachloroethene	µg/kg	19,000	5,700	7.42	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
Toluene	µg/kg	520,000	520,000	7,270	1.3 *U*	22,000	3.7	8.4
Trichloroethene	µg/kg	6,100	2,800	18.3	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
Trichlorofluoromethane	µg/kg	2,000,000	390,000	31,500	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
1,2,3-Trichloropropane	µg/kg	3.1	1.4	--	1.3 *U*	1.0 *U*	1.2 *U*	1.1 *U*
Vinyl acetate	µg/kg	1,400,000	430,000	364	13 *U*	10 *U*	12 *U*	11 *U*
Vinyl chloride	µg/kg	830	150	0.0952	1.3 *U*[a]	1.0 *U*[a]	1.2 *U*[a]	1.1 *U*[a]
Xylene isomers (total)	µg/kg	210,000	210,000	4,960	3.8 *U*	28	3.7 *U*	22
Conventionals								
Percent moisture	%	--	--	--	6	16	4	18
Total organic carbon	mg/kg	--	--	--	--	8,100	--	3,100

(notes on following page)

Table 4. (cont.)

Note: Boxed values exceed one or more screening criteria.
PRG – Preliminary Remediation Goal
HWS – Hazardous Waste Section
U – undetected; value represents reporting limit
J – estimated
-- – not applicable or not available

[a] Analyte was not detected. Reporting limit exceeds one or more screening criteria.

Table 5. Soil analytical results for SWMU 21, former International Paper facility, Wilmington, North Carolina

		Soil Screening Levels			SWMU 21				
					SB-21-1 5/2/2002		SB-21-2 5/2/2002		
Analyte	Units	US EPA Region 9 Industrial Risk-Based PRG	US EPA Region 9 Residential Risk-Based PRG	NC HWS Soil Screening Levels	SO0028 3 - 4 ft	SO0029 4 - 5 ft	SO0025 1 - 2 ft	SO0026 (field dup) 1 - 2 ft	SO0027 2.5 - 3.5 ft
Volatile Organic Compounds									
Acetone	µg/kg	6,200,000	1,600,000	2,810	23	27 *U*	27 *U*	30 *U*	15
Benzene	µg/kg	1,500	650	5.62	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
Bromochloromethane	µg/kg	--	--	--	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
Bromodichloromethane	µg/kg	2,400	1,000	3.13	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
Bromoform	µg/kg	310,000	62,000	1.25	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
Bromomethane	µg/kg	13,000	3,900	--	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
2-Butanone	µg/kg	28,000,000	7,300,000	692	10 *U*	11 *U*	11 *U*	12 *U*	10 *U*
Carbon disulfide	µg/kg	720,000	360,000	4,940	5.2 *U*	5.3 *U*	5.4 *U*	6.0 *U*	5.3 *U*
Carbon tetrachloride	µg/kg	530	240	2.74	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
Chlorobenzene	µg/kg	540,000	150,000	438	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
Chloroethane	µg/kg	6,500	3,000	13,600	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
Chloroform	µg/kg	520	240	1.01	1.0 *U*	1.1 *U*[a]	1.1 *U*[a]	1.2 *U*[a]	1.0 *U*
Chloromethane	µg/kg	2,700	1,200	--	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *UJ*	1.0 *U*
Dibromochloromethane	µg/kg	2,700	1,100	1.71	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
1,2-Dibromo-3-chloropropane	µg/kg	4,000	450	0.15	10 *U*[a]	11 *U*[a]	11 *U*[a]	12 *U*[a]	10 *U*[a]
1,2-Dibromoethane	µg/kg	48	6.9	0.00197	1.0 *U*[a]	1.1 *U*[a]	1.1 *U*[a]	1.2 *U*[a]	1.0 *U*[a]
Dibromomethane	µg/kg	240,000	67,000	--	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
1,2-Dichlorobenzene	µg/kg	370,000	370,000	7,270	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
1,3-Dichlorobenzene	µg/kg	52,000	13,000	23,700	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
1,4-Dichlorobenzene	µg/kg	8,100	3,400	1,240	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
Dichlorodifluoromethane	µg/kg	310,000	94,000	306,000	5.2 *U*	5.3 *U*	5.4 *U*	6.0 *U*	5.3 *U*
1,1-Dichloroethane	µg/kg	2,100,000	590,000	3,820	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
1,2-Dichloroethane	µg/kg	760	350	1.84	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
1,1-Dichloroethene	µg/kg	120	54	44.5	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
cis-1,2-Dichloroethene	µg/kg	150,000	43,000	350	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
trans-1,2-Dichloroethene	µg/kg	210,000	63,000	380	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
1,2-Dichloropropane	µg/kg	770	350	2.88	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
cis-1,3-Dichloropropene	µg/kg	--	--	--	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
trans-1,3-Dichloropropene	µg/kg	--	--	--	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
trans-1,4-Dichloro-2-butene	µg/kg	--	--	--	21 *U*	21 *U*	22 *U*	24 *U*	21 *U*

Table 5. (cont.)

Analyte	Units	Soil Screening Levels: US EPA Region 9 Industrial Risk-Based PRG	Soil Screening Levels: US EPA Region 9 Residential Risk-Based PRG	Soil Screening Levels: NC HWS Soil Screening Levels	SWMU 21: SB-21-1 5/2/2002 SO0028 3 - 4 ft	SB-21-1 5/2/2002 SO0029 4 - 5 ft	SB-21-2 5/2/2002 SO0025 1 - 2 ft	SB-21-2 5/2/2002 SO0026 (field dup) 1 - 2 ft	SB-21-2 5/2/2002 SO0027 2.5 - 3.5 ft
Volatile Organic Compounds (cont.)									
Ethylbenzene	µg/kg	230,000	230,000	241	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
2-Hexanone	µg/kg	--	--	--	10 *U*	11 *U*	11 *U*	12 *U*	10 *U*
Iodomethane	µg/kg	--	--	--	5.2 *U*	5.3 *U*	5.4 *U*	6.0 *U*	5.3 *U*
Isopropyl acetate	µg/kg	--	--	--	--	--	5.4 *U*	--	--
meta & para Xylenes	µg/kg	--	--	--	2.1 *U*	2.1 *U*	2.2 *U*	2.4 *U*	2.1 *U*
4-Methyl-2-pentanone	µg/kg	2,900,000	790,000	2,280	10 *U*	11 *U*	11 *U*	12 *U*	10 *U*
Methyl-tert-butyl ether	µg/kg	--	--	916	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
Methylene chloride	µg/kg	21,000	8,900	22	10 *U*	10 *U*	18	10 *U*	10 *U*
n-Hexane	µg/kg	110,000	110,000	36,900	--	--	--	--	--
n-Propyl acetate	µg/kg	--	--	--	--	--	5.4 *U*	--	--
ortho-Xylene	µg/kg	--	--	--	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
Styrene	µg/kg	1,700,000	1,700,000	2,240	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
1,1,1-Trichloroethane	µg/kg	1,400,000	770,000	1,670	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
1,1,1,2-Tetrachloroethane	µg/kg	7,000	3,000	--	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
1,1,2-Trichloroethane	µg/kg	1,900	840	3.34	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
1,1,2,2-Tetrachloroethane	µg/kg	900	380	0.953	1.0 *U*[a]	1.1 *U*[a]	1.1 *U*[a]	1.2 *U*[a]	1.0 *U*[a]
Tetrachloroethene	µg/kg	19,000	5,700	7.42	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
Toluene	µg/kg	520,000	520,000	7,270	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
Trichloroethene	µg/kg	6,100	2,800	18.3	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
Trichlorofluoromethane	µg/kg	2,000,000	390,000	31,500	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
1,2,3-Trichloropropane	µg/kg	3.1	1.4	--	1.0 *U*	1.1 *U*	1.1 *U*	1.2 *U*	1.0 *U*
Vinyl acetate	µg/kg	1,400,000	430,000	364	10 *U*	11 *U*	11 *UJ*	12 *U*	10 *U*
Vinyl chloride	µg/kg	830	150	0.0952	1.0 *U*[a]	1.1 *U*[a]	1.1 *U*[a]	1.2 *U*[a]	1.0 *U*[a]
Xylene isomers (total)	µg/kg	210,000	210,000	4,960	3.1 *U*	3.2 *U*	3.3 *U*	3.6 *U*	3.2 *U*
Semi-volatile Organic Compounds									
Acenaphthene	µg/kg	38,000,000	3,700,000	8,160	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Acenaphthylene	µg/kg	--	--	11,400	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Acetophenone	µg/kg	1,600	490	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Anthracene	µg/kg	100,000,000	22,000,000	995,000	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*

Table 5. (cont.)

Analyte	Units	Soil Screening Levels: US EPA Region 9 Industrial Risk-Based PRG	Soil Screening Levels: US EPA Region 9 Residential Risk-Based PRG	Soil Screening Levels: NC HWS Soil Screening Levels	SWMU 21: SB-21-1 5/2/2002: SO0028 3 - 4 ft	SB-21-1 5/2/2002: SO0029 4 - 5 ft	SB-21-2 5/2/2002: SO0025 1 - 2 ft	SB-21-2 5/2/2002: SO0026 (field dup) 1 - 2 ft	SB-21-2 5/2/2002: SO0027 2.5 - 3.5 ft
Semi-volatile Organic Compounds (cont.)									
Benz[a]anthracene	µg/kg	2,900	620	358	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Benzo[a]pyrene	µg/kg	290	62	91.1	200 *UJ*[a]	200 *U*[a]	190 *UJ*[a]	200 *UJ*[a]	200 *UJ*[a]
Benzo[b]fluoranthene	µg/kg	2,900	620	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Benzo[ghi]perylene	µg/kg	--	--	6,720,000	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Benzo[k]fluoranthene	µg/kg	29,000	6,200	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Benzyl alcohol	µg/kg	100,000,000	18,000,000	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
bis[2-Chloroethoxy]methane	µg/kg	--	--	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
bis[2-Chloroethyl]ether	µg/kg	620	210	0.171	200 *UJ*[a]	200 *U*[a]	190 *UJ*[a]	200 *UJ*[a]	200 *UJ*[a]
bis[2-Chloroisopropyl]ether	µg/kg	--	--	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
bis[2-Ethylhexyl]phthalate	µg/kg	180,000	35,000	6,670	48 *J*	200 *U*	47 *U*	200 *UJ*	200 *UJ*
4-Bromophenyl-phenyl ether	µg/kg	--	--	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Butylbenzyl phthalate	µg/kg	100,000,000	12,000,000	27,800	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Carbazole	µg/kg	--	--	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Chrysene	µg/kg	290,000	62,000	39,800	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
4-Chloro-3-methylphenol	µg/kg	--	--	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
4-Chloroaniline	µg/kg	3,500,000	240,000	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
2-Chloronaphthalene	µg/kg	27,000,000	4,900,000	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
2-Chlorophenol	µg/kg	240,000	63,000	1.2	200 *UJ*[a]	200 *U*[a]	190 *UJ*[a]	200 *UJ*[a]	200 *UJ*[a]
4-Chlorophenyl-phenyl ether	µg/kg	--	--	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Di-n-butyl phthalate	µg/kg	88,000,000	6,100,000	24,800	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Di-n-octyl phthalate	µg/kg	10,000,000	1,200,000	100,000,000	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Dibenz[a,h]anthracene	µg/kg	290	62	168	200 *UJ*[a]	200 *U*[a]	190 *UJ*[a]	200 *UJ*[a]	200 *UJ*[a]
Dibenzofuran	µg/kg	5,100,000	290,000	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
1,2-Dichlorobenzene	µg/kg	370,000	370,000	7,270	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
1,3-Dichlorobenzene	µg/kg	52,000	13,000	23,700	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
1,4-Dichlorobenzene	µg/kg	8,100	3,400	1,240	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
3,3'-Dichlorobenzidine	µg/kg	5,500	1,100	--	800 *UJ*	820 *U*	780 *UJ*	790 *UJ*	820 *UJ*
2,4-Dichlorophenol	µg/kg	2,600,000	180,000	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Diethyl phthalate	µg/kg	100,000,000	49,000,000	28,200	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Dimethyl phthalate	µg/kg	100,000,000	100,000,000	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*

Table 5. (cont.)

Analyte	Units	Soil Screening Levels: US EPA Region 9 Industrial Risk-Based PRG	Soil Screening Levels: US EPA Region 9 Residential Risk-Based PRG	Soil Screening Levels: NC HWS Soil Screening Levels	SWMU 21: SB-21-1 5/2/2002 SO0028 3 - 4 ft	SWMU 21: SB-21-1 5/2/2002 SO0029 4 - 5 ft	SWMU 21: SB-21-2 5/2/2002 SO0025 1 - 2 ft	SWMU 21: SB-21-2 5/2/2002 SO0026 (field dup) 1 - 2 ft	SWMU 21: SB-21-2 5/2/2002 SO0027 2.5 - 3.5 ft
Semi-volatile Organic Compounds (cont.)									
2,4-Dimethylphenol	µg/kg	18,000,000	1,200,000	1,150	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
2,4-Dinitrophenol	µg/kg	1,800,000	120,000	--	800 *UJ*	820 *U*	780 *UJ*	790 *UJ*	820 *UJ*
2,4-Dinitrotoluene	µg/kg	1,800,000	120,000	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
2,6-Dinitrotoluene	µg/kg	880,000	61,000	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Fluoranthene	µg/kg	30,000,000	2,300,000	276,000	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Fluorene	µg/kg	33,000,000	2,600,000	44,300	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Hexachlorobenzene	µg/kg	1,500	300	32.1	200 *UJ*[a]	200 *U*[a]	190 *UJ*[a]	200 *UJ*[a]	200 *UJ*[a]
Hexachlorobutadiene	µg/kg	32,000	6,200	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Hexachlorocyclopentadiene	µg/kg	5,900,000	420,000	200,000	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Hexachloroethane	µg/kg	180,000	35,000	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Indeno[1,2,3-cd]pyrene	µg/kg	2,900	620	3,260	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Isophorone	µg/kg	2,600,000	510,000	182	200 *UJ*[a]	200 *U*[a]	190 *UJ*[a]	200 *UJ*[a]	200 *UJ*[a]
1-Methylnaphthalene	µg/kg	--	--	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
2-Methyl-4,6-dinitrophenol	µg/kg	--	--	--	800 *UJ*	820 *U*	780 *UJ*	790 *UJ*	820 *UJ*
2-Methylnaphthalene	µg/kg	--	--	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
2-Methylphenol	µg/kg	44,000,000	3,100,000	204	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
3- and 4-Methylphenol	µg/kg	--	--	--	400 *UJ*	410 *U*	390 *UJ*	400 *UJ*	410 *UJ*
N-Nitroso-di-n-propylamine	µg/kg	350	69	--	200 *UJ*[a]	200 *U*[a]	190 *UJ*[a]	200 *UJ*[a]	200 *UJ*[a]
N-Nitrosodiphenylamine	µg/kg	500,000	99,000	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Naphthalene	µg/kg	190,000	56,000	585	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
2-Nitroaniline	µg/kg	50,000	3,500	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
3-Nitroaniline	µg/kg	--	--	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
4-Nitroaniline	µg/kg	--	--	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Nitrobenzene	µg/kg	110,000	20,000	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
2-Nitrophenol	µg/kg	--	--	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
4-Nitrophenol	µg/kg	7,000,000	490,000	--	800 *UJ*	820 *U*	780 *UJ*	790 *UJ*	820 *UJ*
Pentachlorophenol	µg/kg	11,000	3,000	23.1	800 *UJ*[a]	820 *U*[a]	780 *UJ*[a]	790 *UJ*[a]	820 *UJ*[a]
Phenanthrene	µg/kg	--	--	59,600	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Phenol	µg/kg	100,000,000	37,000,000	1,750	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Pyrene	µg/kg	54,000,000	2,300,000	286,000	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*

Table 5. (cont.)

Analyte	Units	Soil Screening Levels: US EPA Region 9 Industrial Risk-Based PRG	Soil Screening Levels: US EPA Region 9 Residential Risk-Based PRG	Soil Screening Levels: NC HWS Soil Screening Levels	SWMU 21: SB-21-1 5/2/2002 SO0028 3 - 4 ft	SB-21-1 5/2/2002 SO0029 4 - 5 ft	SB-21-2 5/2/2002 SO0025 1 - 2 ft	SB-21-2 5/2/2002 SO0026 (field dup) 1 - 2 ft	SB-21-2 5/2/2002 SO0027 2.5 - 3.5 ft
Semi-volatile Organic Compounds (cont.)									
1,2,4-Trichlorobenzene	µg/kg	3,000,000	650,000	2,610	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
2,4,5-Trichlorophenol	µg/kg	88,000,000	6,100,000	3,940	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
2,4,6-Trichlorophenol	µg/kg	220,000	44,000	--	200 *UJ*	200 *U*	190 *UJ*	200 *UJ*	200 *UJ*
Metals									
Arsenic	mg/kg	2.7	0.39	26.2	4.60	7.04	2.87	0.769	2.12
Chromium	mg/kg	450	210	27.2	22.5 *J*	7.04 *J*	15.7 *J*	14.9 *J*	5.62 *J*
Copper	mg/kg	76,000	2,900	704	3.44 *J*	1.07 *J*	2.34 *J*	2.45 *J*	0.567 *J*
Lead	mg/kg	750	400	270	7.82	4.00	5.48	6.24	3.31
Selenium	mg/kg	10,000	390	12.2	1.45 *U*	1.45 *U*	1.34 *U*	1.35 *U*	1.45 *U*
Conventionals									
Percent moisture	%	--	--	--	18	20	16	17	19
Total organic carbon	mg/kg	--	--	--	--	3,610	--	--	3,200

Table 5. (cont.)

Analyte	Units	Soil Screening Levels: US EPA Region 9 Industrial Risk-Based PRG	Soil Screening Levels: US EPA Region 9 Residential Risk-Based PRG	Soil Screening Levels: NC HWS Soil Screening Levels	SWMU 21 SB-21-3 5/2/2002: SO0023 0.75 - 1.75 ft	SWMU 21 SB-21-3 5/2/2002: SO0024 1.75 - 2.75 ft
Volatile Organic Compounds						
Acetone	µg/kg	6,200,000	1,600,000	2,810	34 *U*	27 *U*
Benzene	µg/kg	1,500	650	5.62	1.4 *U*	1.1 *U*
Bromochloromethane	µg/kg	--	--	--	1.4 *U*	1.1 *U*
Bromodichloromethane	µg/kg	2,400	1,000	3.13	1.4 *U*	1.1 *U*
Bromoform	µg/kg	310,000	62,000	1.25	1.4 *U*[a]	1.1 *U*
Bromomethane	µg/kg	13,000	3,900	--	1.4 *U*	1.1 *U*
2-Butanone	µg/kg	28,000,000	7,300,000	692	14 *U*	11 *U*
Carbon disulfide	µg/kg	720,000	360,000	4,940	6.8 *U*	5.5 *U*
Carbon tetrachloride	µg/kg	530	240	2.74	1.4 *U*	1.1 *U*
Chlorobenzene	µg/kg	540,000	150,000	438	1.4 *U*	1.1 *U*
Chloroethane	µg/kg	6,500	3,000	13,600	1.4 *U*	1.1 *U*
Chloroform	µg/kg	520	240	1.01	0.46 *J*	1.1 *U*[a]
Chloromethane	µg/kg	2,700	1,200	--	1.4 *U*	1.1 *U*
Dibromochloromethane	µg/kg	2,700	1,100	1.71	1.4 *U*	1.1 *U*
1,2-Dibromo-3-chloropropane	µg/kg	4,000	450	0.15	14 *U*[a]	11 *U*[a]
1,2-Dibromoethane	µg/kg	48	6.9	0.00197	1.4 *U*[a]	1.1 *U*[a]
Dibromomethane	µg/kg	240,000	67,000	--	1.4 *U*	1.1 *U*
1,2-Dichlorobenzene	µg/kg	370,000	370,000	7,270	1.4 *U*	1.1 *U*
1,3-Dichlorobenzene	µg/kg	52,000	13,000	23,700	1.4 *U*	1.1 *U*
1,4-Dichlorobenzene	µg/kg	8,100	3,400	1,240	1.4 *U*	1.1 *U*
Dichlorodifluoromethane	µg/kg	310,000	94,000	306,000	6.8 *U*	5.5 *U*
1,1-Dichloroethane	µg/kg	2,100,000	590,000	3,820	1.4 *U*	1.1 *U*
1,2-Dichloroethane	µg/kg	760	350	1.84	1.4 *U*	1.1 *U*
1,1-Dichloroethene	µg/kg	120	54	44.5	1.4 *U*	1.1 *U*
cis-1,2-Dichloroethene	µg/kg	150,000	43,000	350	1.4 *U*	1.1 *U*
trans-1,2-Dichloroethene	µg/kg	210,000	63,000	380	1.4 *U*	1.1 *U*
1,2-Dichloropropane	µg/kg	770	350	2.88	1.4 *U*	1.1 *U*
cis-1,3-Dichloropropene	µg/kg	--	--	--	1.4 *U*	1.1 *U*
trans-1,3-Dichloropropene	µg/kg	--	--	--	1.4 *U*	1.1 *U*
trans-1,4-Dichloro-2-butene	µg/kg	--	--	--	27 *U*	22 *U*

Table 5. (cont.)

Analyte	Units	Soil Screening Levels: US EPA Region 9 Industrial Risk-Based PRG	Soil Screening Levels: US EPA Region 9 Residential Risk-Based PRG	Soil Screening Levels: NC HWS Soil Screening Levels	SWMU 21 SB-21-3 5/2/2002: SO0023 0.75 - 1.75 ft	SWMU 21 SB-21-3 5/2/2002: SO0024 1.75 - 2.75 ft
Volatile Organic Compounds (cont.)						
Ethylbenzene	µg/kg	230,000	230,000	241	1.4 *U*	1.1 *U*
2-Hexanone	µg/kg	--	--	--	14 *U*	11 *U*
Iodomethane	µg/kg	--	--	--	6.8 *U*	5.5 *U*
Isopropyl acetate	µg/kg	--	--	--	6.8 *U*	5.5 *U*
meta & para Xylenes	µg/kg	--	--	--	2.7 *U*	2.2 *U*
4-Methyl-2-pentanone	µg/kg	2,900,000	790,000	2,280	14 *U*	11 *U*
Methyl-tert-butyl ether	µg/kg	--	--	916	1.4 *U*	1.1 *U*
Methylene chloride	µg/kg	21,000	8,900	22	26	11 *U*
n-Hexane	µg/kg	110,000	110,000	36,900	--	--
n-Propyl acetate	µg/kg	--	--	--	6.8 *U*	5.5 *U*
ortho-Xylene	µg/kg	--	--	--	1.4 *U*	1.1 *U*
Styrene	µg/kg	1,700,000	1,700,000	2,240	1.4 *U*	1.1 *U*
1,1,1-Trichloroethane	µg/kg	1,400,000	770,000	1,670	1.4 *U*	1.1 *U*
1,1,1,2-Tetrachloroethane	µg/kg	7,000	3,000	--	1.4 *U*	1.1 *U*
1,1,2-Trichloroethane	µg/kg	1,900	840	3.34	1.4 *U*	1.1 *U*
1,1,2,2-Tetrachloroethane	µg/kg	900	380	0.953	1.4 *U*[a]	1.1 *U*[a]
Tetrachloroethene	µg/kg	19,000	5,700	7.42	1.4 *U*	1.1 *U*
Toluene	µg/kg	520,000	520,000	7,270	1.4 *U*	1.1 *U*
Trichloroethene	µg/kg	6,100	2,800	18.3	1.4 *U*	1.1 *U*
Trichlorofluoromethane	µg/kg	2,000,000	390,000	31,500	1.4 *U*	1.1 *U*
1,2,3-Trichloropropane	µg/kg	3.1	1.4	--	1.4 *U*	1.1 *U*
Vinyl acetate	µg/kg	1,400,000	430,000	364	14 *UJ*	11 *UJ*
Vinyl chloride	µg/kg	830	150	0.0952	1.4 *U*[a]	1.1 *U*[a]
Xylene isomers (total)	µg/kg	210,000	210,000	4,960	4.1 *U*	3.3 *U*
Semi-volatile Organic Compounds						
Acenaphthene	µg/kg	38,000,000	3,700,000	8,160	200 *UJ*	200 *U*
Acenaphthylene	µg/kg	--	--	11,400	200 *UJ*	200 *U*
Acetophenone	µg/kg	1,600	490	--	200 *UJ*	200 *U*
Anthracene	µg/kg	100,000,000	22,000,000	995,000	200 *UJ*	200 *U*

Table 5. (cont.)

Analyte	Units	Soil Screening Levels: US EPA Region 9 Industrial Risk-Based PRG	Soil Screening Levels: US EPA Region 9 Residential Risk-Based PRG	Soil Screening Levels: NC HWS Soil Screening Levels	SWMU 21 SB-21-3 5/2/2002: SO0023 0.75 - 1.75 ft	SWMU 21 SB-21-3 5/2/2002: SO0024 1.75 - 2.75 ft
Semi-volatile Organic Compounds (cont.)						
Benz[a]anthracene	µg/kg	2,900	620	358	200 *UJ*	200 *U*
Benzo[a]pyrene	µg/kg	290	62	91.1	200 *UJ*[a]	200 *U*[a]
Benzo[b]fluoranthene	µg/kg	2,900	620	--	200 *UJ*	200 *U*
Benzo[ghi]perylene	µg/kg	--	--	6,720,000	200 *UJ*	200 *U*
Benzo[k]fluoranthene	µg/kg	29,000	6,200	--	200 *UJ*	200 *U*
Benzyl alcohol	µg/kg	100,000,000	18,000,000	--	200 *UJ*	200 *U*
bis[2-Chloroethoxy]methane	µg/kg	--	--	--	200 *UJ*	200 *U*
bis[2-Chloroethyl]ether	µg/kg	620	210	0.171	200 *UJ*[a]	200 *U*[a]
bis[2-Chloroisopropyl]ether	µg/kg	--	--	--	200 *UJ*	200 *U*
bis[2-Ethylhexyl]phthalate	µg/kg	180,000	35,000	6,670	200 *UJ*	200 *U*
4-Bromophenyl-phenyl ether	µg/kg	--	--	--	200 *UJ*	200 *U*
Butylbenzyl phthalate	µg/kg	100,000,000	12,000,000	27,800	200 *UJ*	200 *U*
Carbazole	µg/kg	--	--	--	200 *UJ*	200 *U*
Chrysene	µg/kg	290,000	62,000	39,800	200 *UJ*	200 *U*
4-Chloro-3-methylphenol	µg/kg	--	--	--	200 *UJ*	200 *U*
4-Chloroaniline	µg/kg	3,500,000	240,000	--	200 *UJ*	200 *U*
2-Chloronaphthalene	µg/kg	27,000,000	4,900,000	--	200 *UJ*	200 *U*
2-Chlorophenol	µg/kg	240,000	63,000	1.2	200 *UJ*[a]	200 *U*[a]
4-Chlorophenyl-phenyl ether	µg/kg	--	--	--	200 *UJ*	200 *U*
Di-n-butyl phthalate	µg/kg	88,000,000	6,100,000	24,800	200 *UJ*	200 *U*
Di-n-octyl phthalate	µg/kg	10,000,000	1,200,000	100,000,000	200 *UJ*	200 *U*
Dibenz[a,h]anthracene	µg/kg	290	62	168	200 *UJ*[a]	200 *U*[a]
Dibenzofuran	µg/kg	5,100,000	290,000	--	200 *UJ*	200 *U*
1,2-Dichlorobenzene	µg/kg	370,000	370,000	7,270	200 *UJ*	200 *U*
1,3-Dichlorobenzene	µg/kg	52,000	13,000	23,700	200 *UJ*	200 *U*
1,4-Dichlorobenzene	µg/kg	8,100	3,400	1,240	200 *UJ*	200 *U*
3,3'-Dichlorobenzidine	µg/kg	5,500	1,100	--	810 *UJ*	810 *U*
2,4-Dichlorophenol	µg/kg	2,600,000	180,000	--	200 *UJ*	200 *U*
Diethyl phthalate	µg/kg	100,000,000	49,000,000	28,200	200 *UJ*	200 *U*
Dimethyl phthalate	µg/kg	100,000,000	100,000,000	--	200 *UJ*	200 *U*

Table 5. (cont.)

Analyte	Units	Soil Screening Levels: US EPA Region 9 Industrial Risk-Based PRG	Soil Screening Levels: US EPA Region 9 Residential Risk-Based PRG	Soil Screening Levels: NC HWS Soil Screening Levels	SWMU 21 SB-21-3 5/2/2002: SO0023 0.75 - 1.75 ft	SWMU 21 SB-21-3 5/2/2002: SO0024 1.75 - 2.75 ft
Semi-volatile Organic Compounds (cont.)						
2,4-Dimethylphenol	µg/kg	18,000,000	1,200,000	1,150	200 *UJ*	200 *U*
2,4-Dinitrophenol	µg/kg	1,800,000	120,000	--	810 *UJ*	810 *U*
2,4-Dinitrotoluene	µg/kg	1,800,000	120,000	--	200 *UJ*	200 *U*
2,6-Dinitrotoluene	µg/kg	880,000	61,000	--	200 *UJ*	200 *U*
Fluoranthene	µg/kg	30,000,000	2,300,000	276,000	200 *UJ*	200 *U*
Fluorene	µg/kg	33,000,000	2,600,000	44,300	200 *UJ*	200 *U*
Hexachlorobenzene	µg/kg	1,500	300	32.1	200 *UJ*[a]	200 *U*[a]
Hexachlorobutadiene	µg/kg	32,000	6,200	--	200 *UJ*	200 *U*
Hexachlorocyclopentadiene	µg/kg	5,900,000	420,000	200,000	200 *UJ*	200 *U*
Hexachloroethane	µg/kg	180,000	35,000	--	200 *UJ*	200 *U*
Indeno[1,2,3-cd]pyrene	µg/kg	2,900	620	3,260	200 *UJ*	200 *U*
Isophorone	µg/kg	2,600,000	510,000	182	200 *UJ*[a]	200 *U*[a]
1-Methylnaphthalene	µg/kg	--	--	--	200 *UJ*	200 *U*
2-Methyl-4,6-dinitrophenol	µg/kg	--	--	--	810 *UJ*	810 *U*
2-Methylnaphthalene	µg/kg	--	--	--	200 *UJ*	200 *U*
2-Methylphenol	µg/kg	44,000,000	3,100,000	204	200 *UJ*	200 *U*
3- and 4-Methylphenol	µg/kg	--	--	--	400 *UJ*	410 *U*
N-Nitroso-di-n-propylamine	µg/kg	350	69	--	200 *UJ*[a]	200 *U*[a]
N-Nitrosodiphenylamine	µg/kg	500,000	99,000	--	200 *UJ*	200 *U*
Naphthalene	µg/kg	190,000	56,000	585	200 *UJ*	200 *U*
2-Nitroaniline	µg/kg	50,000	3,500	--	200 *UJ*	200 *U*
3-Nitroaniline	µg/kg	--	--	--	200 *UJ*	200 *U*
4-Nitroaniline	µg/kg	--	--	--	200 *UJ*	200 *U*
Nitrobenzene	µg/kg	110,000	20,000	--	200 *UJ*	200 *U*
2-Nitrophenol	µg/kg	--	--	--	200 *UJ*	200 *U*
4-Nitrophenol	µg/kg	7,000,000	490,000	--	810 *UJ*	810 *U*
Pentachlorophenol	µg/kg	11,000	3,000	23.1	810 *UJ*[a]	810 *U*[a]
Phenanthrene	µg/kg	--	--	59,600	200 *UJ*	200 *U*
Phenol	µg/kg	100,000,000	37,000,000	1,750	200 *UJ*	200 *U*
Pyrene	µg/kg	54,000,000	2,300,000	286,000	200 *UJ*	200 *U*

Table 5. (cont.)

Analyte	Units	Soil Screening Levels: US EPA Region 9 Industrial Risk-Based PRG	Soil Screening Levels: US EPA Region 9 Residential Risk-Based PRG	Soil Screening Levels: NC HWS Soil Screening Levels	SWMU 21 SB-21-3 5/2/2002: SO0023 0.75 - 1.75 ft	SWMU 21 SB-21-3 5/2/2002: SO0024 1.75 - 2.75 ft
Semi-volatile Organic Compounds (cont.)						
1,2,4-Trichlorobenzene	µg/kg	3,000,000	650,000	2,610	200 *UJ*	200 *U*
2,4,5-Trichlorophenol	µg/kg	88,000,000	6,100,000	3,940	200 *UJ*	200 *U*
2,4,6-Trichlorophenol	µg/kg	220,000	44,000	--	200 *UJ*	200 *U*
Metals						
Arsenic	mg/kg	2.7	0.39	26.2	5.68	1.81
Chromium	mg/kg	450	210	27.2	20.5 *J*	2.94 *J*
Copper	mg/kg	76,000	2,900	704	3.29 *J*	0.203 *J*
Lead	mg/kg	750	400	270	6.32	1.93
Selenium	mg/kg	10,000	390	12.2	1.44 *U*	1.47 *U*
Conventionals						
Percent moisture	%	--	--	--	18	19
Total organic carbon	mg/kg	--	--	--	--	940

Note: Boxed values exceed one or more screening criteria.
PRG – Preliminary Remediation Goal
HWS – Hazardous Waste Section
U – undetected; value represents detection limit for metals and reporting limit for all other analytes
J – estimated
-- – not applicable or not available

[a] Analyte was not detected. Reporting limit exceeds one or more screening criteria.

Table 6. Field quality control results, former International Paper facility, Wilmington, North Carolina

Analyte	Equipment Blank 5/3/2002 GW0017	Pre-Cleaned Equipment Blank 5/3/2002 GW0018	Trip Blank 5/1/2002 GW0011	Trip Blank 5/2/2002 GW0013	Trip Blank 5/3/2002 GW0019
Volatile Organic Compounds (µg/L)					
Acetone	50 *U*	--	50 *U*	50 *U*	50 *U*
Benzene	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
Bromochloromethane	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
Bromodichloromethane	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
Bromoform	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
Bromomethane	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
2-Butanone	25 *U*	--	25 *U*	25 *U*	25 *U*
Carbon disulfide	10 *U*	--	10 *U*	10 *U*	10 *U*
Carbon tetrachloride	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
Chlorobenzene	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
Chloroethane	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
Chloroform	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
Chloromethane	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
Dibromochloromethane	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
1,2-Dibromo-3-chloropropane	2.0 *U*	--	2.0 *U*	2.0 *U*	2.0 *U*
1,2-Dibromoethane	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
Dibromomethane	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
1,2-Dichlorobenzene	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
1,3-Dichlorobenzene	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
1,4-Dichlorobenzene	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
Dichlorodifluoromethane	5.0 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*
1,1-Dichloroethane	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
1,2-Dichloroethane	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
1,1-Dichloroethene	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
cis-1,2-Dichloroethene	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
trans-1,2-Dichloroethene	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
1,2-Dichloropropane	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
cis-1,3-Dichloropropene	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
trans-1,3-Dichloropropene	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
trans-1,4-Dichloro-2-butene	10 *U*	--	10 *U*	10 *U*	10 *U*
Ethylbenzene	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
2-Hexanone	25 *U*	--	25 *U*	25 *U*	25 *U*
Iodomethane	5.0 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*
Isopropyl acetate	5.0 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*
meta & para Xylenes	2.0 *U*	--	2.0 *U*	2.0 *U*	2.0 *U*
4-Methyl-2-pentanone	25 *U*	--	25 *U*	25 *U*	25 *U*
Methyl-tert-butyl ether	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
Methylene chloride	5.0 *U*	--	5.0 *U*	0.83 *J*	5.0 *U*
n-Hexane	5.0 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*
n-Propyl acetate	5.0 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*
ortho-Xylene	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
Styrene	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
1,1,1-Trichloroethane	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
1,1,1,2-Tetrachloroethane	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
1,1,2-Trichloroethane	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
1,1,2,2-Tetrachloroethane	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*

Table 6. (cont.)

Analyte	Equipment Blank 5/3/2002 GW0017	Pre-Cleaned Equipment Blank 5/3/2002 GW0018	Trip Blank 5/1/2002 GW0011	Trip Blank 5/2/2002 GW0013	Trip Blank 5/3/2002 GW0019
Volatile Organic Compounds (µg/L) (cont.)					
Tetrachloroethene	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
Toluene	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
Trichloroethene	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
Trichlorofluoromethane	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
1,2,3-Trichloropropane	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
Vinyl acetate	5.0 *U*	--	5.0 *U*	5.0 *U*	5.0 *U*
Vinyl chloride	1.0 *U*	--	1.0 *U*	1.0 *U*	1.0 *U*
Xylene isomers (total)	3.0 *U*	--	3.0 *U*	3.0 *U*	3.0 *U*
Semi-volatile Organic Compounds (µg/L)					
Acenaphthene	--	5.4 *U*	--	--	--
Acenaphthylene	--	5.4 *U*	--	--	--
Acetophenone	--	11 *U*	--	--	--
Anthracene	--	5.4 *U*	--	--	--
Benz[a]anthracene	--	5.4 *U*	--	--	--
Benzo[a]pyrene	--	5.4 *U*	--	--	--
Benzo[b]fluoranthene	--	5.4 *U*	--	--	--
Benzo[ghi]perylene	--	5.4 *U*	--	--	--
Benzo[k]fluoranthene	--	5.4 *U*	--	--	--
Benzyl alcohol	--	5.4 *U*	--	--	--
bis[2-Chloroethoxy]methane	--	5.4 *U*	--	--	--
bis[2-Chloroethyl]ether	--	5.4 *U*	--	--	--
bis[2-Chloroisopropyl]ether	--	5.4 *U*	--	--	--
bis[2-Ethylhexyl]phthalate	--	5.4 *U*	--	--	--
4-Bromophenyl-phenyl ether	--	5.4 *U*	--	--	--
Butylbenzyl phthalate	--	5.4 *U*	--	--	--
Carbazole	--	5.4 *U*	--	--	--
Chrysene	--	5.4 *U*	--	--	--
4-Chloro-3-methylphenol	--	5.4 *U*	--	--	--
4-Chloroaniline	--	5.4 *U*	--	--	--
2-Chloronaphthalene	--	5.4 *U*	--	--	--
2-Chlorophenol	--	5.4 *U*	--	--	--
4-Chlorophenyl-phenyl ether	--	5.4 *U*	--	--	--
Di-n-butyl phthalate	--	5.4 *U*	--	--	--
Di-n-octyl phthalate	--	5.4 *U*	--	--	--
Dibenz[a,h]anthracene	--	5.4 *U*	--	--	--
Dibenzofuran	--	5.4 *U*	--	--	--
1,2-Dichlorobenzene	--	5.4 *U*	--	--	--
1,3-Dichlorobenzene	--	5.4 *U*	--	--	--
1,4-Dichlorobenzene	--	5.4 *U*	--	--	--
3,3'-Dichlorobenzidine	--	22 *U*	--	--	--
2,4-Dichlorophenol	--	5.4 *U*	--	--	--
Diethyl phthalate	--	5.4 *U*	--	--	--
Dimethyl phthalate	--	5.4 *U*	--	--	--
2,4-Dimethylphenol	--	5.4 *U*	--	--	--
2,4-Dinitrophenol	--	22 *U*	--	--	--
2,4-Dinitrotoluene	--	5.4 *U*	--	--	--
2,6-Dinitrotoluene	--	5.4 *U*	--	--	--

Table 6. (cont.)

Analyte	Equipment Blank 5/3/2002 GW0017	Pre-Cleaned Equipment Blank 5/3/2002 GW0018	Trip Blank 5/1/2002 GW0011	Trip Blank 5/2/2002 GW0013	Trip Blank 5/3/2002 GW0019
Semi-volatile Organic Compounds (µg/L) (cont.)					
Fluoranthene	--	5.4 *U*	--	--	--
Fluorene	--	5.4 *U*	--	--	--
Hexachlorobenzene	--	5.4 *U*	--	--	--
Hexachlorobutadiene	--	5.4 *U*	--	--	--
Hexachlorocyclopentadiene	--	5.4 *U*	--	--	--
Hexachloroethane	--	5.4 *U*	--	--	--
Indeno[1,2,3-cd]pyrene	--	5.4 *U*	--	--	--
Isophorone	--	5.4 *U*	--	--	--
1-Methylnaphthalene	--	11 *U*	--	--	--
2-Methyl-4,6-dinitrophenol	--	22 *U*	--	--	--
2-Methylnaphthalene	--	5.4 *U*	--	--	--
2-Methylphenol	--	5.4 *U*	--	--	--
3- and 4-Methylphenol	--	11 *U*	--	--	--
N-Nitroso-di-n-propylamine	--	5.4 *U*	--	--	--
N-Nitrosodiphenylamine	--	5.4 *U*	--	--	--
Naphthalene	--	5.4 *U*	--	--	--
2-Nitroaniline	--	5.4 *U*	--	--	--
3-Nitroaniline	--	5.4 *U*	--	--	--
4-Nitroaniline	--	5.4 *U*	--	--	--
Nitrobenzene	--	5.4 *U*	--	--	--
2-Nitrophenol	--	5.4 *U*	--	--	--
4-Nitrophenol	--	22 *U*	--	--	--
Pentachlorophenol	--	22 *U*	--	--	--
Phenanthrene	--	5.4 *U*	--	--	--
Phenol	--	5.4 *U*	--	--	--
Pyrene	--	5.4 *U*	--	--	--
1,2,4-Trichlorobenzene	--	5.4 *U*	--	--	--
2,4,5-Trichlorophenol	--	5.4 *U*	--	--	--
2,4,6-Trichlorophenol	--	5.4 *U*	--	--	--
Metals (µg/L)					
Arsenic	--	0.307	--	--	--
Chromium	--	2.0 *U*	--	--	--
Copper	--	4.46	--	--	--
Lead	--	0.0960	--	--	--
Selenium	--	1.20 *U*	--	--	--

Note: *U* – undetected; value represents detection limit for metals and reporting limit for all other analytes
J – estimated
– – not applicable or not available

Appendix A

Historical Soil and Groundwater Data

Table A-1. Background soil analytical results, former International Paper facility, Wilmington, North Carolina

Chemical	Units	Screening Levels: US EPA Region 9 Industrial Risk-Based PRG	Screening Levels: US EPA Region 9 Residential Risk-Based PRG	Screening Levels: NC HWS Soil Screening Levels	BG-1 2/15/1999	BG-2 2/15/1999	BG-3 2/15/1999	BG-4 2/15/1999	BG-5 2/15/1999	Average of Background Samples
Arsenic	mg/kg	2.7	0.39	26.2	0.783	1.21	0.309	0.362	0.252	0.583
Chromium	mg/kg	450	210	27.2	7.32	5.55	3.40 *U*	2.50 *U*	3.39 *U*	3.50
Copper	mg/kg	76,000	2,900	704	11.6	2.89	2.46 *U*	1.55 *U*	1.78 *U*	3.48
Lead	mg/kg	750	400	270	12.6	12.1	9.16	10.4	17.0	12.3
Selenium	mg/kg	10,000	390	12.2	0.196 *U*	0.133 *U*	0.279	0.186 *U*	0.341	0.176
Percent moisture	%	--	--	--	25.4	10.9	16.8	17.2	10.8	16.2

Notes: Boxed values exceed one or more screening criteria.
Average background concentrations were calculated using one-half the detection limit for undetected results.
PRG - Preliminary Remediation Goal
HWS - Hazardous Waste Section
U - undetected; value represents detection limit
-- - not applicable

Table A-2. SWMU 16 soil analytical results, former International Paper facility, Wilmington, North Carolina

Chemical	Screening Levels: USA EPA Region 9 Industrial Risk-Based PRG	Screening Levels: USA EPA Region 9 Residential Risk-Based PRG	Screening Levels: NC HWS Soil Screening Levels	B-01 11/11/1989 3.5 - 5 ft	B-01 11/11/1989 6 - 7.5 ft	B-01 11/11/1989 8.5 - 10 ft	B-01A 12/6/1989 3.5 ft
Volatile Organic Compounds (µg/kg)							
Acetone	6,200,000	1,600,000	2,810	--	--	--	--
Acrolein	340	100	--	--	--	--	--
Acrylonitrile	510	210	--	--	--	--	--
Benzene	1,500	650	5.6	--	--	--	--
Bromodichloromethane	2,400	1,000	3.1	--	--	--	--
Bromoform	310,000	62,000	1.3	--	--	--	--
Bromomethane	13,000	3,900	--	--	--	--	--
2-Butanone (MEK)	28,000,000	7,300,000	692	500 *U*	500 *U*	500 *U*	100 *U*
Carbon disulfide	720,000	360,000	4,940	--	--	--	--
Carbon tetrachloride	530	240	2.7	--	--	--	--
Chlorobenzene	540,000	150,000	438	--	--	--	--
Chloroethane	6,500	3,000	13,600	--	--	--	--
2-Chloroethylvinyl ether	--	--	--	--	--	--	--
Chloroform	520	240	1	--	--	--	--
Chloromethane	2,700	1,200	--	--	--	--	--
Dibromochloromethane	2,700	1,100	1.7	--	--	--	--
Dibromomethane	240,000	67,000	--	--	--	--	--
1,4-Dichloro-2-butene	18	7.9	--	--	--	--	--
Dichlorodifluoromethane	310,000	94,000	306,000	--	--	--	--
1,1-Dichloroethane	2,100,000	590,000	3,820	--	--	--	--
1,2-Dichloroethane	760	350	1.8	--	--	--	--
1,1-Dichloroethene	120	54	44.5	--	--	--	--
trans-1,2-Dichloroethene	210,000	63,000	380	--	--	--	--
1,2-Dichloropropane	770	350	2.9	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--
Ethyl acetate	37,000,000	19,000,000	--	500 *U*	500 *U*	500 *U*	100 *U*
Ethyl methacrylate	140,000	140,000	--	--	--	--	--
Ethylbenzene	230,000	230,000	241	--	--	--	--
Hexane	--	--	--	100 *U*	100 *U*	100 *U*	100 *U*
2-Hexanone	--	--	--	--	--	--	--
Iodomethane	--	--	--	--	--	--	--
Methylene chloride	21,000	8,900	22	--	--	--	--
4-Methyl-2-pentanone	2,900,000	790,000	2,280	--	--	--	--
n-Propyl acetate	--	--	--	200 *U*	200 *U*	200 *U*	100 *U*
Styrene	1,700,000	1,700,000	2,240	--	--	--	--
1,1,2,2-Tetrachloroethane	900	380	1	--	--	--	--
Tetrachloroethene	19,000	5,700	7.4	--	--	--	--
Toluene	520,000	520,000	7,270	100 *U*	100 *U*	100 *U*	100 *U*
1,1,1-Trichloroethane	1,400,000	770,000	1,670	--	--	--	--
1,1,2-Trichloroethane	1,900	840	3.3	--	--	--	--
Trichloroethene	6,100	2,800	18.3	--	--	--	--
Trichlorofluoromethane	2,000,000	390,000	31,500	--	--	--	--
1,2,3-Trichloropropane	3.1	1.4	--	--	--	--	--
Vinyl acetate	1,400,000	430,000	364	--	--	--	--
Vinyl chloride	830	150	0.1	--	--	--	--
Xylene isomers (total)	210,000	210,000	4,960	--	--	--	--

Table A-2. (cont.)

Chemical	Screening Levels: USA EPA Region 9 Industrial Risk-Based PRG	Screening Levels: USA EPA Region 9 Residential Risk-Based PRG	Screening Levels: NC HWS Soil Screening Levels	B-01A 12/6/1989 7 ft	B-01B 12/6/1989 3.5 ft	B-01B 12/6/1989 6.5 ft	B-02 11/11/1989 3.5 - 5 ft
Volatile Organic Compounds (µg/kg)							
Acetone	6,200,000	1,600,000	2,810	--	--	--	--
Acrolein	340	100	--	--	--	--	--
Acrylonitrile	510	210	--	--	--	--	--
Benzene	1,500	650	5.6	--	--	--	--
Bromodichloromethane	2,400	1,000	3.1	--	--	--	--
Bromoform	310,000	62,000	1.3	--	--	--	--
Bromomethane	13,000	3,900	--	--	--	--	--
2-Butanone (MEK)	28,000,000	7,300,000	692	100 *U*	500	100 *U*	5,000 *U* [a]
Carbon disulfide	720,000	360,000	4,940	--	--	--	--
Carbon tetrachloride	530	240	2.7	--	--	--	--
Chlorobenzene	540,000	150,000	438	--	--	--	--
Chloroethane	6,500	3,000	13,600	--	--	--	--
2-Chloroethylvinyl ether	--	--	--	--	--	--	--
Chloroform	520	240	1	--	--	--	--
Chloromethane	2,700	1,200	--	--	--	--	--
Dibromochloromethane	2,700	1,100	1.7	--	--	--	--
Dibromomethane	240,000	67,000	--	--	--	--	--
1,4-Dichloro-2-butene	18	7.9	--	--	--	--	--
Dichlorodifluoromethane	310,000	94,000	306,000	--	--	--	--
1,1-Dichloroethane	2,100,000	590,000	3,820	--	--	--	--
1,2-Dichloroethane	760	350	1.8	--	--	--	--
1,1-Dichloroethene	120	54	44.5	--	--	--	--
trans-1,2-Dichloroethene	210,000	63,000	380	--	--	--	--
1,2-Dichloropropane	770	350	2.9	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--
Ethyl acetate	37,000,000	19,000,000	--	100 *U*	100 *U*	100 *U*	5,000 *U*
Ethyl methacrylate	140,000	140,000	--	--	--	--	--
Ethylbenzene	230,000	230,000	241	--	--	--	--
Hexane	--	--	--	100 *U*	300	100 *U*	--
2-Hexanone	--	--	--	--	--	--	--
Iodomethane	--	--	--	--	--	--	--
Methylene chloride	21,000	8,900	22	--	--	--	--
4-Methyl-2-pentanone	2,900,000	790,000	2,280	--	--	--	--
n-Propyl acetate	--	--	--	100 *U*	100 *U*	100 *U*	325,000
Styrene	1,700,000	1,700,000	2,240	--	--	--	--
1,1,2,2-Tetrachloroethane	900	380	1	--	--	--	--
Tetrachloroethene	19,000	5,700	7.4	--	--	--	--
Toluene	520,000	520,000	7,270	100 *U*	6,000	100 *U*	13,900
1,1,1-Trichloroethane	1,400,000	770,000	1,670	--	--	--	--
1,1,2-Trichloroethane	1,900	840	3.3	--	--	--	--
Trichloroethene	6,100	2,800	18.3	--	--	--	--
Trichlorofluoromethane	2,000,000	390,000	31,500	--	--	--	--
1,2,3-Trichloropropane	3.1	1.4	--	--	--	--	--
Vinyl acetate	1,400,000	430,000	364	--	--	--	--
Vinyl chloride	830	150	0.1	--	--	--	--
Xylene isomers (total)	210,000	210,000	4,960	--	--	--	--

Table A-2. (cont.)

Chemical	Screening Levels: USA EPA Region 9 Industrial Risk-Based PRG	Screening Levels: USA EPA Region 9 Residential Risk-Based PRG	Screening Levels: NC HWS Soil Screening Levels	B-02 ### 6 - 7.5 ft	B-02 11/11/1989 8.5 - 10 ft	B-02A 12/6/1989 3.5 ft	B-02A 12/6/1989 6.5 ft
Volatile Organic Compounds (µg/kg)							
Acetone	6,200,000	1,600,000	2,810	--	--	--	--
Acrolein	340	100	--	--	--	--	--
Acrylonitrile	510	210	--	--	--	--	--
Benzene	1,500	650	5.6	--	--	--	--
Bromodichloromethane	2,400	1,000	3.1	--	--	--	--
Bromoform	310,000	62,000	1.3	--	--	--	--
Bromomethane	13,000	3,900	--	--	--	--	--
2-Butanone (MEK)	28,000,000	7,300,000	692	500 *U*	940	123,000	14,000
Carbon disulfide	720,000	360,000	4,940	--	--	--	--
Carbon tetrachloride	530	240	2.7	--	--	--	--
Chlorobenzene	540,000	150,000	438	--	--	--	--
Chloroethane	6,500	3,000	13,600	--	--	--	--
2-Chloroethylvinyl ether	--	--	--	--	--	--	--
Chloroform	520	240	1	--	--	--	--
Chloromethane	2,700	1,200	--	--	--	--	--
Dibromochloromethane	2,700	1,100	1.7	--	--	--	--
Dibromomethane	240,000	67,000	--	--	--	--	--
1,4-Dichloro-2-butene	18	7.9	--	--	--	--	--
Dichlorodifluoromethane	310,000	94,000	306,000	--	--	--	--
1,1-Dichloroethane	2,100,000	590,000	3,820	--	--	--	--
1,2-Dichloroethane	760	350	1.8	--	--	--	--
1,1-Dichloroethene	120	54	44.5	--	--	--	--
trans-1,2-Dichloroethene	210,000	63,000	380	--	--	--	--
1,2-Dichloropropane	770	350	2.9	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--
Ethyl acetate	37,000,000	19,000,000	--	500 *U*	500	16,000	100 *U*
Ethyl methacrylate	140,000	140,000	--	--	--	--	--
Ethylbenzene	230,000	230,000	241	--	--	--	--
Hexane	--	--	--	--	--	57,000	5,000
2-Hexanone	--	--	--	--	--	--	--
Iodomethane	--	--	--	--	--	--	--
Methylene chloride	21,000	8,900	22	--	--	--	--
4-Methyl-2-pentanone	2,900,000	790,000	2,280	--	--	--	--
n-Propyl acetate	--	--	--	260 *	16,900 *	380,000	30,000
Styrene	1,700,000	1,700,000	2,240	--	--	--	--
1,1,2,2-Tetrachloroethane	900	380	1	--	--	--	--
Tetrachloroethene	19,000	5,700	7.4	--	--	--	--
Toluene	520,000	520,000	7,270	100 *U*	1,950	1,350,000	11,000
1,1,1-Trichloroethane	1,400,000	770,000	1,670	--	--	--	--
1,1,2-Trichloroethane	1,900	840	3.3	--	--	--	--
Trichloroethene	6,100	2,800	18.3	--	--	--	--
Trichlorofluoromethane	2,000,000	390,000	31,500	--	--	--	--
1,2,3-Trichloropropane	3.1	1.4	--	--	--	--	--
Vinyl acetate	1,400,000	430,000	364	--	--	--	--
Vinyl chloride	830	150	0.1	--	--	--	--
Xylene isomers (total)	210,000	210,000	4,960	--	--	--	--

Table A-2. (cont.)

Chemical	Screening Levels: USA EPA Region 9 Industrial Risk-Based PRG	Screening Levels: USA EPA Region 9 Residential Risk-Based PRG	Screening Levels: NC HWS Soil Screening Levels	B-02B 12/6/1989 3.5 - 3.5 ft	B-02B 12/6/1989 6.5 ft	HA-01 3/1/1990 1 - 1.5 ft	HA-01 3/1/1990 2.5 - 3 ft
Volatile Organic Compounds (µg/kg)							
Acetone	6,200,000	1,600,000	2,810	--	--	11 *U*	12 *U*
Acrolein	340	100	--	--	--	83 *U*	90 *U*
Acrylonitrile	510	210	--	--	--	88 *U*	96 *U*
Benzene	1,500	650	5.6	--	--	4.8 *U*	5.3 *U*
Bromodichloromethane	2,400	1,000	3.1	--	--	3.9 *U* [a]	4.2 *U* [a]
Bromoform	310,000	62,000	1.3	--	--	5.2 *U* [a]	5.6 *U* [a]
Bromomethane	13,000	3,900	--	--	--	5.5 *U*	6.0 *U*
2-Butanone (MEK)	28,000,000	7,300,000	692	3,400	7,500	11 *U*	12 *U*
Carbon disulfide	720,000	360,000	4,940	--	--	5.5 *U*	6.0 *U*
Carbon tetrachloride	530	240	2.7	--	--	3.1 *U* [a]	3.4 *U* [a]
Chlorobenzene	540,000	150,000	438	--	--	5.5 *U*	6.0 *U*
Chloroethane	6,500	3,000	13,600	--	--	5.5 *U*	6.0 *U*
2-Chloroethylvinyl ether	--	--	--	--	--	11 *U*	12 *U*
Chloroform	520	240	1	--	--	2.8 *U* [a]	3.0 *U* [a]
Chloromethane	2,700	1,200	--	--	--	5.5 *U*	6.0 *U*
Dibromochloromethane	2,700	1,100	1.7	--	--	3.4 *U* [a]	3.7 *U* [a]
Dibromomethane	240,000	67,000	--	--	--	5.5 *U*	6.0 *U*
1,4-Dichloro-2-butene	18	7.9	--	--	--	5.5 *U*	6.0 *U*
Dichlorodifluoromethane	310,000	94,000	306,000	--	--	4.3 *U*	4.7 *U*
1,1-Dichloroethane	2,100,000	590,000	3,820	--	--	5.2 *U*	5.6 *U*
1,2-Dichloroethane	760	350	1.8	--	--	3.1 *U* [a]	3.4 *U* [a]
1,1-Dichloroethene	120	54	44.5	--	--	3.1 *U*	3.4 *U*
trans-1,2-Dichloroethene	210,000	63,000	380	--	--	5.5 *U*	6.0 *U*
1,2-Dichloropropane	770	350	2.9	--	--	5.5 *U* [a]	6.0 *U* [a]
cis-1,3-Dichloropropene	--	--	--	--	--	5.5 *U*	6.0 *U*
trans-1,3-Dichloropropene	--	--	--	--	--	5.5 *U*	6.0 *U*
Ethyl acetate	37,000,000	19,000,000	--	2,100	100 *U*	--	--
Ethyl methacrylate	140,000	140,000	--	--	--	19 *U*	20 *U*
Ethylbenzene	230,000	230,000	241	--	--	5.5 *U*	6.0 *U*
Hexane	--	--	--	5,000	600	--	--
2-Hexanone	--	--	--	--	--	11 *U*	12 *U*
Iodomethane	--	--	--	--	--	6.3 *U*	6.8 *U*
Methylene chloride	21,000	8,900	22	--	--	5.1 *KB*	4.3 *KB*
4-Methyl-2-pentanone	2,900,000	790,000	2,280	--	--	11 *U*	12 *U*
n-Propyl acetate	--	--	--	104,000	21,000	--	--
Styrene	1,700,000	1,700,000	2,240	--	--	5.5 *U*	6.0 *U*
1,1,2,2-Tetrachloroethane	900	380	1	--	--	5.5 *U* [a]	6.0 *U* [a]
Tetrachloroethene	19,000	5,700	7.4	--	--	4.5 *U*	4.9 *U*
Toluene	520,000	520,000	7,270	740,000	13,000	5.5 *U*	6.0 *U*
1,1,1-Trichloroethane	1,400,000	770,000	1,670	--	--	4.2 *U*	4.6 *U*
1,1,2-Trichloroethane	1,900	840	3.3	--	--	5.5 *U* [a]	6.0 *U* [a]
Trichloroethene	6,100	2,800	18.3	--	--	2.8 *U*	3.0 *U*
Trichlorofluoromethane	2,000,000	390,000	31,500	--	--	5.5 *U*	6.0 *U*
1,2,3-Trichloropropane	3.1	1.4	--	--	--	4.4 *U* [a]	4.8 *U* [a]
Vinyl acetate	1,400,000	430,000	364	--	--	7.6 *U*	8.3 *U*
Vinyl chloride	830	150	0.1	--	--	5.5 *U* [a]	6.0 *U* [a]
Xylene isomers (total)	210,000	210,000	4,960	--	--	4.1 *K*	6.0 *U*

Table A-2. (cont.)

Chemical	Screening Levels: USA EPA Region 9 Industrial Risk-Based PRG	Screening Levels: USA EPA Region 9 Residential Risk-Based PRG	Screening Levels: NC HWS Soil Screening Levels	HA-02 3/1/1990 1 - 1.5 ft	HA-02 3/1/1990 2.5 - 3 ft	HA-04 3/1/1990 1 - 1.5 ft	HA-04 3/1/1990 1.5 - 2 ft
Volatile Organic Compounds (µg/kg)							
Acetone	6,200,000	1,600,000	2,810	5.4 *K*	12 *U*	2.8 *K*	12 *U*
Acrolein	340	100	--	82 *U*	89 *U*	83 *U*	87 *U*
Acrylonitrile	510	210	--	87 *U*	95 *U*	89 *U*	93 *U*
Benzene	1,500	650	5.6	4.8 *U*	5.2 *U*	4.9 *U*	5.1 *U*
Bromodichloromethane	2,400	1,000	3.1	3.8 *U* [a]	4.2 *U* [a]	3.9 *U* [a]	4.1 *U* [a]
Bromoform	310,000	62,000	1.3	5.1 *U* [a]	5.6 *U* [a]	5.2 *U* [a]	5.5 *U* [a]
Bromomethane	13,000	3,900	--	5.5 *U*	6.0 *U*	5.6 *U*	5.8 *U*
2-Butanone (MEK)	28,000,000	7,300,000	692	6.0 *K*	12 *U*	32 *J*	12 *U*
Carbon disulfide	720,000	360,000	4,940	5.5 *U*	6.0 *U*	5.6 *U*	5.8 *U*
Carbon tetrachloride	530	240	2.7	3.1 *U* [a]	3.3 *U* [a]	3.1 *U* [a]	3.2 *U* [a]
Chlorobenzene	540,000	150,000	438	5.5 *U*	6.0 *U*	5.6 *U*	5.8 *U*
Chloroethane	6,500	3,000	13,600	5.5 *U*	6.0 *U*	5.6 *U*	5.8 *U*
2-Chloroethylvinyl ether	--	--	--	11 *U*	12 *U*	11 *U*	12 *U*
Chloroform	520	240	1	2.7 *U* [a]	3.0 *U* [a]	2.8 *U* [a]	2.9 *U* [a]
Chloromethane	2,700	1,200	--	5.5 *U*	6.0 *U*	5.6 *U*	5.8 *U*
Dibromochloromethane	2,700	1,100	1.7	3.4 *U* [a]	3.7 *U* [a]	3.4 *U* [a]	3.6 *U* [a]
Dibromomethane	240,000	67,000	--	5.5 *U*	6.0 *U*	5.6 *U*	5.8 *U*
1,4-Dichloro-2-butene	18	7.9	--	5.5 *U*	6.0 *U*	5.6 *U*	5.8 *U*
Dichlorodifluoromethane	310,000	94,000	306,000	4.3 *U*	4.6 *U*	4.3 *U*	4.5 *U*
1,1-Dichloroethane	2,100,000	590,000	3,820	5.1 *U*	5.6 *U*	5.2 *U*	5.5 *U*
1,2-Dichloroethane	760	350	1.8	3.1 *U* [a]	3.3 *U* [a]	3.1 *U* [a]	3.2 *U* [a]
1,1-Dichloroethene	120	54	44.5	3.1 *U*	3.3 *U*	3.1 *U*	3.2 *U*
trans-1,2-Dichloroethene	210,000	63,000	380	5.5 *U*	6.0 *U*	5.6 *U*	5.8 *U*
1,2-Dichloropropane	770	350	2.9	5.5 *U* [a]	6.0 *U* [a]	5.6 *U* [a]	5.8 *U* [a]
cis-1,3-Dichloropropene	--	--	--	5.5 *U*	6.0 *U*	5.6 *U*	5.8 *U*
trans-1,3-Dichloropropene	--	--	--	5.5 *U*	6.0 *U*	5.6 *U*	5.8 *U*
Ethyl acetate	37,000,000	19,000,000	--	--	--	--	--
Ethyl methacrylate	140,000	140,000	--	19 *U*	20 *U*	19 *U*	20 *U*
Ethylbenzene	230,000	230,000	241	5.5 *U*	6.0 *U*	5.6 *U*	5.8 *U*
Hexane	--	--	--	--	--	--	--
2-Hexanone	--	--	--	11 *U*	12 *U*	11 *U*	12 *U*
Iodomethane	--	--	--	6.2 *U*	6.8 *U*	6.3 *U*	6.6 *U*
Methylene chloride	21,000	8,900	22	4.8 *KB*	5.1 *KB*	5.3 *KB*	4.3 *KB*
4-Methyl-2-pentanone	2,900,000	790,000	2,280	11 *U*	12 *U*	11 *U*	12 *U*
n-Propyl acetate	--	--	--	--	--	--	--
Styrene	1,700,000	1,700,000	2,240	5.5 *U*	6.0 *U*	5.6 *U*	5.8 *U*
1,1,2,2-Tetrachloroethane	900	380	1	5.5 *U* [a]	6.0 *U* [a]	5.6 *U* [a]	5.8 *U* [a]
Tetrachloroethene	19,000	5,700	7.4	4.5 *U*	4.9 *U*	4.6 *U*	4.8 *U*
Toluene	520,000	520,000	7,270	5.5 *U*	1.4 *K*	5.6 *U*	5.8 *U*
1,1,1-Trichloroethane	1,400,000	770,000	1,670	4.1 *U*	4.5 *U*	4.2 *U*	4.4 *U*
1,1,2-Trichloroethane	1,900	840	3.3	5.5 *U* [a]	6.0 *U* [a]	5.6 *U* [a]	5.8 *U* [a]
Trichloroethene	6,100	2,800	18.3	2.7 *U*	3.0 *U*	2.8 *U*	2.9 *U*
Trichlorofluoromethane	2,000,000	390,000	31,500	5.5 *U*	6.0 *U*	5.6 *U*	5.8 *U*
1,2,3-Trichloropropane	3.1	1.4	--	4.4 *U* [a]	4.8 *U* [a]	4.4 *U* [a]	4.6 *U* [a]
Vinyl acetate	1,400,000	430,000	364	7.5 *U*	8.2 *U*	7.7 *U*	8.0 *U*
Vinyl chloride	830	150	0.1	5.5 *U* [a]	6.0 *U* [a]	5.6 *U* [a]	5.8 *U* [a]
Xylene isomers (total)	210,000	210,000	4,960	5.5 *U*	6.0 *U*	5.6 *U*	5.8 *U*

Table A-2. (cont.)

Chemical	Screening Levels: USA EPA Region 9 Industrial Risk-Based PRG	Screening Levels: USA EPA Region 9 Residential Risk-Based PRG	Screening Levels: NC HWS Soil Screening Levels	HA-06 3/1/1990 1 - 1.5 ft	HA-06 3/1/1990 2.25 - 2.75 ft	HA-07 3/1/1990 1 - 1.5 ft	HA-07 3/1/1990 2.25 - 2.75
Volatile Organic Compounds (µg/kg)							
Acetone	6,200,000	1,600,000	2,810	37 *J*	1,900 *K*	11 *U*	12 *U*
Acrolein	340	100	--	200 *U* [a]	22,000 *U* [a]	86 *U*	89 *U*
Acrylonitrile	510	210	--	210 *U*	24,000 *U* [a]	91 *U*	94 *U*
Benzene	1,500	650	5.6	12 *U* [a]	1,300 *U* [a]	5.0 *U*	5.2 *U*
Bromodichloromethane	2,400	1,000	3.1	9.3 *U*	1,000 *U* [a]	4.0 *U* [a]	4.1 *U* [a]
Bromoform	310,000	62,000	1.3	13 *U* [a]	1,400 *U* [a]	5.4 *U* [a]	5.5 *U* [a]
Bromomethane	13,000	3,900	--	13 *U*	1,500 *U*	5.7 *U*	5.9 *U*
2-Butanone (MEK)	28,000,000	7,300,000	692	620	41,000 *B* [a]	5.0 *K*	11 *K*
Carbon disulfide	720,000	360,000	4,940	13 *U*	1,500 *U*	5.7 *U*	5.9 *U*
Carbon tetrachloride	530	240	2.7	7.4 *U* [a]	820 *U* [a]	3.2 *U* [a]	3.3 *U* [a]
Chlorobenzene	540,000	150,000	438	13 *U*	1,500 *U* [a]	5.7 *U*	5.9 *U*
Chloroethane	6,500	3,000	13,600	13 *U*	1,500 *U*	5.7 *U*	5.9 *U*
2-Chloroethylvinyl ether	--	--	--	27 *U*	2,900 *U*	11 *U*	12 *U*
Chloroform	520	240	1	6.7 *U* [a]	740 *U* [a]	2.9 *U* [a]	3.0 *U* [a]
Chloromethane	2,700	1,200	--	13 *U*	1,500 *U* [a]	5.7 *U*	5.9 *U*
Dibromochloromethane	2,700	1,100	1.7	8.2 *U* [a]	910 *U* [a]	3.5 *U* [a]	3.7 *U* [a]
Dibromomethane	240,000	67,000	--	13 *U*	1,500 *U*	5.7 *U*	5.9 *U*
1,4-Dichloro-2-butene	18	7.9	--	13 *U* [a]	1,500 *U* [a]	5.7 *U*	5.9 *U*
Dichlorodifluoromethane	310,000	94,000	306,000	10 *U*	1,100 *U*	4.4 *U*	4.6 *U*
1,1-Dichloroethane	2,100,000	590,000	3,820	13 *U*	1,400 *U*	5.4 *U*	5.5 *U*
1,2-Dichloroethane	760	350	1.8	7.4 *U* [a]	820 *U* [a]	3.2 *U* [a]	3.3 *U* [a]
1,1-Dichloroethene	120	54	44.5	7.4 *U*	820 *U* [a]	3.2 *U*	3.3 *U*
trans-1,2-Dichloroethene	210,000	63,000	380	13 *U*	1,500 *U*	5.7 *U*	5.9 *U*
1,2-Dichloropropane	770	350	2.9	13 *U* [a]	1,500 *U* [a]	5.7 *U* [a]	5.9 *U* [a]
cis-1,3-Dichloropropene	--	--	--	13 *U*	1,500 *U*	5.7 *U*	5.9 *U*
trans-1,3-Dichloropropene	--	--	--	13 *U*	1,500 *U*	5.7 *U*	5.9 *U*
Ethyl acetate	37,000,000	19,000,000	--	--	--	--	--
Ethyl methacrylate	140,000	140,000	--	45 *U*	5,000 *U*	19 *U*	20 *U*
Ethylbenzene	230,000	230,000	241	13 *U*	1,500 *U* [a]	5.7 *U*	5.9 *U*
Hexane	--	--	--	--	--	--	--
2-Hexanone	--	--	--	5.6 *KB*	2,900 *U*	11 *U*	12 *U*
Iodomethane	--	--	--	15 *U*	1,700 *U*	6.5 *U*	6.7 *U*
Methylene chloride	21,000	8,900	22	12 *KB*	1,100 *KB*	5.0 *KB*	5.3 *KB*
4-Methyl-2-pentanone	2,900,000	790,000	2,280	27 *U*	2,900 *U* [a]	11 *U*	12 *U*
n-Propyl acetate	--	--	--	--	--	--	--
Styrene	1,700,000	1,700,000	2,240	13 *U*	1,500 *U*	5.7 *U*	5.9 *U*
1,1,2,2-Tetrachloroethane	900	380	1	13 *U* [a]	1,500 *U* [a]	5.7 *U* [a]	5.9 *U* [a]
Tetrachloroethene	19,000	5,700	7.4	11 *U* [a]	1,200 *U* [a]	4.7 *U*	4.8 *U*
Toluene	520,000	520,000	7,270	114	2,700 *J*	1.5 *K*	2.4 *K*
1,1,1-Trichloroethane	1,400,000	770,000	1,670	10 *U*	1,100 *U*	4.3 *U*	4.5 *U*
1,1,2-Trichloroethane	1,900	840	3.3	13 *U* [a]	1,500 *U* [a]	5.7 *U* [a]	5.9 *U* [a]
Trichloroethene	6,100	2,800	18.3	6.7 *U*	740 *U* [a]	2.9 *U*	3.0 *U*
Trichlorofluoromethane	2,000,000	390,000	31,500	13 *U*	1,500 *U*	5.7 *U*	5.9 *U*
1,2,3-Trichloropropane	3.1	1.4	--	11 *U* [a]	1,200 *U* [a]	4.6 *U* [a]	4.7 *U* [a]
Vinyl acetate	1,400,000	430,000	364	18 *U*	2,000 *U* [a]	7.9 *U*	8.1 *U*
Vinyl chloride	830	150	0.1	13 *U* [a]	1,500 *U* [a]	5.7 *U* [a]	5.9 *U* [a]
Xylene isomers (total)	210,000	210,000	4,960	13 *U*	1,500 *U*	5.7 *U*	5.9 *U*

Table A-2. (cont.)

Chemical	Screening Levels: USA EPA Region 9 Industrial Risk-Based PRG	Screening Levels: USA EPA Region 9 Residential Risk-Based PRG	Screening Levels: NC HWS Soil Screening Levels	HA-08 3/1/1990 1 - 1.5 ft	HA-08 3/1/1990 2.25 - 2.75	HA-09 3/1/1990 1 - 1.5 ft	HA-09 3/1/1990 2.25 - 2.75
Volatile Organic Compounds (µg/kg)							
Acetone	6,200,000	1,600,000	2,810	24 *J*	12 *U*	12 *U*	12 *U*
Acrolein	340	100	--	83 *U*	89 *U*	86 *U*	90 *U*
Acrylonitrile	510	210	--	89 *U*	95 *U*	92 *U*	96 *U*
Benzene	1,500	650	5.6	4.9 *U*	5.2 *U*	5.1 *U*	5.3 *U*
Bromodichloromethane	2,400	1,000	3.1	3.9 *U* [a]	4.2 *U* [a]	4.0 *U* [a]	4.2 *U* [a]
Bromoform	310,000	62,000	1.3	5.2 *U* [a]	5.6 *U* [a]	5.4 *U* [a]	5.6 *U* [a]
Bromomethane	13,000	3,900	--	5.6 *U*	6.0 *U*	5.8 *U*	6.0 *U*
2-Butanone (MEK)	28,000,000	7,300,000	692	32 *J*	12 *U*	4.1 *K*	12 *U*
Carbon disulfide	720,000	360,000	4,940	5.6 *U*	6.0 *U*	5.8 *U*	6.0 *U*
Carbon tetrachloride	530	240	2.7	3.1 *U* [a]	3.3 *U* [a]	3.2 *U* [a]	3.4 *U* [a]
Chlorobenzene	540,000	150,000	438	5.6 *U*	6.0 *U*	5.8 *U*	6.0 *U*
Chloroethane	6,500	3,000	13,600	5.6 *U*	6.0 *U*	5.8 *U*	6.0 *U*
2-Chloroethylvinyl ether	--	--	--	11 *U*	12 *U*	12 *U*	12 *U*
Chloroform	520	240	1	2.8 *U* [a]	3.0 *U* [a]	2.9 *U* [a]	3.0 *U* [a]
Chloromethane	2,700	1,200	--	5.6 *U*	6.0 *U*	5.8 *U*	6.0 *U*
Dibromochloromethane	2,700	1,100	1.7	3.4 *U* [a]	3.7 *U* [a]	3.6 *U* [a]	3.7 *U* [a]
Dibromomethane	240,000	67,000	--	5.6 *U*	6.0 *U*	5.8 *U*	6.0 *U*
1,4-Dichloro-2-butene	18	7.9	--	5.6 *U*	6.0 *U*	5.8 *U*	6.0 *U*
Dichlorodifluoromethane	310,000	94,000	306,000	4.3 *U*	4.6 *U*	4.5 *U*	4.7 *U*
1,1-Dichloroethane	2,100,000	590,000	3,820	5.2 *U*	5.6 *U*	5.4 *U*	5.6 *U*
1,2-Dichloroethane	760	350	1.8	3.1 *U* [a]	3.3 *U* [a]	3.2 *U* [a]	3.4 *U* [a]
1,1-Dichloroethene	120	54	44.5	3.1 *U*	3.3 *U*	3.2 *U*	3.4 *U*
trans-1,2-Dichloroethene	210,000	63,000	380	5.6 *U*	6.0 *U*	5.8 *U*	6.0 *U*
1,2-Dichloropropane	770	350	2.9	5.6 *U* [a]	6.0 *U* [a]	5.8 *U* [a]	6.0 *U* [a]
cis-1,3-Dichloropropene	--	--	--	5.6 *U*	6.0 *U*	5.8 *U*	6.0 *U*
trans-1,3-Dichloropropene	--	--	--	5.6 *U*	6.0 *U*	5.8 *U*	6.0 *U*
Ethyl acetate	37,000,000	19,000,000	--	--	--	--	--
Ethyl methacrylate	140,000	140,000	--	19 *U*	20 *U*	20 *U*	20 *U*
Ethylbenzene	230,000	230,000	241	5.6 *U*	6.0 *U*	5.8 *U*	6.0 *U*
Hexane	--	--	--	--	--	--	--
2-Hexanone	--	--	--	11 *U*	12 *U*	12 *U*	12 *U*
Iodomethane	--	--	--	6.3 *U*	6.8 *U*	6.6 *U*	6.8 *U*
Methylene chloride	21,000	8,900	22	4.7 *KB*	5.2 *KB*	5.4 *KB*	5.6 *KB*
4-Methyl-2-pentanone	2,900,000	790,000	2,280	11 *U*	12 *U*	12 *U*	12 *U*
n-Propyl acetate	--	--	--	--	--	--	--
Styrene	1,700,000	1,700,000	2,240	5.6 *U*	6.0 *U*	5.8 *U*	6.0 *U*
1,1,2,2-Tetrachloroethane	900	380	1	5.6 *U* [a]	6.0 *U* [a]	5.8 *U* [a]	6.0 *U* [a]
Tetrachloroethene	19,000	5,700	7.4	4.6 *U*	4.9 *U*	4.7 *U*	4.9 *U*
Toluene	520,000	520,000	7,270	2.5 *K*	2.2 *K*	1.9 *K*	2.3 *K*
1,1,1-Trichloroethane	1,400,000	770,000	1,670	4.2 *U*	4.5 *U*	4.4 *U*	4.6 *U*
1,1,2-Trichloroethane	1,900	840	3.3	5.6 *U* [a]	6.0 *U* [a]	5.8 *U* [a]	6.0 *U* [a]
Trichloroethene	6,100	2,800	18.3	2.8 *U*	3.0 *U*	2.9 *U*	3.0 *U*
Trichlorofluoromethane	2,000,000	390,000	31,500	5.6 *U*	6.0 *U*	5.8 *U*	6.0 *U*
1,2,3-Trichloropropane	3.1	1.4	--	4.4 *U* [a]	4.8 *U* [a]	4.6 *U* [a]	4.8 *U* [a]
Vinyl acetate	1,400,000	430,000	364	7.7 *U*	8.2 *U*	7.9 *U*	8.3 *U*
Vinyl chloride	830	150	0.1	5.6 *U* [a]	6.0 *U* [a]	5.8 *U* [a]	6.0 *U* [a]
Xylene isomers (total)	210,000	210,000	4,960	5.6 *U*	6.0 *U*	5.8 *U*	6.0 *U*

Table A-2. (cont.)

Chemical	Screening Levels: USA EPA Region 9 Industrial Risk-Based PRG	Screening Levels: USA EPA Region 9 Residential Risk-Based PRG	Screening Levels: NC HWS Soil Screening Levels	HA-10 3/1/1990 1 - 1.5 ft	HA-10 3/1/1990 2 - 2.5 ft
Volatile Organic Compounds (µg/kg)					
Acetone	6,200,000	1,600,000	2,810	12 *U*	12 *J*
Acrolein	340	100	--	86 *U*	89 *U*
Acrylonitrile	510	210	--	92 *U*	95 *U*
Benzene	1,500	650	5.6	5.1 *U*	5.2 *U*
Bromodichloromethane	2,400	1,000	3.1	4.0 *U* [a]	4.2 *U* [a]
Bromoform	310,000	62,000	1.3	5.4 *U* [a]	5.6 *U* [a]
Bromomethane	13,000	3,900	--	5.8 *U*	6.0 *U*
2-Butanone (MEK)	28,000,000	7,300,000	692	5.0 *K*	13 *J*
Carbon disulfide	720,000	360,000	4,940	5.8 *U*	6.0 *U*
Carbon tetrachloride	530	240	2.7	3.2 *U* [a]	3.3 *U* [a]
Chlorobenzene	540,000	150,000	438	5.8 *U*	6.0 *U*
Chloroethane	6,500	3,000	13,600	5.8 *U*	6.0 *U*
2-Chloroethylvinyl ether	--	--	--	12 *U*	12 *U*
Chloroform	520	240	1	2.9 *U* [a]	3.0 *U* [a]
Chloromethane	2,700	1,200	--	5.8 *U*	6.0 *U*
Dibromochloromethane	2,700	1,100	1.7	3.6 *U* [a]	3.7 *U* [a]
Dibromomethane	240,000	67,000	--	5.8 *U*	6.0 *U*
1,4-Dichloro-2-butene	18	7.9	--	5.8 *U*	6.0 *U*
Dichlorodifluoromethane	310,000	94,000	306,000	4.5 *U*	4.6 *U*
1,1-Dichloroethane	2,100,000	590,000	3,820	5.4 *U*	5.6 *U*
1,2-Dichloroethane	760	350	1.8	3.2 *U* [a]	3.3 *U* [a]
1,1-Dichloroethene	120	54	44.5	3.2 *U*	3.3 *U*
trans-1,2-Dichloroethene	210,000	63,000	380	5.8 *U*	6.0 *U*
1,2-Dichloropropane	770	350	2.9	5.8 *U* [a]	6.0 *U* [a]
cis-1,3-Dichloropropene	--	--	--	5.8 *U*	6.0 *U*
trans-1,3-Dichloropropene	--	--	--	5.8 *U*	6.0 *U*
Ethyl acetate	37,000,000	19,000,000	--	--	--
Ethyl methacrylate	140,000	140,000	--	20 *U*	20 *U*
Ethylbenzene	230,000	230,000	241	5.8 *U*	6.0 *U*
Hexane	--	--	--	--	--
2-Hexanone	--	--	--	12 *U*	12 *U*
Iodomethane	--	--	--	6.6 *U*	6.8 *U*
Methylene chloride	21,000	8,900	22	4.9 *KB*	5.1 *KB*
4-Methyl-2-pentanone	2,900,000	790,000	2,280	12 *U*	12 *U*
n-Propyl acetate	--	--	--	--	--
Styrene	1,700,000	1,700,000	2,240	5.8 *U*	6.0 *U*
1,1,2,2-Tetrachloroethane	900	380	1	5.8 *U* [a]	6.0 *U* [a]
Tetrachloroethene	19,000	5,700	7.4	4.7 *U*	4.9 *U*
Toluene	520,000	520,000	7,270	5.8 *U*	1.5 *K*
1,1,1-Trichloroethane	1,400,000	770,000	1,670	4.4 *U*	4.5 *U*
1,1,2-Trichloroethane	1,900	840	3.3	5.8 *U* [a]	6.0 *U* [a]
Trichloroethene	6,100	2,800	18.3	2.9 *U*	3.0 *U*
Trichlorofluoromethane	2,000,000	390,000	31,500	5.8 *U*	6.0 *U*
1,2,3-Trichloropropane	3.1	1.4	--	4.6 *U* [a]	4.8 *U* [a]
Vinyl acetate	1,400,000	430,000	364	7.9 *U*	8.2 *U*
Vinyl chloride	830	150	0.1	5.8 *U* [a]	6.0 *U* [a]
Xylene isomers (total)	210,000	210,000	4,960	5.8 *U*	6.0 *U*

(Notes on following page)

Table A-2. (cont.)

Notes: Boxed values equal or exceed one or more screening criteria.

-- - not applicable; not available

U - undetected; value represents detection limit

* - hexane not resolved from n-propyl acetate; apparent peak calculated as n-propyl acetate.

K - detected value is less than detection limit

B - analyte detected in method blank at concentration greater than reporting limit (& greater than zero)

J - estimated result less than 5 times detection limit

[a] Analyte was not detected. Detection limit exceeds one or more criteria.

Table A-3. SWMU 16 groundwater analytical results, former International Paper facility, Wilmington, North Carolina

Chemical	HC-01 5/23/1990 6 ft	HC-01 5/23/1990 15 ft	HC-02 5/23/1990 5 ft	HC-02 5/23/1990 14 ft	HC-03 5/30/1990 6 ft	HC-03 5/30/1990 15 ft	HC-04 5/30/1990 6 ft	HC-04 5/30/1990 10 ft
Volatile Organic Compounds (µg/L)								
Acetone	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*
Acrolein	--	--	--	--	--	--	--	--
Acrylonitrile	--	--	--	--	--	--	--	--
Benzene	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--	--	--	--
Bromoform	--	--	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone)	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*
Carbon disulfide	--	--	--	--	--	--	--	--
Carbon tetrachloride	--	--	--	--	--	--	--	--
Chlorobenzene	--	--	--	--	--	--	--	--
Chloroethane	--	--	--	--	--	--	--	--
2-Chloroethylvinyl ether	--	--	--	--	--	--	--	--
Chloroform	--	--	--	--	--	--	--	--
Chloromethane	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--	--	--
Dibromomethane	--	--	--	--	--	--	--	--
1,4-Dichloro-2-butene	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	--	--	--	--	--	--	--	--
1,1-Dichloroethane	185	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*
1,2-Dichloroethane	--	--	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--
Ethyl methacrylate	--	--	--	--	--	--	--	--
Ethylbenzene	--	--	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--
Iodomethane	--	--	--	--	--	--	--	--
Methylene chloride	2038	48	184	43	14	10 *U*	60	10 *U*
4-Methyl-2-pentanone	--	--	--	--	--	--	--	--
Methyl-tert-butyl ether	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*
Styrene	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--	--	--
Tetrachloroethene	--	--	--	--	--	--	--	--
Toluene	1 *U*	1 *U*	1 *U*	1 *U*	4	3	1 *U*	1 *U*
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--
Trichloroethene	13	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*
Trichlorofluoromethane	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--	--	--	--
Vinyl acetate	--	--	--	--	--	--	--	--
Vinyl chloride	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*
Xylene isomers (total)	--	--	--	--	--	--	--	--

Table A-3. (cont.)

Chemical	HC-05 5/30/1990 6 ft	HC-05 5/30/1990 15 ft	HC-06 5/30/1990 6 ft	HC-06 5/30/1990 15 ft	HC-07 5/30/1990 6 ft	HC-07 5/30/1990 14 ft	HC-08 5/30/1990 4 ft	HC-08 5/30/1990 7.5 ft
Volatile Organic Compounds (µg/L)								
Acetone	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*
Acrolein	--	--	--	--	--	--	--	--
Acrylonitrile	--	--	--	--	--	--	--	--
Benzene	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--	--	--	--
Bromoform	--	--	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone)	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*
Carbon disulfide	--	--	--	--	--	--	--	--
Carbon tetrachloride	--	--	--	--	--	--	--	--
Chlorobenzene	--	--	--	--	--	--	--	--
Chloroethane	--	--	--	--	--	--	--	--
2-Chloroethylvinyl ether	--	--	--	--	--	--	--	--
Chloroform	--	--	--	--	--	--	--	--
Chloromethane	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--	--	--
Dibromomethane	--	--	--	--	--	--	--	--
1,4-Dichloro-2-butene	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	--	--	--	--	--	--	--	--
1,1-Dichloroethane	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*
1,2-Dichloroethane	--	--	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--
Ethyl methacrylate	--	--	--	--	--	--	--	--
Ethylbenzene	--	--	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--	--	--
Iodomethane	--	--	--	--	--	--	--	--
Methylene chloride	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*
4-Methyl-2-pentanone	--	--	--	--	--	--	--	--
Methyl-tert-butyl ether	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*
Styrene	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--	--	--
Tetrachloroethene	--	--	--	--	--	--	--	--
Toluene	1 *U*	1 *U*	1 *U*	1 *U*	1 *U*	1 *U*	1850	1 *U*
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--
Trichloroethene	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*
Trichlorofluoromethane	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--	--	--	--
Vinyl acetate	--	--	--	--	--	--	--	--
Vinyl chloride	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*
Xylene isomers (total)	--	--	--	--	--	--	--	--

Table A-3. (cont.)

Chemical	HC-09 5/30/1990 4 ft	HC-10 5/30/1990 4.5 ft	MW-28 7/17/1990	MW-29 7/17/1990	MW-29 Dup 7/17/1990	MW-30 7/17/1990
Volatile Organic Compounds (µg/L)						
Acetone	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*
Acrolein	--	--	75 *U*	75 *U*	75 *U*	75 *U*
Acrylonitrile	--	--	80 *U*	80 *U*	80 *U*	80 *U*
Benzene	--	--	4.4 *U*	4.4 *U*	4.4 *U*	4.4 *U*
Bromodichloromethane	--	--	3.5 *U*	3.5 *U*	3.5 *U*	3.5 *U*
Bromoform	--	--	4.7 *U*	4.7 *U*	4.7 *U*	4.7 *U*
Bromomethane	--	--	5 *U*	5 *U*	5 *U*	5 *U*
2-Butanone (Methyl ethyl ketone)	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*	10 *U*
Carbon disulfide	--	--	5 *U*	5.7 *J*	5 *U*	7.8 *J*
Carbon tetrachloride	--	--	2.8 *U*	2.8 *U*	2.8 *U*	2.8 *U*
Chlorobenzene	--	--	5 *U*	5 *U*	5 *U*	5 *U*
Chloroethane	--	--	5 *U*	5 *U*	5 *U*	5 *U*
2-Chloroethylvinyl ether	--	--	10 *U*	10 *U*	10 *U*	10 *U*
Chloroform	--	--	2.5 *U*	2.5 *U*	2.5 *U*	2.5 *U*
Chloromethane	--	--	5 *U*	5 *U*	5 *U*	5 *U*
Dibromochloromethane	--	--	3.1 *U*	3.1 *U*	3.1 *U*	3.1 *U*
Dibromomethane	--	--	5 *U*	5 *U*	5 *U*	5 *U*
1,4-Dichloro-2-butene	--	--	5.0 *U*	5.0 *U*	5.0 *U*	5.0 *U*
Dichlorodifluoromethane	--	--	3.9 *U*	3.9 *U*	3.9 *U*	3.9 *U*
1,1-Dichloroethane	10 *U*	10 *U*	4.7 *U*	4.7 *U*	4.7 *U*	4.7 *U*
1,2-Dichloroethane	--	--	2.8 *U*	2.8 *U*	2.8 *U*	2.8 *U*
1,1-Dichloroethene	--	--	2.8 *U*	2.8 *U*	2.8 *U*	2.8 *U*
trans-1,2-Dichloroethene	--	--	5 *U*	5 *U*	5 *U*	5 *U*
1,2-Dichloropropane	--	--	5 *U*	5 *U*	5 *U*	5 *U*
cis-1,3-Dichloropropene	--	--	5 *U*	5 *U*	5 *U*	5 *U*
trans-1,3-Dichloropropene	--	--	5 *U*	5 *U*	5 *U*	5 *U*
Ethyl methacrylate	--	--	17 *U*	17 *U*	17 *U*	17 *U*
Ethylbenzene	--	--	5 *U*	5 *U*	5 *U*	5 *U*
2-Hexanone	--	--	10 *U*	10 *U*	10 *U*	10 *U*
Iodomethane	--	--	5.7 *U*	5.7 *U*	5.7 *U*	5.7 *U*
Methylene chloride	10 *U*	10 *U*	5 *U*	5 *U*	5 *U*	5 *U*
4-Methyl-2-pentanone	--	--	10 *U*	10 *U*	10 *U*	10 *U*
Methyl-tert-butyl ether	10 *U*	10 *U*	--	--	--	--
Styrene	--	--	5 *U*	5 *U*	5 *U*	5 *U*
1,1,2,2-Tetrachloroethane	--	--	5 *U*	5 *U*	5 *U*	5 *U*
Tetrachloroethene	--	--	4.1 *U*	4.1 *U*	4.1 *U*	4.1 *U*
Toluene	1 *U*	1 *U*	5 *U*	5 *U*	5 *U*	5 *U*
1,1,1-Trichloroethane	--	--	3.8 *U*	3.8 *U*	3.8 *U*	3.8 *U*
1,1,2-Trichloroethane	--	--	5 *U*	5 *U*	5 *U*	5 *U*
Trichloroethene	10 *U*	10 *U*	2.5 *U*	2.5 *U*	2.5 *U*	2.5 *U*
Trichlorofluoromethane	--	--	5 *U*	5 *U*	5 *U*	5 *U*
1,2,3-Trichloropropane	--	--	4 *U*	4 *U*	4 *U*	4 *U*
Vinyl acetate	--	--	6.9 *U*	6.9 *U*	6.9 *U*	6.9 *U*
Vinyl chloride	10 *U*	10 *U*	5 *U*	5 *U*	5 *U*	5 *U*
Xylene isomers (total)	--	--	5 *U*	5 *U*	5 *U*	5 *U*

Notes: -- - not applicable; not available
U - undetected; value represents detection limit
J - estimated result less than 5 times detection limit

Table A-4. SWMU 21 soil analytical results, former International Paper facility, Wilmington, North Carolina

Chemical	Screening Levels: US EPA Region 9 Industrial Risk-Based PRG	Screening Levels: US EPA Region 9 Residential Risk-Based PRG	Screening Levels: NC HWS Soil Screening	B-21-1 2/16/1999	B-21-2 2/16/1999	B-21-3 2/16/1999
Volatile Organic Compounds (µg/kg)						
Acetonitrile	1,700,000	270,000	170	11.7 *U*	17.1 *U*	20.9 *U*
Acrolein	340	100	--	22.5 *U*	32.9 *U*	40.1 *U*
Acrylonitrile	510	210	--	1.33 *U*	1.95 *U*	2.38 *U*
Benzene	1,500	650	5.62	7.61 *J*	12.1 *J*	10.3 *J*
Bromoform	310,000	62,000	1.25	0.803 *UJ*	1.18 *UJ*	1.43 *UJ* [a]
Bromomethane	13,000	3,900	--	1.12 *U*	1.64 *U*	2.01 *U*
2-Butanone	28,000,000	7,300,000	692	27.9	190	272
Carbon disulfide	720,000	360,000	4,940	4.18	12.8	15.2
Carbon tetrachloride	530	240	2.74	1.71 *UJ*	2.50 *UJ*	3.05 *UJ* [a]
Chlorobenzene	540,000	150,000	438	1.18 *UJ*	1.73 *UJ*	2.12 *UJ*
2-Chloro-1,3-butadiene	12,000	3,600	--	1.61 *U*	2.35 *U*	2.87 *U*
Chloroform	520	240	1.01	1.48 *U* [a]	2.17 *U* [a]	2.65 *U* [a]
Chloromethane	2,700	1,200	--	0.960 *U*	1.40 *U*	1.71 *U*
1,2-Dibromo-3-chloropropane	4,000	450	0.15	1.47 *U* [a]	2.15 *U* [a]	2.63 *U* [a]
Dibromomethane	240,000	67,000	--	0.652 *UJ*	0.954 *UJ*	1.16 *UJ*
1,2-Dichlorobenzene	370,000	370,000	7,270	1.21 *U*	1.77 *U*	2.16 *U*
1,3-Dichlorobenzene	52,000	13,000	23,700	0.925 *U*	1.35 *U*	1.65 *U*
1,4-Dichlorobenzene	8,100	3,400	1,240	1.22 *U*	1.79 *U*	2.19 *U*
Dichlorodifluoromethane	310,000	94,000	306,000	2.03 *U*	2.96 *U*	3.62 *U*
1,1-Dichloroethane	2,100,000	590,000	3,820	1.30 *U*	1.90 *U*	2.32 *U*
1,1-Dichloroethene	120	54	44.5	1.01 *U*	1.48 *U*	1.81 *U*
cis-1,2-Dichloroethene	150,000	43,000	350	0.972 *U*	1.42 *U*	1.74 *U*
trans-1,2-Dichloroethene	210,000	63,000	380	1.41 *U*	2.07 *U*	2.53 *U*
1,2-Dichloropropane	770	350	2.88	0.929 *UJ*	1.36 *UJ*	1.66 *UJ*
cis-1,3-Dichloropropene	--	--	--	1.18 *UJ*	1.73 *UJ*	2.11 *UJ*
trans-1,3-Dichloropropene	--	--	--	0.974 *UJ*	1.42 *UJ*	1.74 *UJ*
Ethyl methacrylate	140,000	140,000	--	0.695 *UJ*	1.02 *UJ*	1.24 *UJ*
Iodomethane	--	--	--	0.982 *U*	4.63	1.75 *U*
Methyl methacrylate	2,700,000	2,200,000	--	0.868 *UJ*	1.27 *UJ*	1.55 *UJ*
Methylene chloride	21,000	8,900	22	1.54 *U*	2.72 *U*	3.06 *U*
Propanenitrile	--	--	--	10.6 *U*	15.5 *U*	19.0 *U*
1,1,1,2-Tetrachloroethane	7,000	3,000	--	0.965 *UJ*	1.41 *UJ*	1.72 *UJ*
1,1,2,2-Tetrachloroethane	900	380	0.953	0.480 *UJ*	0.702 *UJ*	0.857 *UJ*
Tetrachloroethene	19,000	5,700	7.42	2.09 *UJ*	3.06 *UJ*	3.74 *UJ*
Toluene	520,000	520,000	7,270	7.57 *J*	12.5 *J*	10.4 *J*
1,1,1-Trichloroethane	1,400,000	770,000	1,670	1.78 *U*	2.60 *U*	3.17 *U*
1,1,2-Trichloroethane	1,900	840	3.34	0.419 *UJ*	0.613 *UJ*	0.748 *UJ*
Trichloroethene	6,100	2,800	18.3	1.47 *UJ*	2.15 *UJ*	2.63 *UJ*
Trichlorofluoromethane	2,000,000	390,000	31,500	2.14 *U*	3.13 *U*	3.82 *U*
1,2,3-Trichloropropane	3.1	1.4	--	0.524 *UJ*	0.767 *UJ*	0.936 *UJ*
Vinyl chloride	830	150	0.0952	1.34 *U* [a]	1.96 *U* [a]	2.40 *U* [a]
Semi-Volatile Organic Compounds (mg/kg)						
Acetophenone	1.6	0.49	--	1.71 *U* [a]	2.01 *U* [a]	2.36 *U* [a]
2-Acetylaminofluorene	--	--	--	3.00 *U*	3.53 *U*	4.15 *U*
4-Amino biphenyl	--	--	--	3.57 *U*	4.20 *U*	4.93 *U*
Aniline	430	85	--	8.95 *U*	10.6 *U*	12.4 *U*
Benz[a]anthracene	2.9	0.62	0.358	3.30 *U* [a]	3.89 *U* [a]	4.56 *U* [a]
Benzidine	--	--	--	87.1 *UJ*	103 *UJ*	120 *UJ*

Table A-4. (cont.)

Chemical	Screening Levels US EPA Region 9 Industrial Risk-Based PRG	US EPA Region 9 Residential Risk-Based PRG	NC HWS Soil Screening	B-21-1 2/16/1999	B-21-2 2/16/1999	B-21-3 2/16/1999
Semi-Volatile Organic Compounds (cont.) (mg/kg)						
Benzo[a]pyrene	0.29	0.062	0.0911	3.40 *U* [a]	3.65 *U* [a]	4.29 *U* [a]
Benzo[b]fluoranthene	2.9	0.62	--	1.89 *U* [a]	2.23 *U* [a]	2.62 *U* [a]
Benzo[k]fluoranthene	29	6.2	--	3.54 *U*	4.17 *U*	4.90 *U*
4-Bromophenyl-phenyl ether	--	--	--	2.66 *U*	3.14 *U*	3.68 *U*
Butylbenzyl phthalate	100,000	12,000	27.8	2.77 *U*	3.27 *U*	3.83 *U*
4-Chloroaniline	3,500	240	--	5.36 *U*	6.32 *U*	7.41 *U*
Chlorobenzilate	9.1	1.8	--	2.01 *U* [a]	2.37 *U* [a]	2.78 *U* [a]
4-Chloro-3-methylphenol	--	--	--	2.17 *U*	2.56 *U*	3.00 *U*
2-Chloronaphthalene	27,000	4,900	--	2.94 *U*	3.46 *U*	4.07 *U*
2-Chlorophenol	240	63	0.0012	1.83 *U* [a]	2.16 *U* [a]	2.54 *U* [a]
Chrysene	290	62	39.8	2.27 *U*	2.67 *U*	3.14 *U*
Diallate	40	8	--	13.0 *U* [a]	15.3 *U* [a]	18.0 *U* [a]
Dibenz[a,h]anthracene	0.29	0.062	0.168	2.80 *U* [a]	3.31 *U* [a]	3.88 *U* [a]
1,2-Dichlorobenzene	370	370	7.27	3.98 *U*	4.69 *U*	5.50 *U*
1,3-Dichlorobenzene	52	13	23.7	4.61 *U*	5.44 *U*	6.38 *U*
1,4-Dichlorobenzene	8.1	3.4	1.24	2.96 *U* [a]	3.49 *U* [a]	4.10 *U* [a]
3,3'-Dichlorobenzidine	5.5	1.1	--	3.81 *UJ* [a]	4.49 *UJ* [a]	5.27 *UJ* [a]
2,4-Dichlorophenol	2,600	180	--	1.65 *U*	1.94 *U*	2.28 *U*
2,6-Dichlorophenol	--	--	--	3.02 *U*	3.56 *U*	4.18 *U*
Diethyl phthalate	100,000	49,000	28.2	2.54 *U*	3.00 *U*	3.52 *U*
Dimethyl phthalate	100,000	100,000	--	2.29 *U*	2.69 *U*	3.16 *U*
p-Dimethylaminoazobenzene	--	--	--	4.86 *U*	5.72 *U*	6.72 *U*
7,12-Dimethylbenz[a]anthracene	--	--	--	4.64 *U*	5.47 *U*	6.42 *U*
3,3'-Dimethylbenzidine	0.27	0.053	--	118 *UJ* [a]	139 *UJ* [a]	163 *UJ* [a]
a,a-Dimethylphenethylamine	880	61	--	173 *U* [a]	204 *U* [a]	240 *U* [a]
2,4-Dimethylphenol	18,000	1,200	1.15	5.02 *U* [a]	5.92 *U* [a]	6.95 *U* [a]
2,4-Dinitrophenol	1,800	120	--	81.1 *UJ*	95.6 *UJ*	112 *UJ*
2,4-Dinitrotoluene	1,800	120	--	9.28 *U*	10.9 *U*	12.8 *U*
2,6-Dinitrotoluene	880	61	--	7.27 *U*	8.58 *U*	10.1 *U*
Di-n-octyl phthalate	10,000	1,200	100,000	1.90 *U*	2.24 *U*	2.63 *U*
Diphenylamine/N-NitrosoDPA	--	--	--	5.98 *U*	7.05 *U*	8.27 *U*
Ethyl methanesulfonate	--	--	--	3.41 *U*	4.02 *U*	4.71 *U*
Fluoranthene	30,000	2,300	276	2.65 *U*	3.12 *U*	3.66 *U*
Fluorene	33,000	2,600	44.3	2.13 *U*	2.51 *U*	2.94 *U*
Hexachlorobenzene	1.5	0.3	0.0321	1.59 *U* [a]	1.88 *U* [a]	2.20 *U* [a]
Hexachlorobutadiene	32	6.2	--	3.50 *U*	4.13 *U*	4.84 *U*
Hexachlorocyclopentadiene	5,900	420	200	16.5 *U*	19.4 *U*	22.8 *U*
Hexachloroethane	180	35	--	5.61 *U*	6.61 *U*	7.76 *U*
Hexachloropropene	--	--	--	12.9 *U*	15.2 *U*	17.8 *U*
Indeno[1,2,3-cd]pyrene	2.9	0.62	3.26	4.02 *U* [a]	4.74 *U* [a]	5.56 *U* [a]
Isosafrole	--	--	--	3.73 *U*	4.39 *U*	5.15 *U*
Kepone	0.14	0.027	--	2.84 *U* [a]	3.35 *U* [a]	3.93 *U* [a]
Methapyrilene	--	--	--	180 *UJ*	212 *UJ*	249 *UJ*
Methyl methanesulfonate	--	--	--	6.99 *UJ*	8.24 *UJ*	9.67 *UJ*
3-Methylcholanthrene	--	--	--	16.0 *U*	18.9 *U*	22.1 *U*
2-Methyl-4,6-dinitrophenol	--	--	--	27.3 *U*	32.2 *U*	37.8 *U*
2-Methylphenol	44,000	3,100	0.204	2.61 *U* [a]	3.08 *U* [a]	3.61 *U* [a]
3- and 4-Methylphenol	--	--	--	4.22 *UJ*	4.97 *UJ*	5.84 *UJ*
Naphthalene	190	56	0.585	3.16 *U* [a]	3.73 *U* [a]	4.38 *U* [a]
1,4-Naphthoquinone	--	--	--	2.51 *U*	2.96 *U*	3.47 *U*

Table A-4. (cont.)

Chemical	Screening Levels: US EPA Region 9 Industrial Risk-Based PRG	Screening Levels: US EPA Region 9 Residential Risk-Based PRG	Screening Levels: NC HWS Soil Screening	B-21-1 2/16/1999	B-21-2 2/16/1999	B-21-3 2/16/1999
Semi-Volatile Organic Compounds (cont.) (mg/kg)						
1-Naphthylamine	--	--	--	6.04 *U*	7.12 *U*	8.35 *U*
2-Naphthylamine	--	--	--	5.87 *UJ*	6.92 *UJ*	8.12 *UJ*
4-Nitroaniline	--	--	--	8.24 *U*	9.71 *U*	11.4 *U*
Nitrobenzene	110	20	--	3.83 *U*	4.52 *U*	5.30 *U*
5-Nitro-o-toluidine	--	--	--	2.29 *U*	2.70 *U*	3.17 *U*
4-Nitrophenol	7,000	490	--	17.7 *U*	20.9 *U*	24.6 *U*
N-Nitroso dibutylamine	0.061	0.024	--	1.94 *U* [a]	2.29 *U* [a]	2.69 *U* [a]
N-Nitroso diethylamine	0.016	0.0032	--	4.92 *U* [a]	5.80 *U* [a]	6.81 *U* [a]
N-Nitroso dimethylamine	0.048	0.0095	--	13.7 *UJ* [a]	16.2 *UJ* [a]	19.0 *UJ* [a]
N-Nitrosomethylethylamine	0.11	0.022	--	9.12 *U* [a]	10.8 *U* [a]	12.6 *U* [a]
N-Nitrosomorpholine	--	--	--	3.15 *UJ*	3.71 *UJ*	4.36 *UJ*
N-Nitrosopiperidine	--	--	--	1.74 *U*	2.05 *U*	2.41 *U*
N-Nitrosopyrrolidine	1.2	0.23	--	3.82 *U* [a]	4.50 *U* [a]	5.28 *U* [a]
o-Toluidine	10	2	--	6.26 *U* [a]	7.38 *U* [a]	8.66 *U* [a]
Pentachlorobenzene	700	49	--	2.04 *U*	2.41 *U*	2.83 *U*
Pentachloroethane	--	--	--	6.00 *U*	7.08 *U*	8.30 *U*
Pentachloronitrobenzene	9.5	1.9	--	6.80 *U* [a]	8.01 *U* [a]	9.41 *U* [a]
Pentachlorophenol	11	3	0.0231	11.0 *U* [a]	12.9 *U* [a]	15.2 *U* [a]
Phenacetin	--	--	--	3.47 *U*	4.10 *U*	4.81 *U*
Phenol	100,000	37,000	1.75	2.91 *U* [a]	3.43 *U* [a]	4.03 *U* [a]
2-Picoline	--	--	--	16.6 *U*	19.5 *U*	22.9 *U*
Pronamide	66,000	4,600	--	1.84 *U*	2.17 *U*	2.55 *U*
Pyridine	880	61	--	13.7 *U*	16.2 *U*	19.0 *U*
Safrole	--	--	--	6.32 *U*	7.45 *U*	8.74 *U*
1,2,4,5-Tetrachlorobenzene	260	18	--	3.42 *U*	4.03 *U*	4.73 *U*
2,3,4,6-Tetrachlorophenol	26,000	1,800	--	6.35 *U*	7.49 *U*	8.79 *U*
1,2,4-Trichlorobenzene	3,000	650	2.61	3.73 *U* [a]	4.39 *U* [a]	5.15 *U* [a]
2,4,5-Trichlorophenol	88,000	6,100	3.94	2.49 *U*	2.94 *U*	3.45 *U*
2,4,6-Trichlorophenol	220	44	--	2.58 *U*	3.04 *U*	3.57 *U*
Metals (mg/kg)						
Arsenic	2.7	0.39	26.2	1.79	2.79	4.55
Chromium	450	210	27.2	19.9	30.0	34.8
Copper	76,000	2,900	704	37.5	48.2	60.6
Lead	750	400	270	40.5	70.7	91.9
Selenium	10,000	390	12.2	0.331	0.701	0.996
Conventional Parameters (%)						
Percent moisture	--	--	--	20.6	32.5	42.5

Notes: Boxed values exceed one or more screening criteria.
PRG - Preliminary Remediation Goal
HWS - Hazardous Waste Section
U - undetected; value represents detection limit
J - estimated
-- - not applicable or not available

[a] Analyte was not detected. Detection limit exceeds one or more screening criteria.

Appendix B

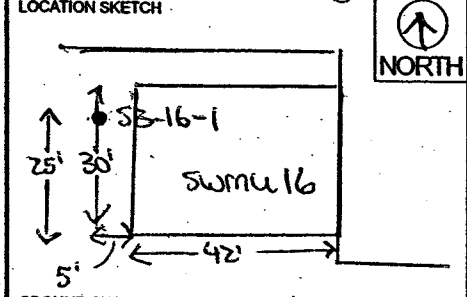
Soil and Groundwater Field Forms

INTERNATIONAL PAPER

Soil Borehole Log Field Form

SITE/LOCATION: Wilmington, NC	BOREHOLE I.D.: SB-16-1
PROJECT NAME: IP Wilmington	FACILITY NUMBER:

LOCATION SKETCH



GROUND SURFACE ELEVATION:

SAMPLING CONTACT/COMPANY:	Troy Holadia / T. Richardson
SAMPLING PERSONNEL:	R Koelsch D Hall
DRILLING METHOD:	Direct push
BOREHOLE DIAMETER:	2.25"
SAMPLING METHOD:	Macrocore
DRILLING CONTRACTOR/STAFF:	Vironex / C Gamwell
SHEET	1 OF 1
START DATE / TIME:	5/1/02 1520
FINISH DATE / TIME:	5/1/02 1550

WATER LEVEL INFORMATION					
DATE	5/2/02				
TIME	1340				
DEPTH TO WATER	~3'				
CASING / AUGER DEPTH	10-12' screen				

Surface Conditions: 1" Asphalt

SAMPLER TYPE	SAMPLE NUMBER	TIME	BLOW COUNT	RECOVERY	OVM (ppm) HS / BZ	INTERVAL DEPTH	UNIFIED SYMBOL	Description - USC group name, minor components color, moisture (particle angularity, shape, plasticity, odor, consistency, density, cementation, geologic interpretation, drilling conditions)	Comments
								1" Asphalt	
	50000005	1525				1		Dark brown (10YR 3/3) med SAND w/ some clay, Damp	
				36"		2		Dark gray (10YR 4/1) med SAND Damp	
						3	SW	1" band of potential hydrocarbon staining	PID=0 ppm
						4			
						5		V dark grayish brown (10YR 3/2) SAND Black staining	PID=0 ppm
				24"		6		Saturated at 6'	
						7		Dark gray (5Y 4/1) SAND	
						8	CL	Dark gray (5Y 4/1) CLAY	PID=0ppm
	50000006	1545				9	SW	Dark brown SAND	
				28"		10			
						11	SM	Light gray (5Y 6/1) fine silty SAND	
						12			
								Total Depth = 12'	

ABBREVIATIONS:
HS - HEAD SPACE
BZ - BREATHING ZONE

TYPES OF SOIL SAMPLERS:
SS - Split Spoon
D&M - Dames and Moore U-Type
SPT - Standard Penetration Test

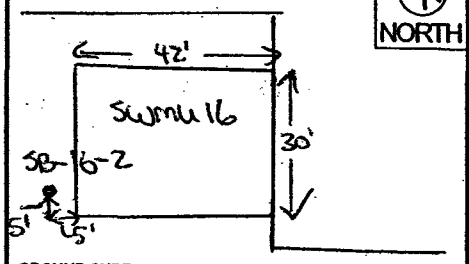
KEYS TO SAMPLES:
☒ INDICATES SAMPLE INTERVAL
☒ INDICATES ANALYTICAL SAMPLE COLLECTED

INTERNATIONAL PAPER

Soil Borehole Log Field Form

SITE/LOCATION: Wilmington, NC	BOREHOLE I.D.: SB-16-2
PROJECT NAME: IP Wilmington	FACILITY NUMBER:

LOCATION SKETCH



GROUND SURFACE ELEVATION:

SAMPLING CONTACT/COMPANY: T. Holadia / T. Richardson

SAMPLING PERSONNEL: R. Koelsch D. Hall

DRILLING METHOD: Direct-Push BOREHOLE DIAMETER: 2.25"

SAMPLING METHOD: Macrocore

DRILLING CONTRACTOR/STAFF: Vironex / C. Gamwell

SHEET 1 OF 1

WATER LEVEL INFORMATION					
DATE	5/2/02				
TIME	1450				
DEPTH TO WATER	~3'				
CASING / AUGER DEPTH	10-12'	screen			

START DATE / TIME: 5/1/02 1550

FINISH DATE / TIME: 5/1/02 1625

Surface Conditions: 1" Asphalt

SAMPLER TYPE	SAMPLE NUMBER	TIME	BLOW COUNT	RECOVERY	OVM (ppm) HS / BZ	INTERVAL DEPTH	UNIFIED SYMBOL	Description - USC group name, minor components color, moisture (particle angularity, shape, plasticity, odor, consistency, density, cementation, geologic interpretation, drilling conditions)	Comments
						1	GM	Gravel Basefill, Tan w/ poorly sorted angular rock fragments up to 0.5" diameter	
						2			
	S000007	1600				3		Dark brown (10YR 3/3) SAND Damp	
						4	SW	Gray (10YR 5/1) fine SAND Dark brown (10YR 3/3) SAND Damp	
						5			
						6			
						7	SM	Gray (10YR 5/1) silty SAND	
	S000008 ~~MS/MSD~~	1615				8		V. dark grayish brown (10YR 3/2) SAND Wet Moist Saturated at 9.5'	
						9			
						10	SW		
						11			
						12		Gray (5Y 6/1) fine SAND	
								Total Depth = 12'	

ABBREVIATIONS:
HS - HEAD SPACE
BZ - BREATHING ZONE

TYPES OF SOIL SAMPLERS:
SS - Split Spoon
D&M - Dames and Moore U-Type
SPT - Standard Penetration Test

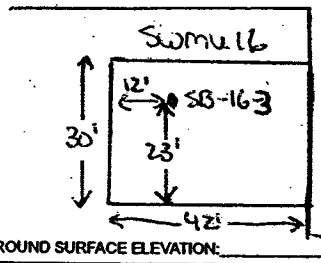
KEYS TO SAMPLES:
INDICATES SAMPLE INTERVAL
INDICATES ANALYTICAL SAMPLE COLLECTED

INTERNATIONAL PAPER

Soil Borehole Log Field Form

SITE/LOCATION: Wilmington, NC	BOREHOLE I.D.: SB-163
PROJECT NAME: IP Wilmington	FACILITY NUMBER:

LOCATION SKETCH



GROUND SURFACE ELEVATION: _____

SAMPLING CONTACT/COMPANY: Troy Holadia/Tom Richardson
SAMPLING PERSONNEL: R Koelsch D. Hall
DRILLING METHOD: Direct-push BOREHOLE DIAMETER: 2.25"
SAMPLING METHOD: Macrocore
DRILLING CONTRACTOR/STAFF: Vironex/C Gamwell

SHEET 1 OF 1

START DATE / TIME: 840 5/2/02 1520
FINISH DATE / TIME: 5/2/02 905

WATER LEVEL INFORMATION				
DATE				
TIME				
DEPTH TO WATER				
CASING / AUGER DEPTH				

Surface Conditions: Concrete

SAMPLER TYPE	SAMPLE NUMBER	TIME	BLOW COUNT	RECOVERY	OVM (ppm) HS / BZ	INTERVAL DEPTH	UNIFIED SYMBOL	Description - USC group name, minor components color, moisture (particle angularity, shape, plasticity, odor, consistency, density, cementation, geologic interpretation, drilling conditions)	Comments
								8" Concrete	
X	S0001Z	850		27"/39"		1		Dark grayish brown (10YR 4/2) SAND	
						2		moist	PID=3,900 ppm
								Apparent hydrocarbon staining	
						3			
						4	SW		
				34"					
						5		Dark grayish brown (10YR 4/2) SAND	
						6		w/ black organic debris/staining	
								wet	
X	S0002Z3	900				7	SC	moist, dark grayish brown (10YR 4/2) SAND w/ inc. clay content	PID= 200 ppm
						8		Refusal at 8'	

ABBREVIATIONS: HS - HEAD SPACE; BZ - BREATHING ZONE

TYPES OF SOIL SAMPLERS: SS - Split Spoon; D&M - Dames and Moore U-Type; SPT - Standard Penetration Test

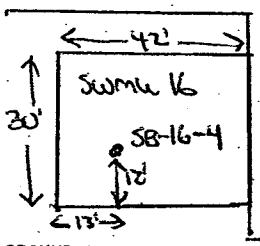
KEYS TO SAMPLES: ☒ INDICATES SAMPLE INTERVAL; ☒ INDICATES ANALYTICAL SAMPLE COLLECTED

INTERNATIONAL PAPER

Soil Borehole Log Field Form

SITE/LOCATION: Wilmington, NC	BOREHOLE I.D.: SB-16-4
PROJECT NAME: IP Wilmington	FACILITY NUMBER:

LOCATION SKETCH



GROUND SURFACE ELEVATION:

SAMPLING CONTACT/COMPANY: T. Holadia / T. Richardson
SAMPLING PERSONNEL: R Koelsch, D Hall
DRILLING METHOD: Direct-push BOREHOLE DIAMETER: 2.5"
SAMPLING METHOD: Macrocore
DRILLING CONTRACTOR/STAFF: Vironex / C. Gamwell

SHEET 1 OF 1

WATER LEVEL INFORMATION					
DATE					
TIME					
DEPTH TO WATER					
CASING / AUGER DEPTH					

START DATE / TIME: 5/1/02 1630
FINISH DATE / TIME: 5/1/02 1700

Surface Conditions: Concrete

SAMPLER TYPE	SAMPLE NUMBER	TIME	BLOW COUNT	RECOVERY	OVM (ppm) HS / BZ	INTERVAL DEPTH	UNIFIED SYMBOL	Description - USC group name, minor components color, moisture (particle angularity, shape, plasticity, odor, consistency, density, cementation, geologic interpretation, drilling conditions)	Comments
								Concrete 8 3/4"	
	SO0001	1640		74" / 39" / 48"		1		Dark brown (10YR 3/3) SAND	
						2			
						3			
						4		Black mottling	
						5			
				36"		6	SW	Dark grayish brown (10YR 4/2) SAND moist	
						7			
						8		Moist, v. dark grayish brown (10YR 3/2) SAND	
				36"		9			
						10		Brown (10YR 5/3) SAND Saturated at 10.5'	
	SO0010	1700				11		Refusal at 11' - concrete	
	SO0011 (Dup)								

ABBREVIATIONS: HS - HEAD SPACE; BZ - BREATHING ZONE

TYPES OF SOIL SAMPLERS: SS - Split Spoon; D&M - Dames and Moore U-Type; SPT - Standard Penetration Test

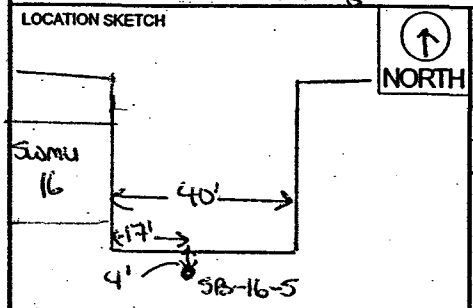
KEYS TO SAMPLES: INDICATES SAMPLE INTERVAL; INDICATES ANALYTICAL SAMPLE COLLECTED

INTERNATIONAL PAPER

Soil Borehole Log Field Form

SITE/LOCATION: Wilmington, NC	BOREHOLE I.D.: SB-16-5
PROJECT NAME: IP Wilmington	FACILITY NUMBER:

LOCATION SKETCH



GROUND SURFACE ELEVATION:

SAMPLING CONTACT/COMPANY: T. Hdadia / T. Richardson
SAMPLING PERSONNEL: R. Koelsch, D. Hall
DRILLING METHOD: Direct Push BOREHOLE DIAMETER: 2.5"
SAMPLING METHOD: Macrocore
DRILLING CONTRACTOR/STAFF: Vironex / C. Gamwell

SHEET 1 OF 1

WATER LEVEL INFORMATION					
DATE					
TIME					
DEPTH TO WATER					
CASING / AUGER DEPTH					

START DATE / TIME: 5/2/02 910
FINISH DATE / TIME: 5/2/02 945

Surface Conditions: 2" Asphalt

SAMPLER TYPE	SAMPLE NUMBER	TIME	BLOW COUNT	RECOVERY	OVM (ppm) HS / BZ	INTERVAL DEPTH	UNIFIED SYMBOL	Description - USC group name, minor components color, moisture (particle angularity, shape, plasticity, odor, consistency, density, cementation, geologic interpretation, drilling conditions)	Comments
								2" Asphalt	
								Fill	
X	SO0015	915				1		Brown (10YR 5/3) SAND, moist	
						2			PID=0 ppm
						3			
						4	SW		
X	SO0015	925							PID=0ppm
						5			
						6			
								Saturated at 6.5'	PID=0ppm
						7		Light brownish gray (2.5Y 6/2) fine SAND	
						8			PID=0ppm
								Total Depth=8'	

ABBREVIATIONS:
HS - HEAD SPACE
BZ - BREATHING ZONE

TYPES OF SOIL SAMPLERS:
SS - Split Spoon
D&M - Dames and Moore U-Type
SPT - Standard Penetration Test

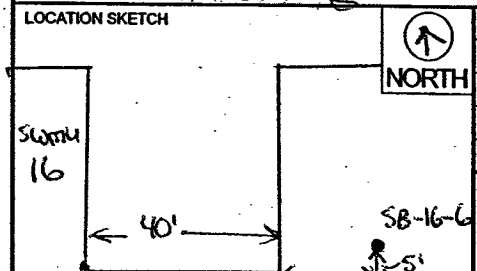
KEYS TO SAMPLES:
☐ INDICATES SAMPLE INTERVAL
☒ INDICATES ANALYTICAL SAMPLE COLLECTED

INTERNATIONAL PAPER

Soil Borehole Log Field Form

SITE/LOCATION: Wilmington, NC	BOREHOLE I.D.: SB-16-6
PROJECT NAME: IP Wilmington	FACILITY NUMBER:

LOCATION SKETCH



GROUND SURFACE ELEVATION: _____

SAMPLING CONTACT/COMPANY:	J. Holadia / Tom Richardson
SAMPLING PERSONNEL:	R Koelsch D. Hall
DRILLING METHOD:	Direct Push
BOREHOLE DIAMETER:	2.5"
SAMPLING METHOD:	Macrocore
DRILLING CONTRACTOR/STAFF:	Vironex / C Gamwell
SHEET	1 OF 1
START DATE / TIME:	5/2/02 950
FINISH DATE / TIME:	5/2/02 1010

WATER LEVEL INFORMATION					
DATE					
TIME					
DEPTH TO WATER					
CASING / AUGER DEPTH					

ABBREVIATIONS: HS - HEAD SPACE; BZ - BREATHING ZONE

TYPES OF SOIL SAMPLERS: SS - Split Spoon; D&M - Dames and Moore U-Type; SPT - Standard Penetration Test

KEYS TO SAMPLES: INDICATES SAMPLE INTERVAL; INDICATES ANALYTICAL SAMPLE COLLECTED

Surface Conditions: 2" Asphalt

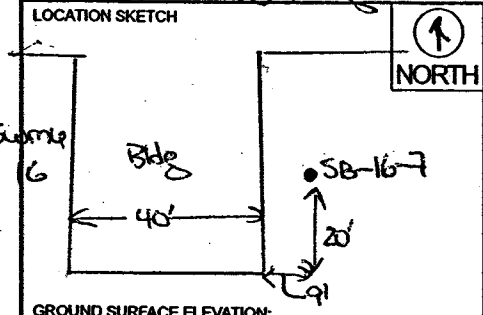
SAMPLER TYPE	SAMPLE NUMBER	TIME	BLOW COUNT	RECOVERY	OVM (ppm) HS / BZ	INTERVAL DEPTH	UNIFIED SYMBOL	Description - USC group name, minor components color, moisture (particle angularity, shape, plasticity, odor, consistency, density, cementation, geologic interpretation, drilling conditions)	Comments
							GM	2" Asphalt	
						1		Gravel mixed w/ lt. tan, Iron Streaking FILL	
SS	SB06016	955						V. dark grayish brown (10YR3/2)	
						2		fine SAND, moist	
								Black (5Y 2.5/1) fine SAND	
						3			
						4	SW	Dark grayish brown (10YR4/2) fine SAND	
SS	SB06017	1005						V dark grayish brown (10YR3/2) SAND Moist	
				48"		5		Lt. yellowish brown (2.5Y 6/3) SAND, wet	
						6		Saturated at 6'	
						7			
						8		Total Depth = 8'	

INTERNATIONAL PAPER

Soil Borehole Log Field Form

SITE/LOCATION: Wilmington, NC	BOREHOLE I.D.: SB-16-7
PROJECT NAME: IP Wilmington	FACILITY NUMBER:

LOCATION SKETCH



GROUND SURFACE ELEVATION:

SAMPLING CONTACT/COMPANY: T. Holadia / T. Richardson
SAMPLING PERSONNEL: R Koelsch, D. Hall
DRILLING METHOD: Direct Push BOREHOLE DIAMETER: 2.5"
SAMPLING METHOD: Macrocore
DRILLING CONTRACTOR/STAFF: Vironex / C. Gamwell

SHEET 1 OF 1

WATER LEVEL INFORMATION					
DATE					
TIME					
DEPTH TO WATER					
CASING / AUGER DEPTH					

START DATE / TIME: 5/2/02 1045
FINISH DATE / TIME: 5/2/02 1110

Surface Conditions: 2" Asphalt

SAMPLER TYPE	SAMPLE NUMBER	TIME	BLOW COUNT	RECOVERY	OVM (ppm) HS / BZ	INTERVAL DEPTH	UNIFIED SYMBOL	Description - USC group name, minor components color, moisture (particle angularity, shape, plasticity, odor, consistency, density, cementation, geologic interpretation, drilling conditions)	Comments
							GP	2" Asphalt, Lt tan fill, small amt. gravel	
	S0202D	1050				1		V. dark brown (10YR 2/2) SAND	
	S0202 (Dup)	0955						Moist	
						2		Brown (10YR 4/3) SAND	
						3		moist	
						4	SW	V. dark brown (10YR 2/2) SAND moist	
	S0202	1100						V. dark grayish brown (2.5Y 3/2) SAND	
				48"		5		Lt. brownish gray (2.5Y 6/2) SAND	
						6		Saturated at 5'	
						7			
						8		Total Depth = 8'	

ABBREVIATIONS: HS - HEAD SPACE; BZ - BREATHING ZONE

TYPES OF SOIL SAMPLERS: SS - Split Spoon; D&M - Dames and Moore U-Type; SPT - Standard Penetration Test

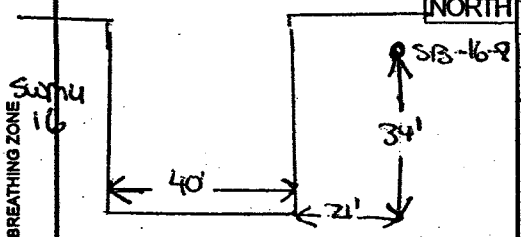
KEYS TO SAMPLES: INDICATES SAMPLE INTERVAL; INDICATES ANALYTICAL SAMPLE COLLECTED

INTERNATIONAL PAPER

Soil Borehole Log Field Form

SITE/LOCATION: Wilmington NC	BOREHOLE I.D.: SB-16-8
PROJECT NAME: IP Wilmington	FACILITY NUMBER:

LOCATION SKETCH



GROUND SURFACE ELEVATION: _____

SAMPLING CONTACT/COMPANY:	T. Holadia / T. Richardson
SAMPLING PERSONNEL:	R. Koelsch D. Hall
DRILLING METHOD:	Direct Push
BOREHOLE DIAMETER:	2.5"
SAMPLING METHOD:	Macrocore
DRILLING CONTRACTOR/STAFF:	Vironex / C. Gamwell
SHEET	1 OF 1
START DATE / TIME:	5/2/02 1015
FINISH DATE / TIME:	5/2/02 1040

WATER LEVEL INFORMATION					
DATE					
TIME					
DEPTH TO WATER					
CASING / AUGER DEPTH					

Surface Conditions: 2" Asphalt

SAMPLER TYPE	SAMPLE NUMBER	TIME	BLOW COUNT	RECOVERY	OVM (ppm) HS / BZ	INTERVAL DEPTH	UNIFIED SYMBOL	Description - USC group name, minor components color, moisture (particle angularity, shape, plasticity, odor, consistency, density, cementation, geologic interpretation, drilling conditions)	Comments
							SP	2" Asphalt	
								Fill, lt. tan SAND some Gravel	
						1		V. dark brown (10YR 2/2) SAND	
	SOB/18 MS/MSD	1020						Moist	
						2		Dark reddish brown (5YR 2.5/2)	
								fine SAND, moist	
						3			
								Brown (10YR 5/3) fine SAND, wet	
						4	SW		
	SOB/19	1035						Grayish brown (10YR 5/2) SAND	
						5		Saturated at 5.5'	
				48"					
						6		V. pale brown (10YR 7/3) SAND	
						7			
						8			
								Total Depth = 8'	

TYPES OF SOIL SAMPLERS:
SS - Split Spoon
D&M - Dames and Moore U-Type
SPT - Standard Penetration Test

ABBREVIATIONS:
HS - HEAD SPACE
BZ - BREATHING ZONE

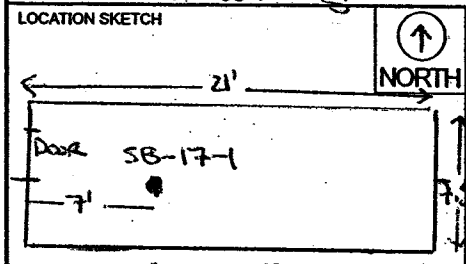
KEYS TO SAMPLES:
☐ INDICATES SAMPLE INTERVAL
☒ INDICATES ANALYTICAL SAMPLE COLLECTED

INTERNATIONAL PAPER

Soil Borehole Log Field Form

SITE/LOCATION: IP Wilmington Wilmington, NC	BOREHOLE I.D.: SB-17-1
PROJECT NAME: IP Wilmington	FACILITY NUMBER:

LOCATION SKETCH



GROUND SURFACE ELEVATION:

SAMPLING CONTACT/COMPANY:	Troy Helada / T. Richardson
SAMPLING PERSONNEL:	R Koelsch, D Hall
DRILLING METHOD:	Direct-push
BOREHOLE DIAMETER:	1"
SAMPLING METHOD:	Macrocore
DRILLING CONTRACTOR/STAFF:	Virowex / C. Garnwell
SHEET	1 OF 1
START DATE / TIME:	5/1/02 1100
FINISH DATE / TIME:	5/1/02 1200

WATER LEVEL INFORMATION				
DATE				
TIME				
DEPTH TO WATER				
CASING / AUGER DEPTH				

Surface Conditions: Interior Room, Concrete

SAMPLER TYPE	SAMPLE NUMBER	TIME	BLOW COUNT	RECOVERY	OVM (ppm) HS / BZ	INTERVAL DEPTH (ft)	UNIFIED SYMBOL	Description - USC group name, minor components color, moisture (particle angularity, shape, plasticity, odor, consistency, density, cementation, geologic interpretation, drilling conditions)	Comments
								Concrete	
X	SOXXXX1	1110		23"		1		Light brownish gray silty SAND	
						2	SM	Damp (2.5Y 6/2) (5-10% silt)	
				8.5"		3		Very dark grayish brown (10YR 3/2) silty SAND Damp	
						4		Lt. brownish gray (10YR 6/2) SAND	
								Lt gray fine SAND (10YR 7/2)	
				23"		5		V. dark grayish brown SAND (10YR 3/2)	Stained, Hydrocarbon odor PID=0 ppm
X	SOXXXX2	1145				6			
				22"		7	SW	Saturated at 7'	
						8			
				24"		9			Strong hydrocarbon odor PID=495 ppm PID=356 ppm
						10		Dark brown (10YR 4/3) medium grain SAND	PID=0 ppm
				24"		11		V. dark grayish brown (10YR 3/2) fine grained SAND	
						12		Dark brown (10YR 4/3) fine to med. SAND	
								Total Depth = 12'	

ABBREVIATIONS: HS - HEAD SPACE; BZ - BREATHING ZONE

TYPES OF SOIL SAMPLERS: SS - Split Spoon; D&M - Dames and Moore U-Type; SPT - Standard Penetration Test

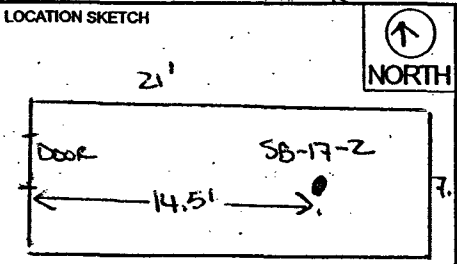
KEYS TO SAMPLES: INDICATES SAMPLE INTERVAL; INDICATES ANALYTICAL SAMPLE COLLECTED

INTERNATIONAL PAPER

Soil Borehole Log Field Form

SITE/LOCATION: Wilmington, NC	BOREHOLE I.D.: SB-17-2
PROJECT NAME: IP Wilmington	FACILITY NUMBER:

LOCATION SKETCH



GROUND SURFACE ELEVATION:

SAMPLING CONTACT/COMPANY: Troy Holadia / T. Richardson
SAMPLING PERSONNEL: R Koelsch, D Hall
DRILLING METHOD: Direct-push BOREHOLE DIAMETER: 1"
SAMPLING METHOD: Macrocore
DRILLING CONTRACTOR/STAFF: Vironex / C Gamwell

SHEET 1 OF 1

WATER LEVEL INFORMATION				
DATE				
TIME				
DEPTH TO WATER				
CASING / AUGER DEPTH				

START DATE / TIME: 5/1/02 1215
FINISH DATE / TIME: 5/1/02 1300

Surface Conditions: Concrete, Interior Room

SAMPLER TYPE	SAMPLE NUMBER	TIME	BLOW COUNT	RECOVERY	OVM (ppm) HS / BZ	INTERVAL DEPTH (ft)	UNIFIED SYMBOL	Description - USC group name, minor components color, moisture (particle angularity, shape, plasticity, odor, consistency, density, cementation, geologic interpretation, drilling conditions)	Comments
								Concrete	
X	S0202003	1225				1			
						2	SM	Light brownish gray (2.5Y 6/2) interspersed w/ dark grayish brown (2.5Y 4/2) silty SAND	PID=0 ppm
				20"		3	SW	Light brownish gray (2.5Y 6/2) fine SAND	
						4	PT	1" very dusky red (2.5YR 2.5/2) black PEAT Black (5Y 2.5/1) PEAT Damp	PID=0 ppm
				20"		5			
						6	SM	V. Dark Gray (5Y 3/1) silty fine SAND	PID=0 ppm
				21"		7		Dark brown (10YR 3/3) fine silty SAND Saturated at 7'	
X	S0202004	1255		24"		8			PID=0 ppm
						9	SW	Reddish brown (2.5YR 5/3) fine to medium SAND	
						10			PID=0 ppm
								Total Depth = 10'	

ABBREVIATIONS:
HS - HEAD SPACE
BZ - BREATHING ZONE

TYPES OF SOIL SAMPLERS:
SS - Split Spoon
D&M - Dames and Moore U-Type
SPT - Standard Penetration Test

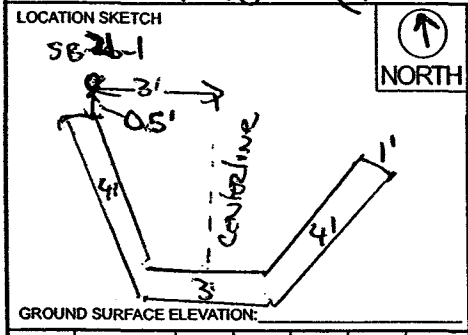
KEYS TO SAMPLES:
☐ INDICATES SAMPLE INTERVAL
☒ INDICATES ANALYTICAL SAMPLE COLLECTED

INTERNATIONAL PAPER

Soil Borehole Log Field Form

SITE/LOCATION: Wilmington, NC	BOREHOLE I.D.: SB-21-1
PROJECT NAME: IP Wilmington	FACILITY NUMBER:

LOCATION SKETCH



GROUND SURFACE ELEVATION: _____

SAMPLING CONTACT/COMPANY:	T. Holadia, T. Richardson
SAMPLING PERSONNEL:	R. Koelsch, D. Hall
DRILLING METHOD:	Direct push
BOREHOLE DIAMETER:	2.5"
SAMPLING METHOD:	Macrocore
DRILLING CONTRACTOR/STAFF:	Vironex / G. Gamwell
SHEET	1 OF 1
START DATE / TIME:	5/2/02 1700
FINISH DATE / TIME:	5/2/02 1730

WATER LEVEL INFORMATION					
DATE					
TIME					
DEPTH TO WATER					
CASING / AUGER DEPTH					

Surface Conditions: Leafy Black topsoil

SAMPLER TYPE	SAMPLE NUMBER	TIME	BLOW COUNT	RECOVERY	OVM (ppm) HS / BZ	INTERVAL DEPTH	UNIFIED SYMBOL	Description - USC group name, minor components color, moisture (particle angularity, shape, plasticity, odor, consistency, density, cementation, geologic interpretation, drilling conditions)	Comments
								Approx 2' topsoil	Not enough Recovery to collect sample
						1			
						2		6" Concrete	
							CL	Gray CLAY, moist	
						3			
☒	S000028	1715							
☒	S000029	1725				4			
							SC	Gray Clay grading to yellow (10YR 7/6) sand	
						5			
						6			
						7			
								Total Depth = 7'	

ABBREVIATIONS:
HS - HEAD SPACE
BZ - BREATHING ZONE

TYPES OF SOIL SAMPLERS:
SS - Split Spoon
D&M - Dames and Moore U-Type
SPT - Standard Penetration Test

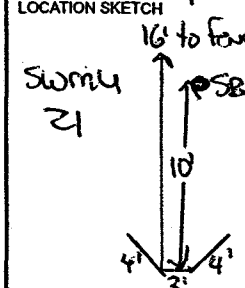
KEYS TO SAMPLES:
☒ INDICATES SAMPLE INTERVAL
☒ INDICATES ANALYTICAL SAMPLE COLLECTED

INTERNATIONAL PAPER

Soil Borehole Log Field Form

SITE/LOCATION: Wilmington, NC	BOREHOLE I.D.: SB-21-2
PROJECT NAME: IP Wilmington	FACILITY NUMBER:

LOCATION SKETCH



NORTH

GROUND SURFACE ELEVATION: _____

SAMPLING CONTACT/COMPANY: T. Holada, T. Richardson

SAMPLING PERSONNEL: R Koetsch, D. Hall

DRILLING METHOD: Direct Push BOREHOLE DIAMETER: 2.5"

SAMPLING METHOD: Macrocore

DRILLING CONTRACTOR/STAFF: Virginex, C. Garnwell

SHEET 1 OF 1

WATER LEVEL INFORMATION					
DATE					
TIME					
DEPTH TO WATER					
CASING / AUGER DEPTH					

START DATE / TIME: 5/2/02 1642

FINISH DATE / TIME: 5/2/02 1700

Surface Conditions: Leafy Black topsoil

SAMPLER TYPE	SAMPLE NUMBER	TIME	BLOW COUNT	RECOVERY	OVM (ppm) HS / BZ	INTERVAL DEPTH	UNIFIED SYMBOL	Description - USC group name, minor components color, moisture (particle angularity, shape, plasticity, odor, consistency, density, cementation, geologic interpretation, drilling conditions)	Comments
								Leaf litter, Topsoil, Black	
	SB0025	1645				1	CL	Gray CLAY w/ orange sand	
	SB0026 (dup)	1650				2			
	SB0027	1655				3	SW	Saturated at 3.5'	
						4		Gray w/ orange staining SAND	
						5	SM	Gray silty SAND	
								grading to	
						6		orange silty SAND	
						7		back to Gray silty SAND	
						8		Total Depth = 8'	

ABBREVIATIONS: HS - HEAD SPACE; BZ - BREATHING ZONE

TYPES OF SOIL SAMPLERS: SS - Split Spoon; D&M - Dames and Moore U-Type; SPT - Standard Penetration Test

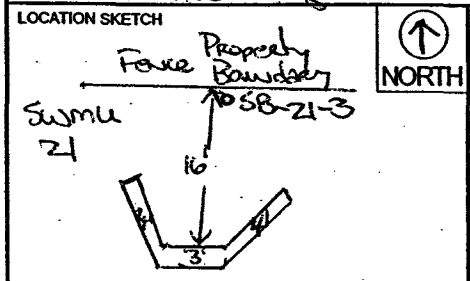
KEYS TO SAMPLES: INDICATES SAMPLE INTERVAL; INDICATES ANALYTICAL SAMPLE COLLECTED

INTERNATIONAL PAPER

Soil Borehole Log Field Form

SITE/LOCATION: Wilmington, NC	BOREHOLE I.D.: SB-21-3
PROJECT NAME: IP Wilmington	FACILITY NUMBER:

LOCATION SKETCH



GROUND SURFACE ELEVATION: _____

SAMPLING CONTACT/COMPANY: T. Hdadia / T. Richardson
SAMPLING PERSONNEL: R Koelsch, D. Hall
DRILLING METHOD: Direct push BOREHOLE DIAMETER: 2.5"
SAMPLING METHOD: Macrocore
DRILLING CONTRACTOR/STAFF: Vironex / C. Gamwell

SHEET 1 OF 1

START DATE / TIME: 5/2/02 1622
FINISH DATE / TIME: 5/2/02 1640

WATER LEVEL INFORMATION				
DATE				
TIME				
DEPTH TO WATER				
CASING / AUGER DEPTH				

Surface Conditions: Leafy black topsoil

SAMPLER TYPE	SAMPLE NUMBER	TIME	BLOW COUNT	RECOVERY	OVM (ppm) HS / BZ	INTERVAL DEPTH	UNIFIED SYMBOL	Description - USC group name, minor components color, moisture (particle angularity, shape, plasticity, odor, consistency, density, cementation, geologic interpretation, drilling conditions)	Comments
								Black (7.5YR 2/0) Leafy Topsoil cover	
	50402 3 1625	1625				1	CL	Gray clay, orange mottling	
	50402 4	1635				2		Saturated at 1.5'	
						3			
						4		Fine silty SAND, grayish tan	
						5	SM		
						6			
						7		Yellow (10YR 7/8) silty SAND	
						8		Total Depth = 8'	

ABBREVIATIONS:
HS - HEAD SPACE
BZ - BREATHING ZONE

TYPES OF SOIL SAMPLERS:
SS - Split Spoon
D&M - Dames and Moore U-Type
SPT - Standard Penetration Test

KEYS TO SAMPLES:
INDICATES SAMPLE INTERVAL
INDICATES ANALYTICAL SAMPLE COLLECTED

INTERNATIONAL PAPER

Groundwater Sampling Field Form

SITE/LOCATION: Wilmington NC	WELL I.D.: WP-16-1	DATE: 5/2/02
PROJECT NAME: IP Wilmington	FACILITY NUMBER:	TIME: 1340
SAMPLING CONTACT/COMPANY: Tom Richardson / Troy Holadia	SAMPLING PERSONNEL: R Koelsch D Hall	

WELL CONDITION: POOR SATISFACTORY NEW (If poor, explain) 1" Well point

FIELD CONDITIONS/ WEATHER: Sunny, hot, humid

EQUIPMENT DECONTAMINATION: Bailer - Alconox DI IPA DI

INSTRUMENT CALIBRATION DATE:

Casing Diameter: (circle one) 2" 4" 6" Other 1"

Casing Volume Calculation: ($\pi r^2 h$) (7.48 gal/ft^3)

Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47

Depth to Water (feet): 3

Depth of Well (feet): 12

Water Column (feet): 9

Casing Volume (gallons): 0.4

Calculated Purge Volume (gallons): 1.2

Actual Purge Volume (gallons): 2.4

Measuring Point Elevation (feet):

Groundwater Surface Elevation:

Sheen / LNAPL / DNAPL present:

Other Remarks:

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMP (°C)	pH	CONDUCTANCE (µS/cm 25° C)	DISSOLVED OXYGEN (ppm)	Eh	TURBIDITY (NTU)	ODOR / COLOR/ REMARKS
1345	0							PURGE START
1350	0.4	25.7	7.03	910	—	-153.4	>1000	chocolate brown
1355	0.8	25.0	6.97	818	—	-153.9	>1000	no sheen
14:00	1.2	24.9	6.75	859	—	-157.1	>1000	~~petr~~ slight
14:05	1.6	24.9	6.94	883	—	-159.1	797	~~petroleum~~ odor
14:10	2.0	24.7	6.96	881	—	-159.7	373	reducing
14:15	2.4	24.7	6.99	866	—	-156.6	161	

Purging Equipment: Peristaltic **Sampling Equipment:** SS bailer **Sample Intake Depth:** 10'

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
GW0014	VOCs + Heave, n-propyl acetate	40mL VOAs / HCS	
GW0015 (dup)			

INTERNATIONAL PAPER

Groundwater Sampling Field Form

SITE/LOCATION: Wilmington NC	WELL I.D.: WP-16-2	DATE: 5/2/02
PROJECT NAME: IP Wilmington	FACILITY NUMBER:	TIME: 1450
SAMPLING CONTACT/COMPANY: Tom Richardson/Troy Huladia	SAMPLING PERSONNEL: R. Koelsch, D. Hall	

WELL CONDITION: POOR SATISFACTORY NEW (if poor, explain) 1" well point

FIELD CONDITIONS/ WEATHER: Sunny, Breezy Hot, humid

EQUIPMENT DECONTAMINATION: Barlee - Alconox DI IPA RO

INSTRUMENT CALIBRATION DATE:

Casing Diameter: (circle one) 2" 4" 6" Other 1"

Casing Volume Calculation: ($\pi r^2 h$) (7.48 gal/ft^3)

Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47

Depth to Water (feet): 3

Depth of Well (feet): 12

Water Column (feet): 9

Casing Volume (gallons): 0.4

Calculated Purge Volume (gallons): 1.2

Actual Purge Volume (gallons): 2.4

Measuring Point Elevation (feet):

Groundwater Surface Elevation:

Sheen / LNAPL / DNAPL present:

Other Remarks:

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMP (°C)	pH	CONDUCTANCE (µS/cm 25° C)	DISSOLVED OXYGEN (ppm)	Eh	TURBIDITY (NTU)	ODOR / COLOR/ REMARKS
1450	0							PURGE START
14:55	0.4	25.1	6.82	1072	—	-134.8	>1000	Choc. Brown
15:00	0.8	24.4	6.83	1075	—	-136.8	>1000	Slight Reducing Odor
15:05	1.2	24.9	6.80	1168	—	-135.0	>1000	
15:10	1.6	24.4	6.79	1087	—	-133.0	>1000	
15:15	2.0	24.2	6.93	1103	—	-123.3	>1000	
15:20	2.4	24.7	6.79	1086	—	-133.8	>1000	

Purging Equipment: Peristaltic **Sampling Equipment:** SS Barlee **Sample Intake Depth:** 10'

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
GW0016 MS/MSD	VOCs + Hexane, n-propyl acetate	40mL VOAs/HCl	

Appendix C

Data Quality Assurance Review

Results of Quality Assurance Review: RCRA Facility Investigation, Former International Paper Folding Carton Facility

Introduction

Exponent performed a quality assurance review of analytical data from soil and groundwater samples that were analyzed for semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), metals (arsenic, copper, chromium, lead, and selenium), percent moisture, and total organic carbon (TOC). Twenty-nine soil samples, including three field duplicates, and one pre-cleaned equipment blank were collected May 1–3, 2002. Four groundwater samples, including one field duplicate sample and one equipment blank, were collected May 2 and 3, 2002. In addition, three trip blanks were analyzed for VOCs. All sample analyses were completed by Columbia Analytical Services, Inc., Jacksonville, Florida. The samples were received at the laboratory May –4, 2002.

The quality assurance review was conducted to verify that the laboratory quality assurance and quality control procedures were documented and that the quality of the data is sufficient for its intended purposes.

The quality assurance review included evaluating the applicable quality control (QC) results reported by the laboratory. The data were validated in accordance with guidance specified by the *USEPA Contract Laboratory Program, National Functional Guidelines for Organic Data Review* (U.S. EPA 1999a) for organic compound analyses, and the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (U.S. EPA 1994) for metals analyses.

Analytical Methods

Analyses were completed in accordance with the methods listed in the following table:

Constituent	Method
VOCs	SW-846 Method 8260B[a]
SVOCs	SW-846 Method 8270C[a]
Total metals	SW-846 Method 6020[a]
Percent moisture	EPA Method 160.3[b]
Total organic carbon	S1D, S3[c]

[a] U.S. EPA 1997
[b] U.S. EPA 1999b
[c] U.S. EPA 1981

Completeness

Results reported by the laboratory were 100 percent complete. No data were rejected.

Holding Times and Sample Preservation

Method-specific holding times were met for all samples.

Instrument Performance

The performance of the analytical instruments, as documented by the laboratory, was acceptable.

Initial and Continuing Calibration

Initial and continuing calibrations were completed for all applicable target analytes and met criteria for acceptable performance, and frequency of analysis, with the exceptions noted below. The following results were qualified as estimated (*J*), because the 25 percent difference control limit for continuing calibration verification was not met for the following target analytes:

- Chloromethane in samples SO0001–SO0003, SO0006–SO0011, SO0026, and SO0027
- Vinyl acetate and 2-hexanone in samples SO0012, SO0013, and SO0017–SO0025
- Trans-1,4-dichloro-2-butene in samples GW0014–GW0016.

These qualified data may exhibit a greater degree of uncertainty than unqualified data.

Initial and Continuing Calibration Blanks

The initial and continuing calibration blank (ICB and CCB) analyses met the criteria for acceptable performance.

Method Blank Analyses

Target analytes were not detected in the method blanks, with four exceptions. Selected target analytes detected in both the method blank and associated samples resulted in the restating as undetected (*U*) at the concentration reported by the laboratory of the following target analytes:

- Methylene chloride in samples SO0001–SO0009, SO0011, and SO0026–SO0028

- Toluene in sample SO0015
- Bis(2-ethylhexyl)phthalate in sample SO0025
- Chromium in sample GW0018.

Instrument-Specific Quality Control Procedures

The results of the instrument-specific quality control procedures for metals analyses (interference check sample [ICS] and ICP serial dilution) met the frequency requirements and the laboratory's control limits, with two exceptions.

The 10 percent control limit for the serial dilution analysis was not met for chromium and copper. The results reported for these two metals in samples SO0023–SO0029 were qualified as estimated (*J*).

Accuracy

The accuracy of the analytical results is evaluated in the following sections in terms of analytical bias (applicable surrogate compound, matrix spike [MS], and laboratory control sample [LCS] recoveries, and internal standard responses) and precision (applicable matrix spike duplicate [MSD], LCS duplicate, and duplicate sample analyses).

Surrogate Compound Recoveries

The recoveries reported by the laboratory for the surrogate compounds added to all samples analyzed for SVOCs and VOCs generally met the laboratory's control limits, with 20 exceptions.

Recoveries for two acid and two base-neutral surrogates associated with the SVOC analyses completed on samples SO0023, SO0025, SO0026, SO0027, and SO0028 were outside laboratory-established control limits. Results reported for the SVOC target analytes in these five samples were qualified as estimated (*J*).

Matrix Spike Recoveries

The MS/MSD recoveries reported by the laboratory for the SVOC, VOC, and metals analyses, and the frequency of analysis, met the laboratory's criteria for acceptable performance, with a few exceptions. Some of the MS/MSD recoveries associated with SVOC and VOC analyses were outside applicable control limits. No data were qualified for the MS/MSD recovery exceedances, because sample results are not qualified based on MS/MSD results alone (U.S. EPA 1999a).

Laboratory Control Sample Recoveries

The LCS recoveries reported by the laboratory for the SVOC, VOC, total metals, and TOC analyses, and the frequency of analysis, met the laboratory's criteria for acceptable performance.

Internal Standard Responses

The responses and retention times for all internal standards met method-specific criteria for acceptable performance.

Precision

The results reported by the laboratory for laboratory duplicate analyses (TOC and percent moisture analyses) and MSD (SVOC, VOC, and metals analyses), and the frequency of analysis, met the laboratory's criteria for acceptable performance.

Field Quality Control Samples

The field quality control samples consisted of three soil field duplicate sample pairs: samples SO0010/SO0011 (analyzed for VOCs, percent moisture, and TOC), SO0020/SO0021 (analyzed for VOCs, percent moisture, and TOC), and SO0025/SO0026 (analyzed for VOCs, SVOCs, metals, and TOC) and one groundwater field duplicate pair (GW0014/GW0015 analyzed for VOCs). The field blanks included one field-cleaned groundwater equipment blank (sample GW0017), one pre-cleaned soil equipment blank (sample GO0018), and three trip blanks (analyzed for VOCs only).

The precision of all target analytes reported as detected in the field duplicate pairs was acceptable. No target analytes were reported as detected in the equipment rinsate blanks. For the trip blank analyses, no target analytes were reported as detected, with one exception. In one trip blank (sample GW0013), methylene chloride was reported as detected at 0.83 μg/L. No action was required, however, because this VOC was not detected in the associated samples.

Analyte Quantification and Method Reporting Limits

Analytes detected between the method detection limit and the method reporting limit were flagged as estimated (*J*) by the laboratory. These results were also qualified as estimated (*J*) during the quality assurance review. The affected target analytes and samples included the following:

- Chloroform for samples SO0001–SO0004, SO0006–SO0012, and SO0014–SO0023
- Acetone for sample SO0011
- Benzene for samples SO0010 and SO0011

- Toluene for samples SO0018–SO0021
- Tetrachloroethene for sample SO0018
- Methylene chloride for sample GW0013
- Toluene for sample GW0014
- m,p-Xylene for samples GW0014 and GW0015.

A greater level of uncertainty may be associated with these qualified results.

References

U.S. EPA. 1981. Procedures for handling and chemical analysis of sediment and water samples. Prepared for U.S. Environmental Protection Agency, Washington, DC. Russell H. Plumb, Jr., Great Lakes Laboratory, State University College at Buffalo, Buffalo, New York.

U.S. EPA. 1994. USEPA Contract Laboratory Program national functional guidelines for inorganic data review. EPA 540/R-94/013. February. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, DC.

U.S. EPA. 1997. Test methods for evaluating solid waste—physical/chemical methods, SW-846. Version 2. Integrated Manual/ Update III. U.S. Environmental Protection Agency, Washington, DC.

U.S. EPA. 1999a. USEPA Contract Laboratory Program, national functional guidelines for organic data review. EPA/540/R-99/008. October. U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, DC.

U.S. EPA. 1999b. Methods and guidance for analysis of water. Version 2.0 CD-ROM. U.S. Environmental Protection Agency, Office of Water, Washington, DC.

Appendix D

Laboratory Analytical Reports

ACCREDITED IN ACCORDANCE WITH nelac

Columbia Analytical Services INC.
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RECEIVED
JUN - 7 2002
At Exponent

June 05, 2002

Service Request No. J2201452

Mike Martin
Exponent
4240 Pearl East Circle, Suite 300
Boulder, CO 80301

VOC
SVOC
TOC
6/14/02

RE: Test Report for
Project No.: 8601269.003
Project Name: IP Wilmington

Dear Mike Martin:

Enclosed are the results of the samples(s) submitted to our laboratory on May 02, 2002. For your reference, these analyses have been assigned our service request number: J2201452.

All analyses were performed according to our laboratory's quality assurance program. NELAP requirements were met unless footnotes in each sample report indicate otherwise. Estimates regarding the degree of uncertainty in measurements can be inferred from the accuracy limits in the laboratory QA manual. However, these limits do not account for possible matrix effects. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.

Craig R. Myers

Craig Myers
Project Manager

S00001	S00006	S00011
S00002	S00007	
S00003	S00008	FD
S00004	S00009	
S00005	S00010	

CAS Jacksonville is NELAC-accredited by the State of Florida (E82502). Other state accreditations include: LA, AI 30759; MA, M-FL937; NC, 527; SC, 96021; WA, C278.

1 MDL/MRL

GW0011-TB
GW0012-EB – applies to May and April Samples (SVOCs, VOCs) – all ND

8540 Baycenter Rd. ▪ Jacksonville, FL 32256 ▪ (904) 739-2277 ▪ Fax (904) 739-2011

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Non-CLP Tier IV (Tier III w/out Raw Data)

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This report contains a total of 335 pages

Organic Data Qualifiers

A -- This qualifier indicates that a TIC is a suspected aldol-condensation product.

B -- This flag is used when the analyte is found in the associated blank as well as the sample. This notation indicates possible blank contamination and suggests that the data user evaluate these compounds and their amounts carefully.

C -- The "C" flag indicates the presence of this compound has been confirmed by GC/MS analysis.

D -- This qualifier is used for all compounds identified in an analysis at a secondary dilution factor. "D" qualifiers are used only for the samples reported at more than one dilution factor.

E -- This flag indicates that the value reported exceeds the linear calibration range for that compound. Therefore, the sample should be reanalyzed at an appropriate dilution. The "E" qualified amount is an estimated concentration, and the results of the dilution will be reported on a separate Form I.

I -- This qualifier indicates that the reporting limit adjacent to the "I" qualifier has been raised. It is used when chromatographic interference prohibits detection of a compound at a level below the concentration expressed on the Form I.

J -- Indicates an estimated value. It is used when the data indicates the presence of a target compound below the reporting limit or the presence of a Tentatively Identified Compound (TIC).

N -- This qualifier indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the indentification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the "N" qualifier is not used.

P -- This qualifier is used for pesticide/aroclor target analytes when there is a 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".

U -- Indicates the compound was analyzed for but not detected. The number adjacent to the "U" qualifier indicates the reporting limit for that compound. The reporting limit can vary from sample to sample depending on dilution factors or percent moisture adjustments when indicated.

Organic Sample ID Qualifiers

DL -- Diluted reanalysis. Indicates that the results were determined in an analysis of a secondary dilution of a sample or extract. The "DL" suffix may be followed by a digit to indicate multiple dilutions of the sample or extract. The results of more than one diluted reanalyses may be reported.

MS -- Matrix spike (may be followed by a digit to indicate multiple matrix spikes within a sample set).

MSD - Matrix spike duplicate (may be followed by a digit to indicate multiple matrix spikes within a sample set).

R -- Reanalysis. The extract was reanalyzed without re-extraction. The "R" is not used if the sample was also re-extracted. May be followed by a digit to indicate multiple reanalyses of the sample at the same dilution.

RE -- Re-extraction analysis. The sample was re-extracted and reanalyzed. May be followed by a digit to indicate multiple re-extracted analyses of the sample at the same dilution.

Inorganic Qualifiers

C (Concentration) Qualifier -- Enter "B" if the reported value obtained was less than the CRDL but greater than or equal to the IDL. Enter "U" if the value was less than the IDL or was not detected.

Q Qualifier -- Entries and their meanings are:

E -- The reported value is estimated because of interference. An explanatory comment must be included in the case narrative if the problem applies to all samples in this data package or on the individual FORM I if it is an isolated problem.

M -- Duplicate injection precision was not met (two analyses of the same sample did not agree).

N -- Spiked sample recovery not within control limits.

S -- The reported value was determined by the Method of Standard Additions (MSA).

W -- Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.

* -- Duplicate analysis not within control limits

+ -- Correlation coefficient for the MSA is less than 0.995.

Entering "S", "W", or "+" is mutually exclusive. No combination of these qualifiers can appear in the same field.

M (Method) Qualifier – Enter one of the following:

P -- ICP
A -- Flame AA
F -- Furnace AA
CV -- Manual Cold Vapor AA
AV -- Automated Cold Vapor AA
AS -- Semi-Automated Spectrophotometric
CA -- Manual Spectrophotometric
T -- Titrimetric
NR -- Analyte was not required by your lab

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Jacksonville, FL 32256
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CROSS REFERENCE

Lab Sample ID	Client Sample ID	Date/Time Collected	Matrix
J2201452-001	SO0001	5/01/02 1110	Soil
J2201452-002	SO0002	5/01/02 1145	Soil
J2201452-003	SO0003	5/01/02 1225	Soil
J2201452-004	SO0004	5/01/02 1255	Soil
J2201452-005	SO0005	5/01/02 1525	Soil
J2201452-006	SO0006	5/01/02 1545	Soil
J2201452-007	SO0007	5/01/02 1600	Soil
J2201452-008	SO0008	5/01/02 1615	Soil
J2201452-009	SO0009	5/01/02 1640	Soil
J2201452-010	SO0010	5/01/02 1700	Soil
J2201452-011	SO0011	5/01/02 1700	Soil
J2201452-012	GW0011	5/01/02 NA	Water
J2201452-013	GW0012	5/01/02 1830	Water

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GC/MS Volatiles

CASE NARRATIVE
GC/MS Volatiles

CAS Lab Reference No./SDG#: J2201452

Client/Project: Exponent / IP Wilmington

I. RECEIPT

No exceptions were encountered unless noted on the Cooler Receipt and Preservation Form included with this data package.

II. HOLDING TIMES

A. Sample preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHOD

Preparation: SW846 5035 and SW846 5030B

Analysis: SW846 8260B

IV. PREPARATION

Sample preparation proceeded normally.

V. ANALYSIS

A. Calibration: In the continuing calibration verification (CCV) standard analyzed in batch MS522E09A, lab file 0509-02, chloromethane (24.0%D) and carbon disulfide (21.0%D) were biased high. No corrective action is necessary since these analytes were not detected above the reporting limit in any of the associated samples. In the CCV standard analyzed in batch MS522E07A, lab file 0504-02, the following analytes are biased low: dichlorodifluoromethane (21.7% D), chloromethane (25.8%D), trichlorofluoromethane (20.8% D) and hexane (25.4% D). A method reporting limit (MRL) standard was analyzed with all of the target analytes being detected. No corrective action is necessary since these analytes were not detected above the reporting limit in any of the associated samples. In the CCV standard analyzed in batch MS522E07C, lab file 0507-48, acetone (20.6% D) is biased high. No corrective action is necessary since acetone was not detected above the reporting limit in any of the associated samples.

B. Blanks: All acceptance criteria were met.

C. Surrogates: All acceptance criteria were met.

D. Spikes: There are two sets of MS/MSD pairs that serve as batch QC. The percent recoveries for several analytes in these QC samples are outside of the stated control limits due to matrix interference. No corrective action is necessary since these analytes are within the control limits in the associated LCS samples.

E. LCS: The following analytes are out high in the LCS for batch MS522E09A: dichlorodifluoromethane, chloromethane, vinyl chloride, bromomethane, 1,1-dichloroethene and 1,1-dichloroethane. No corrective action is necessary since these analytes were not detected above the reporting limit in any of the associated samples.

F. Internal standards: All acceptance criteria were met.

G. Samples: Sample analyses proceeded normally.

H. Other: Initially the lab analyzed a method detection limit study and calibration curve for isopropyl acetate when actually the study should have been for n-propyl acetate. The calibration standards analyzed with the samples contained isopropyl acetate instead of n-propyl acetate. A direct comparison between these two analytes was made with the results being comparable. N-propyl acetate and isopropyl acetate have similar response factors but different retention times. These samples were re-quantitated and a search was made against a single calibration standard of propyl acetate at the correct retention time after they were initially analyzed. N-propyl acetate was not detected in any of the samples. There was not even any peaks at all present in any of the samples at the retention time for n-

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propyl acetate. Based on this, not having a valid calibration for n-propyl acetate at the time of acquisition does not have a major impact on the sample result of "non-detect" for this analyte. In the standards section of the data package , spectral data and chromatograms are provided showing the retention time difference and the ions used in the search. Isopropyl acetate is also being reported since it was included in the calibration and used in the comparison with n-propyl acetate. Samples collected in the future will be analyzed with a valid calibration curve for n-propyl acetate. No corrective action was taken since n-propyl acetate was not detected in any of the samples.

I certify that this data package is in compliance with the terms and conditions agreed to by Columbia Analytical Services, Inc. and by the client, both technically, and for completeness, except for the conditions detailed above. 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:

Signed: _____ Date: 6-3-02

Bob Dempsey
Organics Manager

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Sample Data

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0001

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-001

Sample wt/vol: 4.150 (g/mL) G Lab File ID: 0507-06

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 6 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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	6.4	U
74-87-3	Chloromethane (P)	1.3	U
75-01-4	Vinyl Chloride (C)	1.3	U
74-83-9	Bromomethane	1.3	U
75-00-3	Chloroethane	1.3	U
75-69-4	Trichlorofluoromethane	1.3	U
75-35-4	1,1-Dichloroethene (C)	1.3	U
67-64-1	Acetone	32	U
74-88-4	Iodomethane	6.4	U
75-15-0	Carbon Disulfide	6.4	U
75-09-2	Methylene Chloride	9.0	JB
156-60-5	trans-1,2-Dichloroethene	1.3	U
1634-04-4	Methyl tert-Butyl Ether	1.3	U
75-34-3	1,1-Dichloroethane (P)	1.3	U
108-05-4	Vinyl Acetate	13	U
156-59-2	cis-1,2-Dichloroethene	1.3	U
78-93-3	2-Butanone (MEK)	13	U
74-97-5	Bromochloromethane	1.3	U
67-66-3	Chloroform (C)	~~0.42~~	~~J~~
71-55-6	1,1,1-Trichloroethane	1.3	U
56-23-5	Carbon Tetrachloride	1.3	U
71-43-2	Benzene	1.3	U
107-06-2	1,2-Dichloroethane	1.3	U
79-01-6	Trichloroethene	1.3	U
78-87-5	1,2-Dichloropropane (C)	1.3	U
74-95-3	Dibromomethane	1.3	U
75-27-4	Bromodichloromethane	1.3	U
10061-01-5	cis-1,3-Dichloropropene	1.3	U
108-10-1	4-Methyl-2-pentanone (MIBK)	13	U
108-88-3	Toluene (C)	1.3	U
10061-02-6	trans-1,3-Dichloropropene	1.3	U
79-00-5	1,1,2-Trichloroethane	1.3	U
127-18-4	Tetrachloroethene	1.3	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0001

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-001

Sample wt/vol: 4.150 (g/mL) G Lab File ID: 0507-06

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 6 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	13	U
124-48-1	Dibromochloromethane	1.3	U
106-93-4	1,2-Dibromoethane (EDB)	1.3	U
108-90-7	Chlorobenzene (P)	1.3	U
630-20-6	1,1,1,2-Tetrachloroethane	1.3	U
100-41-4	Ethylbenzene (C)	1.3	U
136777-61-2	m,p-Xylenes	2.6	U
1330-20-7	Total Xylenes	3.8	U
95-47-6	o-Xylene	1.3	U
100-42-5	Styrene	1.3	U
75-25-2	Bromoform (P)	1.3	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.3	U
96-18-4	1,2,3-Trichloropropane	1.3	U
110-57-6	trans-1,4-Dichloro-2-butene	26	U
541-73-1	1,3-Dichlorobenzene	1.3	U
106-46-7	1,4-Dichlorobenzene	1.3	U
95-50-1	1,2-Dichlorobenzene	1.3	U
96-12-8	1,2-Dibromo-3-chloropropane	13	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0002

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-002

Sample wt/vol: 5.650 (g/mL) G Lab File ID: 0507-07

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 16 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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	5.2	U
74-87-3	Chloromethane (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	26	U
74-88-4	Iodomethane	5.2	U
75-15-0	Carbon Disulfide	5.2	U
75-09-2	Methylene Chloride	8.5	JB
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	10	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	10	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	0.49	J
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U
108-88-3	Toluene (C)	1100	E
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

S00002

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-002

Sample wt/vol: 5.650 (g/mL) G Lab File ID: 0507-07

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 16 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	11	
136777-61-2	m,p-Xylenes	24	
1330-20-7	Total Xylenes	28	
95-47-6	o-Xylene	3.6	
100-42-5	Styrene	1.0	U
75-25-2	Bromoform (P)	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	21	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0002D

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-002D

Sample wt/vol: 4.970 (g/ml) G Lab File ID: 0514-21

Level: (low/med) MED Date Received: 05/02/02

% Moisture: not dec. 16 Date Analyzed: 05/14/02

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 10.0

Soil Extract Volume: 43(ml) Soil Aliquot Volume: 5(ml)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	6000	U
74-87-3	Chloromethane (P)	1200	U
75-01-4	Vinyl Chloride (C)	1200	U
74-83-9	Bromomethane	1200	U
75-00-3	Chloroethane	1200	U
75-69-4	Trichlorofluoromethane	1200	U
75-35-4	1,1-Dichloroethene (C)	1200	U
67-64-1	Acetone	60000	U
74-88-4	Iodomethane	6000	U
75-15-0	Carbon Disulfide	12000	U
75-09-2	Methylene Chloride	6000	U
156-60-5	trans-1,2-Dichloroethene	1200	U
1634-04-4	Methyl tert-Butyl Ether	1200	U
75-34-3	1,1-Dichloroethane (P)	1200	U
108-05-4	Vinyl Acetate	6000	U
156-59-2	cis-1,2-Dichloroethene	1200	U
78-93-3	2-Butanone (MEK)	30000	U
74-97-5	Bromochloromethane	1200	U
67-66-3	Chloroform (C)	1200	U
71-55-6	1,1,1-Trichloroethane	1200	U
56-23-5	Carbon Tetrachloride	1200	U
71-43-2	Benzene	1200	U
107-06-2	1,2-Dichloroethane	1200	U
79-01-6	Trichloroethene	1200	U
78-87-5	1,2-Dichloropropane (C)	1200	U
74-95-3	Dibromomethane	1200	U
75-27-4	Bromodichloromethane	1200	U
10061-01-5	cis-1,3-Dichloropropene	1200	U
108-10-1	4-Methyl-2-pentanone (MIBK)	30000	U
108-88-3	Toluene (C)	22000	
10061-02-6	trans-1,3-Dichloropropene	1200	U
79-00-5	1,1,2-Trichloroethane	1200	U
127-18-4	Tetrachloroethene	1200	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0002D

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-002D

Sample wt/vol: 4.970 (g/ml) G Lab File ID: 0514-21

Level: (low/med) MED Date Received: 05/02/02

% Moisture: not dec. 16 Date Analyzed: 05/14/02

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 10.0

Soil Extract Volume: 43(ml) Soil Aliquot Volume: 5(ml)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
591-78-6	2-Hexanone	30000	U
124-48-1	Dibromochloromethane	1200	U
106-93-4	1,2-Dibromoethane (EDB)	1200	U
108-90-7	Chlorobenzene (P)	1200	U
630-20-6	1,1,1,2-Tetrachloroethane	1200	U
100-41-4	Ethylbenzene (C)	1200	U
136777-61-2	m,p-Xylenes	2400	U
1330-20-7	Total Xylenes	3600	U
95-47-6	o-Xylene	1200	U
100-42-5	Styrene	1200	U
75-25-2	Bromoform (P)	1200	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1200	U
96-18-4	1,2,3-Trichloropropane	1200	U
110-57-6	trans-1,4-Dichloro-2-butene	12000	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
96-12-8	1,2-Dibromo-3-chloropropane	2400	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0003

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-003

Sample wt/vol: 4.260 (g/mL) G Lab File ID: 0507-08

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 4 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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	6.1	U
74-87-3	Chloromethane (P)	1.2	U
75-01-4	Vinyl Chloride (C)	1.2	U
74-83-9	Bromomethane	1.2	U
75-00-3	Chloroethane	1.2	U
75-69-4	Trichlorofluoromethane	1.2	U
75-35-4	1,1-Dichloroethene (C)	1.2	U
67-64-1	Acetone	30	U
74-88-4	Iodomethane	6.1	U
75-15-0	Carbon Disulfide	6.1	U
75-09-2	Methylene Chloride	7.6	JB
156-60-5	trans-1,2-Dichloroethene	1.2	U
1634-04-4	Methyl tert-Butyl Ether	1.2	U
75-34-3	1,1-Dichloroethane (P)	1.2	U
108-05-4	Vinyl Acetate	12	U
156-59-2	cis-1,2-Dichloroethene	1.2	U
78-93-3	2-Butanone (MEK)	12	U
74-97-5	Bromochloromethane	1.2	U
67-66-3	Chloroform (C)	0.44	J
71-55-6	1,1,1-Trichloroethane	1.2	U
56-23-5	Carbon Tetrachloride	1.2	U
71-43-2	Benzene	1.2	U
107-06-2	1,2-Dichloroethane	1.2	U
79-01-6	Trichloroethene	1.2	U
78-87-5	1,2-Dichloropropane (C)	1.2	U
74-95-3	Dibromomethane	1.2	U
75-27-4	Bromodichloromethane	1.2	U
10061-01-5	cis-1,3-Dichloropropene	1.2	U
108-10-1	4-Methyl-2-pentanone (MIBK)	12	U
108-88-3	Toluene (C)	3.7	
10061-02-6	trans-1,3-Dichloropropene	1.2	U
79-00-5	1,1,2-Trichloroethane	1.2	U
127-18-4	Tetrachloroethene	1.2	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0003

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-003

Sample wt/vol: 4.260 (g/mL) G Lab File ID: 0507-08

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 4 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	1.2	U
106-93-4	1,2-Dibromoethane (EDB)	1.2	U
108-90-7	Chlorobenzene (P)	1.2	U
630-20-6	1,1,1,2-Tetrachloroethane	1.2	U
100-41-4	Ethylbenzene (C)	1.2	U
136777-61-2	m,p-Xylenes	2.4	U
1330-20-7	Total Xylenes	3.7	U
95-47-6	o-Xylene	1.2	U
100-42-5	Styrene	1.2	U
75-25-2	Bromoform (P)	1.2	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.2	U
96-18-4	1,2,3-Trichloropropane	1.2	U
110-57-6	trans-1,4-Dichloro-2-butene	24	U
541-73-1	1,3-Dichlorobenzene	1.2	U
106-46-7	1,4-Dichlorobenzene	1.2	U
95-50-1	1,2-Dichlorobenzene	1.2	U
96-12-8	1,2-Dibromo-3-chloropropane	12	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0004

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-004

Sample wt/vol: 5.410 (g/mL) G Lab File ID: 0507-54

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 18 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	5.6	U
74-87-3	Chloromethane (P)	1.1	U
75-01-4	Vinyl Chloride (C)	1.1	U
74-83-9	Bromomethane	1.1	U
75-00-3	Chloroethane	1.1	U
75-69-4	Trichlorofluoromethane	1.1	U
75-35-4	1,1-Dichloroethene (C)	1.1	U
67-64-1	Acetone	25	J
74-88-4	Iodomethane	5.6	U
75-15-0	Carbon Disulfide	5.6	U
75-09-2	Methylene Chloride	11	JB
156-60-5	trans-1,2-Dichloroethene	1.1	U
1634-04-4	Methyl tert-Butyl Ether	1.1	U
75-34-3	1,1-Dichloroethane (P)	1.1	U
108-05-4	Vinyl Acetate	11	U
156-59-2	cis-1,2-Dichloroethene	1.1	U
78-93-3	2-Butanone (MEK)	11	U
74-97-5	Bromochloromethane	1.1	U
67-66-3	Chloroform (C)	0.48	J
71-55-6	~~1,1,1-Trichloroethane~~	1.1	U
56-23-5	Carbon Tetrachloride	1.1	U
71-43-2	Benzene	1.1	U
107-06-2	1,2-Dichloroethane	1.1	U
79-01-6	Trichloroethene	1.1	U
78-87-5	1,2-Dichloropropane (C)	1.1	U
74-95-3	Dibromomethane	1.1	U
75-27-4	Bromodichloromethane	1.1	U
10061-01-5	cis-1,3-Dichloropropene	1.1	U
108-10-1	4-Methyl-2-pentanone (MIBK)	11	U
108-88-3	Toluene (C)	8.4	B
10061-02-6	trans-1,3-Dichloropropene	1.1	U
79-00-5	1,1,2-Trichloroethane	1.1	U
127-18-4	Tetrachloroethene	1.1	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0004

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-004

Sample wt/vol: 5.410 (g/mL) G Lab File ID: 0507-54

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 18 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	1.1	U
106-93-4	1,2-Dibromoethane (EDB)	1.1	U
108-90-7	Chlorobenzene (P)	1.1	U
630-20-6	1,1,1,2-Tetrachloroethane	1.1	U
100-41-4	Ethylbenzene (C)	8.6	
136777-61-2	m,p-Xylenes	19	
1330-20-7	Total Xylenes	22	
95-47-6	o-Xylene	2.4	
100-42-5	Styrene	1.1	U
75-25-2	Bromoform (P)	1.1	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.1	U
96-18-4	1,2,3-Trichloropropane	1.1	U
110-57-6	trans-1,4-Dichloro-2-butene	22	U
541-73-1	1,3-Dichlorobenzene	1.1	U
106-46-7	1,4-Dichlorobenzene	1.1	U
95-50-1	1,2-Dichlorobenzene	1.1	U
96-12-8	1,2-Dibromo-3-chloropropane	11	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0005

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-005

Sample wt/vol: 4.250 (g/mL) G Lab File ID: 0507-55

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 3 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	6.1	U
74-87-3	Chloromethane (P)	1.2	U
75-01-4	Vinyl Chloride (C)	1.2	U
74-83-9	Bromomethane	1.2	U
75-00-3	Chloroethane	1.2	U
75-69-4	Trichlorofluoromethane	1.2	U
75-35-4	1,1-Dichloroethene (C)	1.2	U
67-64-1	Acetone	30	U
74-88-4	Iodomethane	6.1	U
75-15-0	Carbon Disulfide	6.1	U
75-09-2	Methylene Chloride	6.2	JB
156-60-5	trans-1,2-Dichloroethene	1.2	U
1634-04-4	Methyl tert-Butyl Ether	1.2	U
75-34-3	1,1-Dichloroethane (P)	1.2	U
108-05-4	Vinyl Acetate	12	U
156-59-2	cis-1,2-Dichloroethene	1.2	U
78-93-3	2-Butanone (MEK)	12	U
74-97-5	Bromochloromethane	1.2	U
67-66-3	Chloroform (C)	1.2	U
71-55-6	1,1,1-Trichloroethane	1.2	U
56-23-5	Carbon Tetrachloride	1.2	U
71-43-2	Benzene	1.2	U
107-06-2	1,2-Dichloroethane	1.2	U
79-01-6	Trichloroethene	1.2	U
78-87-5	1,2-Dichloropropane (C)	1.2	U
74-95-3	Dibromomethane	1.2	U
75-27-4	Bromodichloromethane	1.2	U
10061-01-5	cis-1,3-Dichloropropene	1.2	U
108-10-1	4-Methyl-2-pentanone (MIBK)	12	U
108-88-3	Toluene (C)	1.2	U
10061-02-6	trans-1,3-Dichloropropene	1.2	U
79-00-5	1,1,2-Trichloroethane	1.2	U
127-18-4	Tetrachloroethene	1.2	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0005

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-005

Sample wt/vol: 4.250 (g/mL) G Lab File ID: 0507-55

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 3 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	1.2	U
106-93-4	1,2-Dibromoethane (EDB)	1.2	U
108-90-7	Chlorobenzene (P)	1.2	U
630-20-6	1,1,1,2-Tetrachloroethane	1.2	U
100-41-4	Ethylbenzene (C)	1.2	U
136777-61-2	m,p-Xylenes	2.4	U
1330-20-7	Total Xylenes	3.6	U
95-47-6	o-Xylene	1.2	U
100-42-5	Styrene	1.2	U
75-25-2	Bromoform (P)	1.2	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.2	U
96-18-4	1,2,3-Trichloropropane	1.2	U
110-57-6	trans-1,4-Dichloro-2-butene	24	U
541-73-1	1,3-Dichlorobenzene	1.2	U
106-46-7	1,4-Dichlorobenzene	1.2	U
95-50-1	1,2-Dichlorobenzene	1.2	U
96-12-8	1,2-Dibromo-3-chloropropane	12	U
110-54-3	Hexane	6.1	U
108-21-4	Isopropyl Acetate	6.1	U
109-60-4	n-Propyl acetate	6.1	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0006

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-006

Sample wt/vol: 4.770 (g/mL) G Lab File ID: 0507-11

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 16 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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	6.2	U
74-87-3	Chloromethane (P)	1.2	U
75-01-4	Vinyl Chloride (C)	1.2	U
74-83-9	Bromomethane	1.2	U
75-00-3	Chloroethane	1.2	U
75-69-4	Trichlorofluoromethane	1.2	U
75-35-4	1,1-Dichloroethene (C)	1.2	U
67-64-1	Acetone	31	U
74-88-4	Iodomethane	6.2	U
75-15-0	Carbon Disulfide	6.2	U
75-09-2	Methylene Chloride	8.5	JB
156-60-5	trans-1,2-Dichloroethene	1.2	U
1634-04-4	Methyl tert-Butyl Ether	1.2	U
75-34-3	1,1-Dichloroethane (P)	1.2	U
108-05-4	Vinyl Acetate	12	U
156-59-2	cis-1,2-Dichloroethene	1.2	U
78-93-3	2-Butanone (MEK)	12	U
74-97-5	Bromochloromethane	1.2	U
67-66-3	Chloroform (C)	0.76	J
71-55-6	1,1,1-Trichloroethane	1.2	U
56-23-5	Carbon Tetrachloride	1.2	U
71-43-2	Benzene	1.2	U
107-06-2	1,2-Dichloroethane	1.2	U
79-01-6	Trichloroethene	1.2	U
78-87-5	1,2-Dichloropropane (C)	1.2	U
74-95-3	Dibromomethane	1.2	U
75-27-4	Bromodichloromethane	1.2	U
10061-01-5	cis-1,3-Dichloropropene	1.2	U
108-10-1	4-Methyl-2-pentanone (MIBK)	12	U
108-88-3	Toluene (C)	1.4	
10061-02-6	trans-1,3-Dichloropropene	1.2	U
79-00-5	1,1,2-Trichloroethane	1.2	U
127-18-4	Tetrachloroethene	1.2	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0006

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-006

Sample wt/vol: 4.770 (g/mL) G Lab File ID: 0507-11

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 16 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	1.2	U
106-93-4	1,2-Dibromoethane (EDB)	1.2	U
108-90-7	Chlorobenzene (P)	1.2	U
630-20-6	1,1,1,2-Tetrachloroethane	1.2	U
100-41-4	Ethylbenzene (C)	1.2	U
136777-61-2	m,p-Xylenes	2.5	U
1330-20-7	Total Xylenes	3.7	U
95-47-6	o-Xylene	1.2	U
100-42-5	Styrene	1.2	U
75-25-2	Bromoform (P)	1.2	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.2	U
96-18-4	1,2,3-Trichloropropane	1.2	U
110-57-6	trans-1,4-Dichloro-2-butene	25	U
541-73-1	1,3-Dichlorobenzene	1.2	U
106-46-7	1,4-Dichlorobenzene	1.2	U
95-50-1	1,2-Dichlorobenzene	1.2	U
96-12-8	1,2-Dibromo-3-chloropropane	12	U
110-54-3	Hexane	6.2	U
108-21-4	Isopropyl Acetate	6.2	U
109-60-4	n-Propyl acetate	6.2	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0007

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-007

Sample wt/vol: 4.400 (g/mL) G Lab File ID: 0507-12

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 4 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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	5.9	U
74-87-3	Chloromethane (P)	1.2	U
75-01-4	Vinyl Chloride (C)	1.2	U
74-83-9	Bromomethane	1.2	U
75-00-3	Chloroethane	1.2	U
75-69-4	Trichlorofluoromethane	1.2	U
75-35-4	1,1-Dichloroethene (C)	1.2	U
67-64-1	Acetone	30	U
74-88-4	Iodomethane	5.9	U
75-15-0	Carbon Disulfide	5.9	U
75-09-2	Methylene Chloride	12	B
156-60-5	trans-1,2-Dichloroethene	1.2	U
1634-04-4	Methyl tert-Butyl Ether	1.2	U
75-34-3	1,1-Dichloroethane (P)	1.2	U
108-05-4	Vinyl Acetate	12	U
156-59-2	cis-1,2-Dichloroethene	1.2	U
78-93-3	2-Butanone (MEK)	12	U
74-97-5	Bromochloromethane	1.2	U
67-66-3	Chloroform (C)	0.54	J
71-55-6	1,1,1-Trichloroethane	1.2	U
56-23-5	Carbon Tetrachloride	1.2	U
71-43-2	Benzene	1.2	U
107-06-2	1,2-Dichloroethane	1.2	U
79-01-6	Trichloroethene	1.2	U
78-87-5	1,2-Dichloropropane (C)	1.2	U
74-95-3	Dibromomethane	1.2	U
75-27-4	Bromodichloromethane	1.2	U
10061-01-5	cis-1,3-Dichloropropene	1.2	U
108-10-1	4-Methyl-2-pentanone (MIBK)	12	U
108-88-3	Toluene (C)	1.0	J
10061-02-6	trans-1,3-Dichloropropene	1.2	U
79-00-5	1,1,2-Trichloroethane	1.2	U
127-18-4	Tetrachloroethene	1.2	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0007

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-007

Sample wt/vol: 4.400 (g/mL) G Lab File ID: 0507-12

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 4 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	1.2	U
106-93-4	1,2-Dibromoethane (EDB)	1.2	U
108-90-7	Chlorobenzene (P)	1.2	U
630-20-6	1,1,1,2-Tetrachloroethane	1.2	U
100-41-4	Ethylbenzene (C)	1.2	U
136777-61-2	m,p-Xylenes	2.4	U
1330-20-7	Total Xylenes	3.6	U
95-47-6	o-Xylene	1.2	U
100-42-5	Styrene	1.2	U
75-25-2	Bromoform (P)	1.2	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.2	U
96-18-4	1,2,3-Trichloropropane	1.2	U
110-57-6	trans-1,4-Dichloro-2-butene	24	U
541-73-1	1,3-Dichlorobenzene	1.2	U
106-46-7	1,4-Dichlorobenzene	1.2	U
95-50-1	1,2-Dichlorobenzene	1.2	U
96-12-8	1,2-Dibromo-3-chloropropane	12	U
110-54-3	Hexane	5.9	U
108-21-4	Isopropyl Acetate	5.9	U
109-60-4	n-Propyl acetate	5.9	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0008

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-008

Sample wt/vol: 4.610 (g/mL) G Lab File ID: 0507-13

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 16 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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	6.4	U
74-87-3	Chloromethane (P)	1.3	U
75-01-4	Vinyl Chloride (C)	1.3	U
74-83-9	Bromomethane	1.3	U
75-00-3	Chloroethane	1.3	U
75-69-4	Trichlorofluoromethane	1.3	U
75-35-4	1,1-Dichloroethene (C)	1.3	U
67-64-1	Acetone	32	U
74-88-4	Iodomethane	6.4	U
75-15-0	Carbon Disulfide	6.4	U
75-09-2	Methylene Chloride	5.3	JB
156-60-5	trans-1,2-Dichloroethene	1.3	U
1634-04-4	Methyl tert-Butyl Ether	1.3	U
75-34-3	1,1-Dichloroethane (P)	1.3	U
108-05-4	Vinyl Acetate	13	U
156-59-2	cis-1,2-Dichloroethene	1.3	U
78-93-3	2-Butanone (MEK)	13	U
74-97-5	Bromochloromethane	1.3	U
67-66-3	Chloroform (C)	~~0.53~~	~~J~~
71-55-6	~~1,1,1-~~Trichloroethane	1.3	U
56-23-5	Carbon Tetrachloride	1.3	U
71-43-2	Benzene	1.3	U
107-06-2	1,2-Dichloroethane	1.3	U
79-01-6	Trichloroethene	1.3	U
78-87-5	1,2-Dichloropropane (C)	1.3	U
74-95-3	Dibromomethane	1.3	U
75-27-4	Bromodichloromethane	1.3	U
10061-01-5	cis-1,3-Dichloropropene	1.3	U
108-10-1	4-Methyl-2-pentanone (MIBK)	13	U
108-88-3	Toluene (C)	1.3	U
10061-02-6	trans-1,3-Dichloropropene	1.3	U
79-00-5	1,1,2-Trichloroethane	1.3	U
127-18-4	Tetrachloroethene	1.3	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0008

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-008

Sample wt/vol: 4.610 (g/mL) G Lab File ID: 0507-13

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 16 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	13	U
124-48-1	Dibromochloromethane	1.3	U
106-93-4	1,2-Dibromoethane (EDB)	1.3	U
108-90-7	Chlorobenzene (P)	1.3	U
630-20-6	1,1,1,2-Tetrachloroethane	1.3	U
100-41-4	Ethylbenzene (C)	1.3	U
136777-61-2	m,p-Xylenes	2.6	U
1330-20-7	Total Xylenes	3.8	U
95-47-6	o-Xylene	1.3	U
100-42-5	Styrene	1.3	U
75-25-2	Bromoform (P)	1.3	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.3	U
96-18-4	1,2,3-Trichloropropane	1.3	U
110-57-6	trans-1,4-Dichloro-2-butene	26	U
541-73-1	1,3-Dichlorobenzene	1.3	U
106-46-7	1,4-Dichlorobenzene	1.3	U
95-50-1	1,2-Dichlorobenzene	1.3	U
96-12-8	1,2-Dibromo-3-chloropropane	13	U
110-54-3	Hexane	6.4	U
108-21-4	Isopropyl Acetate	6.4	U
109-60-4	n-Propyl acetate	6.4	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0009

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-009

Sample wt/vol: 4.570 (g/mL) G Lab File ID: 0507-14

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 9 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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	6.0	U
74-87-3	Chloromethane (P)	1.2	U
75-01-4	Vinyl Chloride (C)	1.2	U
74-83-9	Bromomethane	1.2	U
75-00-3	Chloroethane	1.2	U
75-69-4	Trichlorofluoromethane	1.2	U
75-35-4	1,1-Dichloroethene (C)	1.2	U
67-64-1	Acetone	30	U
74-88-4	Iodomethane	6.0	U
75-15-0	Carbon Disulfide	6.0	U
75-09-2	Methylene Chloride	12	B
156-60-5	trans-1,2-Dichloroethene	1.2	U
1634-04-4	Methyl tert-Butyl Ether	1.2	U
75-34-3	1,1-Dichloroethane (P)	1.2	U
108-05-4	Vinyl Acetate	12	U
156-59-2	cis-1,2-Dichloroethene	1.2	U
78-93-3	2-Butanone (MEK)	12	U
74-97-5	Bromochloromethane	1.2	U
67-66-3	Chloroform (C)	1.1	J
71-55-6	1,1,1-Trichloroethane	1.2	U
56-23-5	Carbon Tetrachloride	1.2	U
71-43-2	Benzene	1.2	U
107-06-2	1,2-Dichloroethane	1.2	U
79-01-6	Trichloroethene	1.2	U
78-87-5	1,2-Dichloropropane (C)	1.2	U
74-95-3	Dibromomethane	1.2	U
75-27-4	Bromodichloromethane	1.2	U
10061-01-5	cis-1,3-Dichloropropene	1.2	U
108-10-1	4-Methyl-2-pentanone (MIBK)	12	U
108-88-3	Toluene (C)	36	
10061-02-6	trans-1,3-Dichloropropene	1.2	U
79-00-5	1,1,2-Trichloroethane	1.2	U
127-18-4	Tetrachloroethene	1.2	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

S00009

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-009

Sample wt/vol: 4.570 (g/mL) G Lab File ID: 0507-14

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 9 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	1.2	U
106-93-4	1,2-Dibromoethane (EDB)	1.2	U
108-90-7	Chlorobenzene (P)	1.2	U
630-20-6	1,1,1,2-Tetrachloroethane	1.2	U
100-41-4	Ethylbenzene (C)	1.2	U
136777-61-2	m,p-Xylenes	2.4	U
1330-20-7	Total Xylenes	3.6	U
95-47-6	o-Xylene	1.2	U
100-42-5	Styrene	1.2	U
75-25-2	Bromoform (P)	1.2	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.2	U
96-18-4	1,2,3-Trichloropropane	1.2	U
110-57-6	trans-1,4-Dichloro-2-butene	24	U
541-73-1	1,3-Dichlorobenzene	1.2	U
106-46-7	1,4-Dichlorobenzene	1.2	U
95-50-1	1,2-Dichlorobenzene	1.2	U
96-12-8	1,2-Dibromo-3-chloropropane	12	U
110-54-3	Hexane	6.0	U
108-21-4	Isopropyl Acetate	6.0	U
109-60-4	n-Propyl acetate	6.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0010

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-010

Sample wt/vol: 5.770 (g/mL) G Lab File ID: 0507-15

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 16 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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	5.2	U
74-87-3	Chloromethane (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	26	U
74-88-4	Iodomethane	5.2	U
75-15-0	Carbon Disulfide	5.2	U
75-09-2	Methylene Chloride	16	B
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	10	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	20	
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	0.99	J
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	0.52	J
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U
108-88-3	Toluene (C)	140	
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0010

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-010

Sample wt/vol: 5.770 (g/mL) G Lab File ID: 0507-15

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 16 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.1	U
1330-20-7	Total Xylenes	3.1	U
95-47-6	o-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform (P)	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	21	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
110-54-3	Hexane	5.2	U
108-21-4	Isopropyl Acetate	5.2	U
109-60-4	n-Propyl acetate	5.2	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0011

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-011

Sample wt/vol: 5.470 (g/mL) G Lab File ID: 0507-16

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 16 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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	5.4	U
74-87-3	Chloromethane (P)	1.1	U
75-01-4	Vinyl Chloride (C)	1.1	U
74-83-9	Bromomethane	1.1	U
75-00-3	Chloroethane	1.1	U
75-69-4	Trichlorofluoromethane	1.1	U
75-35-4	1,1-Dichloroethene (C)	1.1	U
67-64-1	Acetone	21	J
74-88-4	Iodomethane	5.4	U
75-15-0	Carbon Disulfide	5.4	U
75-09-2	Methylene Chloride	8.9	JB
156-60-5	trans-1,2-Dichloroethene	1.1	U
1634-04-4	Methyl tert-Butyl Ether	1.1	U
75-34-3	1,1-Dichloroethane (P)	1.1	U
108-05-4	Vinyl Acetate	11	U
156-59-2	cis-1,2-Dichloroethene	1.1	U
78-93-3	2-Butanone (MEK)	11	U
74-97-5	Bromochloromethane	1.1	U
67-66-3	Chloroform (C)	0.99	J
71-55-6	1,1,1-Trichloroethane	1.1	U
56-23-5	Carbon Tetrachloride	1.1	U
71-43-2	Benzene	0.53	J
107-06-2	1,2-Dichloroethane	1.1	U
79-01-6	Trichloroethene	1.1	U
78-87-5	1,2-Dichloropropane (C)	1.1	U
74-95-3	Dibromomethane	1.1	U
75-27-4	Bromodichloromethane	1.1	U
10061-01-5	cis-1,3-Dichloropropene	1.1	U
108-10-1	4-Methyl-2-pentanone (MIBK)	11	U
108-88-3	Toluene (C)	48	
10061-02-6	trans-1,3-Dichloropropene	1.1	U
79-00-5	1,1,2-Trichloroethane	1.1	U
127-18-4	Tetrachloroethene	1.1	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0011

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201452-011

Sample wt/vol: 5.470 (g/mL) G Lab File ID: 0507-16

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. 16 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	1.1	U
106-93-4	1,2-Dibromoethane (EDB)	1.1	U
108-90-7	Chlorobenzene (P)	1.1	U
630-20-6	1,1,1,2-Tetrachloroethane	1.1	U
100-41-4	Ethylbenzene (C)	1.1	U
136777-61-2	m,p-Xylenes	1.1	J
1330-20-7	Total Xylenes	3.3	U
95-47-6	o-Xylene	1.1	U
100-42-5	Styrene	1.1	U
75-25-2	Bromoform (P)	1.1	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.1	U
96-18-4	1,2,3-Trichloropropane	1.1	U
110-57-6	trans-1,4-Dichloro-2-butene	22	U
541-73-1	1,3-Dichlorobenzene	1.1	U
106-46-7	1,4-Dichlorobenzene	1.1	U
95-50-1	1,2-Dichlorobenzene	1.1	U
96-12-8	1,2-Dibromo-3-chloropropane	11	U
110-54-3	Hexane	5.4	U
108-21-4	Isopropyl Acetate	5.4	U
109-60-4	n-Propyl acetate	5.4	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW0011

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: J2201452-012

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-18

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. _____ Date Analyzed: 05/09/02

GC Column: DB-624 ID: 0.18 (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	5.0	U
74-87-3	Chloromethane (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	50	U
74-88-4	Iodomethane	5.0	U
75-15-0	Carbon Disulfide	10	U
75-09-2	Methylene Chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
110-54-3	Hexane	5.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	25	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
108-21-4	Isopropyl Acetate	5.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
109-60-4	n-Propyl acetate	5.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	25	U
108-88-3	Toluene (C)	1.0	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW0011

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: J2201452-012

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-18

Level: (low/med) LOW Date Received: 05/02/02

% Moisture: not dec. _____ Date Analyzed: 05/09/02

GC Column: DB-624 ID: 0.18 (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
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.0	U
1330-20-7	Total Xylenes	3.0	U
95-47-6	o-Xylene	1.0	U
75-25-2	Bromoform (P)	1.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	10	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	2.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

J2201475-004

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

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

Sample wt/vol: 5.840 (g/mL) G Lab File ID: 0507-20

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: not dec. 20 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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	5.3	U
74-87-3	Chloromethane (P)	1.1	U
75-01-4	Vinyl Chloride (C)	1.1	U
74-83-9	Bromomethane	1.1	U
75-00-3	Chloroethane	1.1	U
75-69-4	Trichlorofluoromethane	1.1	U
75-35-4	1,1-Dichloroethene (C)	1.1	U
67-64-1	Acetone	27	U
74-88-4	Iodomethane	5.3	U
75-15-0	Carbon Disulfide	5.3	U
75-09-2	Methylene Chloride	6.9	JB
156-60-5	trans-1,2-Dichloroethene	1.1	U
1634-04-4	Methyl tert-Butyl Ether	1.1	U
75-34-3	1,1-Dichloroethane (P)	1.1	U
108-05-4	Vinyl Acetate	11	U
156-59-2	cis-1,2-Dichloroethene	1.1	U
78-93-3	2-Butanone (MEK)	11	U
74-97-5	Bromochloromethane	1.1	U
67-66-3	Chloroform (C)	1.1	U
71-55-6	1,1,1-Trichloroethane	1.1	U
56-23-5	Carbon Tetrachloride	1.1	U
71-43-2	Benzene	1.1	U
107-06-2	1,2-Dichloroethane	1.1	U
79-01-6	Trichloroethene	1.1	U
78-87-5	1,2-Dichloropropane (C)	1.1	U
74-95-3	Dibromomethane	1.1	U
75-27-4	Bromodichloromethane	1.1	U
10061-01-5	cis-1,3-Dichloropropene	1.1	U
108-10-1	4-Methyl-2-pentanone (MIBK)	11	U
108-88-3	Toluene (C)	1.1	U
10061-02-6	trans-1,3-Dichloropropene	1.1	U
79-00-5	1,1,2-Trichloroethane	1.1	U
127-18-4	Tetrachloroethene	1.1	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

J2201475-004

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

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

Sample wt/vol: 5.840 (g/mL) G Lab File ID: 0507-20

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: not dec. 20 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	1.1	U
106-93-4	1,2-Dibromoethane (EDB)	1.1	U
108-90-7	Chlorobenzene (P)	1.1	U
630-20-6	1,1,1,2-Tetrachloroethane	1.1	U
100-41-4	Ethylbenzene (C)	1.1	U
136777-61-2	m,p-Xylenes	2.1	U
1330-20-7	Total Xylenes	3.2	U
95-47-6	o-Xylene	1.1	U
100-42-5	Styrene	1.1	U
75-25-2	Bromoform (P)	1.1	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.1	U
96-18-4	1,2,3-Trichloropropane	1.1	U
110-57-6	trans-1,4-Dichloro-2-butene	21	U
541-73-1	1,3-Dichlorobenzene	1.1	U
106-46-7	1,4-Dichlorobenzene	1.1	U
95-50-1	1,2-Dichlorobenzene	1.1	U
96-12-8	1,2-Dibromo-3-chloropropane	11	U
110-54-3	Hexane	5.3	U
108-21-4	Isopropyl Acetate	5.3	U
109-60-4	n-Propyl acetate	5.3	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

J2201475-004MS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

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

Sample wt/vol: 5.730 (g/mL) G Lab File ID: 0507-21

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: not dec. 20 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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	21	
74-87-3	Chloromethane (P)	20	
75-01-4	Vinyl Chloride (C)	20	
74-83-9	Bromomethane	20	
75-00-3	Chloroethane	19	
75-69-4	Trichlorofluoromethane	21	
75-35-4	1,1-Dichloroethene (C)	21	
67-64-1	Acetone	87	
74-88-4	Iodomethane	98	
75-15-0	Carbon Disulfide	100	
75-09-2	Methylene Chloride	29	B
156-60-5	trans-1,2-Dichloroethene	20	
1634-04-4	Methyl tert-Butyl Ether	20	
75-34-3	1,1-Dichloroethane (P)	21	
108-05-4	Vinyl Acetate	55	
156-59-2	cis-1,2-Dichloroethene	20	
78-93-3	2-Butanone (MEK)	86	
74-97-5	Bromochloromethane	19	
67-66-3	Chloroform (C)	20	
71-55-6	1,1,1-Trichloroethane	19	
56-23-5	Carbon Tetrachloride	19	
71-43-2	Benzene	20	
107-06-2	1,2-Dichloroethane	20	
79-01-6	Trichloroethene	19	
78-87-5	1,2-Dichloropropane (C)	19	
74-95-3	Dibromomethane	19	
75-27-4	Bromodichloromethane	20	
10061-01-5	cis-1,3-Dichloropropene	19	
108-10-1	4-Methyl-2-pentanone (MIBK)	94	
108-88-3	Toluene (C)	20	
10061-02-6	trans-1,3-Dichloropropene	20	
79-00-5	1,1,2-Trichloroethane	20	
127-18-4	Tetrachloroethene	18	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

J2201475-004MS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

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

Sample wt/vol: 5.730 (g/mL) G Lab File ID: 0507-21

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: not dec. 20 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	92	
124-48-1	Dibromochloromethane	18	
106-93-4	1,2-Dibromoethane (EDB)	19	
108-90-7	Chlorobenzene (P)	19	
630-20-6	1,1,1,2-Tetrachloroethane	20	
100-41-4	Ethylbenzene (C)	20	
136777-61-2	m,p-Xylenes	40	
1330-20-7	Total Xylenes	60	
95-47-6	o-Xylene	20	
100-42-5	Styrene	20	
75-25-2	Bromoform (P)	17	
79-34-5	1,1,2,2-Tetrachloroethane (P	19	
96-18-4	1,2,3-Trichloropropane	17	
110-57-6	trans-1,4-Dichloro-2-butene	16	J
541-73-1	1,3-Dichlorobenzene	20	
106-46-7	1,4-Dichlorobenzene	18	
95-50-1	1,2-Dichlorobenzene	19	
96-12-8	1,2-Dibromo-3-chloropropane	16	
110-54-3	Hexane	75	
108-21-4	Isopropyl Acetate	91	
109-60-4	n-Propyl acetate	5.4	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

J2201475-004MSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

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

Sample wt/vol: 4.930 (g/mL) G Lab File ID: 0507-22

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: not dec. 20 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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	29	
74-87-3	Chloromethane (P)	26	
75-01-4	Vinyl Chloride (C)	27	
74-83-9	Bromomethane	26	
75-00-3	Chloroethane	25	
75-69-4	Trichlorofluoromethane	25	
75-35-4	1,1-Dichloroethene (C)	25	
67-64-1	Acetone	100	
74-88-4	Iodomethane	120	
75-15-0	Carbon Disulfide	120	
75-09-2	Methylene Chloride	38	B
156-60-5	trans-1,2-Dichloroethene	24	
1634-04-4	Methyl tert-Butyl Ether	23	
75-34-3	1,1-Dichloroethane (P)	26	
108-05-4	Vinyl Acetate	55	
156-59-2	cis-1,2-Dichloroethene	23	
78-93-3	2-Butanone (MEK)	99	
74-97-5	Bromochloromethane	23	
67-66-3	Chloroform (C)	24	
71-55-6	1,1,1-Trichloroethane	23	
56-23-5	Carbon Tetrachloride	23	
71-43-2	Benzene	24	
107-06-2	1,2-Dichloroethane	24	
79-01-6	Trichloroethene	23	
78-87-5	1,2-Dichloropropane (C)	23	
74-95-3	Dibromomethane	22	
75-27-4	Bromodichloromethane	25	
10061-01-5	cis-1,3-Dichloropropene	23	
108-10-1	4-Methyl-2-pentanone (MIBK)	100	
108-88-3	Toluene (C)	24	
10061-02-6	trans-1,3-Dichloropropene	23	
79-00-5	1,1,2-Trichloroethane	21	
127-18-4	Tetrachloroethene	21	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

J2201475-004MSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

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

Sample wt/vol: 4.930 (g/mL) G Lab File ID: 0507-22

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: not dec. 20 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	100	
124-48-1	Dibromochloromethane	22	
106-93-4	1,2-Dibromoethane (EDB)	22	
108-90-7	Chlorobenzene (P)	22	
630-20-6	1,1,1,2-Tetrachloroethane	23	
100-41-4	Ethylbenzene (C)	23	
136777-61-2	m,p-Xylenes	47	
1330-20-7	Total Xylenes	70	
95-47-6	o-Xylene	23	
100-42-5	Styrene	24	
75-25-2	Bromoform (P)	20	
79-34-5	1,1,2,2-Tetrachloroethane (P	21	
96-18-4	1,2,3-Trichloropropane	21	
110-57-6	trans-1,4-Dichloro-2-butene	18	J
541-73-1	1,3-Dichlorobenzene	23	
106-46-7	1,4-Dichlorobenzene	21	
95-50-1	1,2-Dichlorobenzene	23	
96-12-8	1,2-Dibromo-3-chloropropane	19	
110-54-3	Hexane	89	
108-21-4	Isopropyl Acetate	99	
109-60-4	n-Propyl acetate	6.3	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

J2201516-002

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: BATCHQC

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-07

Level: (low/med) LOW Date Received: 05/08/02

% Moisture: not dec. _____ Date Analyzed: 05/09/02

GC Column: DB-624 ID: 0.18 (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	5.0	U
74-87-3	Chloromethane (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	8.4	J
74-88-4	Iodomethane	5.0	U
75-15-0	Carbon Disulfide	10	U
75-09-2	Methylene Chloride	0.50	J
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
110-54-3	Hexane	5.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	25	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	3.5	
108-21-4	Isopropyl Acetate	5.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
109-60-4	n-Propyl acetate	5.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	25	U
108-88-3	Toluene (C)	1.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

J2201516-002

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: BATCHQC

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-07

Level: (low/med) LOW Date Received: 05/08/02

% Moisture: not dec. _____ Date Analyzed: 05/09/02

GC Column: DB-624 ID: 0.18 (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
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.0	U
1330-20-7	Total Xylenes	3.0	U
95-47-6	o-Xylene	1.0	U
75-25-2	Bromoform (P)	1.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	10	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	2.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

J2201516-002MS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: BATCHQC

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-23

Level: (low/med) LOW Date Received: 05/08/02

% Moisture: not dec. _____ Date Analyzed: 05/09/02

GC Column: DB-624 ID: 0.18 (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	22	
74-87-3	Chloromethane (P)	23	
75-01-4	Vinyl Chloride (C)	21	
74-83-9	Bromomethane	20	
75-00-3	Chloroethane	20	
75-69-4	Trichlorofluoromethane	20	
75-35-4	1,1-Dichloroethene (C)	18	
67-64-1	Acetone	85	
74-88-4	Iodomethane	96	
75-15-0	Carbon Disulfide	110	
75-09-2	Methylene Chloride	17	
156-60-5	trans-1,2-Dichloroethene	20	
1634-04-4	Methyl tert-Butyl Ether	18	
110-54-3	Hexane	82	
75-34-3	1,1-Dichloroethane (P)	21	
108-05-4	Vinyl Acetate	62	
156-59-2	cis-1,2-Dichloroethene	19	
78-93-3	2-Butanone (MEK)	79	
74-97-5	Bromochloromethane	19	
67-66-3	Chloroform (C)	19	
71-55-6	1,1,1-Trichloroethane	18	
56-23-5	Carbon Tetrachloride	19	
71-43-2	Benzene	19	
107-06-2	1,2-Dichloroethane	21	
108-21-4	Isopropyl Acetate	68	
79-01-6	Trichloroethene	18	
78-87-5	1,2-Dichloropropane (C)	18	
74-95-3	Dibromomethane	18	
109-60-4	n-Propyl acetate	5.0	U
75-27-4	Bromodichloromethane	18	
10061-01-5	cis-1,3-Dichloropropene	18	
108-10-1	4-Methyl-2-pentanone (MIBK)	82	
108-88-3	Toluene (C)	18	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

J2201516-002MS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: BATCHQC

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-23

Level: (low/med) LOW Date Received: 05/08/02

% Moisture: not dec. _____ Date Analyzed: 05/09/02

GC Column: DB-624 ID: 0.18 (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
10061-02-6	trans-1,3-Dichloropropene	18	
79-00-5	1,1,2-Trichloroethane	18	
127-18-4	Tetrachloroethene	18	
591-78-6	2-Hexanone	77	
124-48-1	Dibromochloromethane	17	
106-93-4	1,2-Dibromoethane (EDB)	17	
108-90-7	Chlorobenzene (P)	18	
630-20-6	1,1,1,2-Tetrachloroethane	18	
100-41-4	Ethylbenzene (C)	19	
136777-61-2	m,p-Xylenes	39	
1330-20-7	Total Xylenes	57	
95-47-6	o-Xylene	18	
75-25-2	Bromoform (P)	15	
100-42-5	Styrene	18	
79-34-5	1,1,2,2-Tetrachloroethane (P	18	
96-18-4	1,2,3-Trichloropropane	16	
110-57-6	trans-1,4-Dichloro-2-butene	14	
541-73-1	1,3-Dichlorobenzene	18	
106-46-7	1,4-Dichlorobenzene	17	
95-50-1	1,2-Dichlorobenzene	17	
96-12-8	1,2-Dibromo-3-chloropropane	12	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

J2201516-002MSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: BATCHQC

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-24

Level: (low/med) LOW Date Received: 05/08/02

% Moisture: not dec. _____ Date Analyzed: 05/09/02

GC Column: DB-624 ID: 0.18 (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	24	
74-87-3	Chloromethane (P)	23	
75-01-4	Vinyl Chloride (C)	22	
74-83-9	Bromomethane	20	
75-00-3	Chloroethane	20	
75-69-4	Trichlorofluoromethane	20	
75-35-4	1,1-Dichloroethene (C)	19	
67-64-1	Acetone	89	
74-88-4	Iodomethane	94	
75-15-0	Carbon Disulfide	100	
75-09-2	Methylene Chloride	17	
156-60-5	trans-1,2-Dichloroethene	19	
1634-04-4	Methyl tert-Butyl Ether	17	
110-54-3	Hexane	72	
75-34-3	1,1-Dichloroethane (P)	20	
108-05-4	Vinyl Acetate	58	
156-59-2	cis-1,2-Dichloroethene	19	
78-93-3	2-Butanone (MEK)	78	
74-97-5	Bromochloromethane	19	
67-66-3	Chloroform (C)	18	
71-55-6	1,1,1-Trichloroethane	18	
56-23-5	Carbon Tetrachloride	18	
71-43-2	Benzene	19	
107-06-2	1,2-Dichloroethane	20	
108-21-4	Isopropyl Acetate	60	
79-01-6	Trichloroethene	18	
78-87-5	1,2-Dichloropropane (C)	18	
74-95-3	Dibromomethane	18	
109-60-4	n-Propyl acetate	5.0	U
75-27-4	Bromodichloromethane	18	
10061-01-5	cis-1,3-Dichloropropene	18	
108-10-1	4-Methyl-2-pentanone (MIBK)	81	
108-88-3	Toluene (C)	18	

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

J2201516-002MSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: BATCHQC

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-24

Level: (low/med) LOW Date Received: 05/08/02

% Moisture: not dec. _____ Date Analyzed: 05/09/02

GC Column: DB-624 ID: 0.18 (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
10061-02-6	trans-1,3-Dichloropropene	17	
79-00-5	1,1,2-Trichloroethane	18	
127-18-4	Tetrachloroethene	18	
591-78-6	2-Hexanone	75	
124-48-1	Dibromochloromethane	16	
106-93-4	1,2-Dibromoethane (EDB)	17	
108-90-7	Chlorobenzene (P)	18	
630-20-6	1,1,1,2-Tetrachloroethane	18	
100-41-4	Ethylbenzene (C)	19	
136777-61-2	m,p-Xylenes	38	
1330-20-7	Total Xylenes	57	
95-47-6	o-Xylene	18	
75-25-2	Bromoform (P)	16	
100-42-5	Styrene	19	
79-34-5	1,1,2,2-Tetrachloroethane (P	18	
96-18-4	1,2,3-Trichloropropane	16	
110-57-6	trans-1,4-Dichloro-2-butene	14	
541-73-1	1,3-Dichlorobenzene	19	
106-46-7	1,4-Dichlorobenzene	18	
95-50-1	1,2-Dichlorobenzene	18	
96-12-8	1,2-Dibromo-3-chloropropane	12	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E07A-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07A-MB

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-05

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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 (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	25	U
74-88-4	Iodomethane	5.0	U
75-15-0	Carbon Disulfide	5.0	U
75-09-2	Methylene Chloride	1.2	J
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	10	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	10	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U
108-88-3	Toluene (C)	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E07A-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07A-MB

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-05

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.0	U
1330-20-7	Total Xylenes	3.0	U
95-47-6	o-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform (P)	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	20	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
110-54-3	Hexane	5.0	U
108-21-4	Isopropyl Acetate	5.0	U
109-60-4	n-Propyl acetate	5.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E07A-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07A-LCS

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-03

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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	21	
74-87-3	Chloromethane (P)	19	
75-01-4	Vinyl Chloride (C)	20	
74-83-9	Bromomethane	22	
75-00-3	Chloroethane	21	
75-69-4	Trichlorofluoromethane	20	
75-35-4	1,1-Dichloroethene (C)	19	
67-64-1	Acetone	130	
74-88-4	Iodomethane	100	
75-15-0	Carbon Disulfide	91	
75-09-2	Methylene Chloride	19	B
156-60-5	trans-1,2-Dichloroethene	18	
1634-04-4	Methyl tert-Butyl Ether	21	
75-34-3	1,1-Dichloroethane (P)	19	
108-05-4	Vinyl Acetate	93	
156-59-2	cis-1,2-Dichloroethene	18	
78-93-3	2-Butanone (MEK)	100	
74-97-5	Bromochloromethane	20	
67-66-3	Chloroform (C)	18	
71-55-6	1,1,1-Trichloroethane	17	
56-23-5	Carbon Tetrachloride	16	
71-43-2	Benzene	18	
107-06-2	1,2-Dichloroethane	21	
79-01-6	Trichloroethene	18	
78-87-5	1,2-Dichloropropane (C)	19	
74-95-3	Dibromomethane	21	
75-27-4	Bromodichloromethane	20	
10061-01-5	cis-1,3-Dichloropropene	20	
108-10-1	4-Methyl-2-pentanone (MIBK)	110	
108-88-3	Toluene (C)	18	
10061-02-6	trans-1,3-Dichloropropene	21	
79-00-5	1,1,2-Trichloroethane	21	
127-18-4	Tetrachloroethene	17	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E07A-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07A-LCS

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-03

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	110	
124-48-1	Dibromochloromethane	20	
106-93-4	1,2-Dibromoethane (EDB)	21	
108-90-7	Chlorobenzene (P)	18	
630-20-6	1,1,1,2-Tetrachloroethane	19	
100-41-4	Ethylbenzene (C)	18	
136777-61-2	m,p-Xylenes	36	
1330-20-7	Total Xylenes	55	
95-47-6	o-Xylene	19	
100-42-5	Styrene	19	
75-25-2	Bromoform (P)	21	
79-34-5	1,1,2,2-Tetrachloroethane (P	22	
96-18-4	1,2,3-Trichloropropane	22	
110-57-6	trans-1,4-Dichloro-2-butene	22	
541-73-1	1,3-Dichlorobenzene	19	
106-46-7	1,4-Dichlorobenzene	18	
95-50-1	1,2-Dichlorobenzene	20	
96-12-8	1,2-Dibromo-3-chloropropane	22	
110-54-3	Hexane	79	
108-21-4	Isopropyl Acetate	110	
109-60-4	n-Propyl acetate	5.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E07C-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07C-MB

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-52

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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 (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	25	U
74-88-4	Iodomethane	5.0	U
75-15-0	Carbon Disulfide	5.0	U
75-09-2	Methylene Chloride	1.1	J
156-60-5	~~trans-1,2-Dichloroethene~~	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	10	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	10	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U
108-88-3	Toluene (C)	0.70	J
10061-02-6	~~trans-1,3-Dichloropropene~~	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E07C-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07C-MB

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-52

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.0	U
1330-20-7	Total Xylenes	3.0	U
95-47-6	o-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform (P)	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	20	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
110-54-3	Hexane	5.0	U
108-21-4	Isopropyl Acetate	5.0	U
109-60-4	n-Propyl acetate	5.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E07C-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07C-LCS

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-49

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	30	
74-87-3	Chloromethane (P)	26	
75-01-4	Vinyl Chloride (C)	29	
74-83-9	Bromomethane	29	
75-00-3	Chloroethane	28	
75-69-4	Trichlorofluoromethane	28	
75-35-4	1,1-Dichloroethene (C)	28	
67-64-1	Acetone	120	
74-88-4	Iodomethane	130	
75-15-0	Carbon Disulfide	130	
75-09-2	Methylene Chloride	26	B
156-60-5	trans-1,2-Dichloroethene	24	
1634-04-4	Methyl tert-Butyl Ether	24	
75-34-3	1,1-Dichloroethane (P)	24	
108-05-4	Vinyl Acetate	120	
156-59-2	cis-1,2-Dichloroethene	22	
78-93-3	2-Butanone (MEK)	98	
74-97-5	Bromochloromethane	23	
67-66-3	Chloroform (C)	23	
71-55-6	1,1,1-Trichloroethane	22	
56-23-5	Carbon Tetrachloride	23	
71-43-2	Benzene	22	
107-06-2	1,2-Dichloroethane	23	
79-01-6	Trichloroethene	22	
78-87-5	1,2-Dichloropropane (C)	22	
74-95-3	Dibromomethane	23	
75-27-4	Bromodichloromethane	24	
10061-01-5	cis-1,3-Dichloropropene	23	
108-10-1	4-Methyl-2-pentanone (MIBK)	110	
108-88-3	Toluene (C)	23	B
10061-02-6	trans-1,3-Dichloropropene	24	
79-00-5	1,1,2-Trichloroethane	22	
127-18-4	Tetrachloroethene	22	

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E07C-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07C-LCS

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-49

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	110	
124-48-1	Dibromochloromethane	23	
106-93-4	1,2-Dibromoethane (EDB)	22	
108-90-7	Chlorobenzene (P)	22	
630-20-6	1,1,1,2-Tetrachloroethane	23	
100-41-4	Ethylbenzene (C)	23	
136777-61-2	m,p-Xylenes	47	
1330-20-7	Total Xylenes	70	
95-47-6	o-Xylene	23	
100-42-5	Styrene	24	
75-25-2	Bromoform (P)	22	
79-34-5	1,1,2,2-Tetrachloroethane (P	23	
96-18-4	1,2,3-Trichloropropane	21	
110-57-6	trans-1,4-Dichloro-2-butene	22	
541-73-1	1,3-Dichlorobenzene	24	
106-46-7	1,4-Dichlorobenzene	22	
95-50-1	1,2-Dichlorobenzene	23	
96-12-8	1,2-Dibromo-3-chloropropane	21	
110-54-3	Hexane	110	
108-21-4	Isopropyl Acetate	110	
109-60-4	n-Propyl acetate	5.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E07
C-MBLCSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07C-LCSD

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-50

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	28	
74-87-3	Chloromethane (P)	24	
75-01-4	Vinyl Chloride (C)	25	
74-83-9	Bromomethane	24	
75-00-3	Chloroethane	23	
75-69-4	Trichlorofluoromethane	24	
75-35-4	1,1-Dichloroethene (C)	23	
67-64-1	Acetone	110	
74-88-4	Iodomethane	110	
75-15-0	Carbon Disulfide	120	
75-09-2	Methylene Chloride	22	B
156-60-5	trans-1,2-Dichloroethene	22	
1634-04-4	Methyl tert-Butyl Ether	22	
75-34-3	1,1-Dichloroethane (P)	23	
108-05-4	Vinyl Acetate	120	
156-59-2	cis-1,2-Dichloroethene	22	
78-93-3	2-Butanone (MEK)	110	
74-97-5	Bromochloromethane	22	
67-66-3	Chloroform (C)	22	
71-55-6	1,1,1-Trichloroethane	21	
56-23-5	Carbon Tetrachloride	22	
71-43-2	Benzene	22	
107-06-2	1,2-Dichloroethane	23	
79-01-6	Trichloroethene	22	
78-87-5	1,2-Dichloropropane (C)	22	
74-95-3	Dibromomethane	23	
75-27-4	Bromodichloromethane	24	
10061-01-5	cis-1,3-Dichloropropene	23	
108-10-1	4-Methyl-2-pentanone (MIBK)	110	
108-88-3	Toluene (C)	22	B
10061-02-6	trans-1,3-Dichloropropene	24	
79-00-5	1,1,2-Trichloroethane	22	
127-18-4	Tetrachloroethene	22	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E07
C-MBLCSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07C-LCSD

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-50

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	110	
124-48-1	Dibromochloromethane	22	
106-93-4	1,2-Dibromoethane (EDB)	22	
108-90-7	Chlorobenzene (P)	22	
630-20-6	1,1,1,2-Tetrachloroethane	22	
100-41-4	Ethylbenzene (C)	22	
136777-61-2	m,p-Xylenes	45	
1330-20-7	Total Xylenes	67	
95-47-6	o-Xylene	22	
100-42-5	Styrene	23	
75-25-2	Bromoform (P)	22	
79-34-5	1,1,2,2-Tetrachloroethane (P	22	
96-18-4	1,2,3-Trichloropropane	22	
110-57-6	trans-1,4-Dichloro-2-butene	22	
541-73-1	1,3-Dichlorobenzene	23	
106-46-7	1,4-Dichlorobenzene	22	
95-50-1	1,2-Dichlorobenzene	22	
96-12-8	1,2-Dibromo-3-chloropropane	22	
110-54-3	Hexane	110	
108-21-4	Isopropyl Acetate	110	
109-60-4	n-Propyl acetate	5.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E09A-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: MS522E09A-MB

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-05

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/09/02

GC Column: DB-624 ID: 0.18 (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	5.0	U
74-87-3	Chloromethane (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	50	U
74-88-4	Iodomethane	5.0	U
75-15-0	Carbon Disulfide	10	U
75-09-2	Methylene Chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
110-54-3	Hexane	5.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	25	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
108-21-4	Isopropyl Acetate	5.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
109-60-4	n-Propyl acetate	5.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	25	U
108-88-3	Toluene (C)	1.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E09A-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: MS522E09A-MB

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-05

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/09/02

GC Column: DB-624 ID: 0.18 (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
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.0	U
1330-20-7	Total Xylenes	3.0	U
95-47-6	o-Xylene	1.0	U
75-25-2	Bromoform (P)	1.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	10	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	2.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E09A-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: MS522E09A-LCS

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-03

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/09/02

GC Column: DB-624 ID: 0.18 (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	30	
74-87-3	Chloromethane (P)	30	
75-01-4	Vinyl Chloride (C)	29	
74-83-9	Bromomethane	29	
75-00-3	Chloroethane	28	
75-69-4	Trichlorofluoromethane	26	
75-35-4	1,1-Dichloroethene (C)	25	
67-64-1	Acetone	100	
74-88-4	Iodomethane	130	
75-15-0	Carbon Disulfide	140	
75-09-2	Methylene Chloride	21	
156-60-5	trans-1,2-Dichloroethene	24	
1634-04-4	Methyl tert-Butyl Ether	23	
110-54-3	Hexane	100	
75-34-3	1,1-Dichloroethane (P)	25	
108-05-4	Vinyl Acetate	110	
156-59-2	cis-1,2-Dichloroethene	24	
78-93-3	2-Butanone (MEK)	98	
74-97-5	Bromochloromethane	23	
67-66-3	Chloroform (C)	23	
71-55-6	1,1,1-Trichloroethane	22	
56-23-5	Carbon Tetrachloride	23	
71-43-2	Benzene	23	
107-06-2	1,2-Dichloroethane	21	
108-21-4	Isopropyl Acetate	98	
79-01-6	Trichloroethene	22	
78-87-5	1,2-Dichloropropane (C)	22	
74-95-3	Dibromomethane	21	
109-60-4	n-Propyl acetate	5.0	U
75-27-4	Bromodichloromethane	23	
10061-01-5	cis-1,3-Dichloropropene	22	
108-10-1	4-Methyl-2-pentanone (MIBK)	100	
108-88-3	Toluene (C)	22	

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E09A-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: MS522E09A-LCS

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-03

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/09/02

GC Column: DB-624 ID: 0.18 (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
10061-02-6	trans-1,3-Dichloropropene	23	
79-00-5	1,1,2-Trichloroethane	22	
127-18-4	Tetrachloroethene	22	
591-78-6	2-Hexanone	94	
124-48-1	Dibromochloromethane	21	
106-93-4	1,2-Dibromoethane (EDB)	22	
108-90-7	Chlorobenzene (P)	22	
630-20-6	1,1,1,2-Tetrachloroethane	23	
100-41-4	Ethylbenzene (C)	23	
136777-61-2	m,p-Xylenes	48	
1330-20-7	Total Xylenes	71	
95-47-6	o-Xylene	23	
75-25-2	Bromoform (P)	20	
100-42-5	Styrene	23	
79-34-5	1,1,2,2-Tetrachloroethane (P	22	
96-18-4	1,2,3-Trichloropropane	21	
110-57-6	trans-1,4-Dichloro-2-butene	17	
541-73-1	1,3-Dichlorobenzene	24	
106-46-7	1,4-Dichlorobenzene	22	
95-50-1	1,2-Dichlorobenzene	22	
96-12-8	1,2-Dibromo-3-chloropropane	18	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E14C-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E14C-MB

Sample wt/vol: 5.000 (g/ml) G Lab File ID: 0514-20

Level: (low/med) MED Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/14/02

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: 43(ml) Soil Aliquot Volume: 5(ml)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	500	U
74-87-3	Chloromethane (P)	100	U
75-01-4	Vinyl Chloride (C)	100	U
74-83-9	Bromomethane	100	U
75-00-3	Chloroethane	100	U
75-69-4	Trichlorofluoromethane	100	U
75-35-4	1,1-Dichloroethene (C)	100	U
67-64-1	Acetone	5000	U
74-88-4	Iodomethane	500	U
75-15-0	Carbon Disulfide	1000	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	100	U
1634-04-4	Methyl tert-Butyl Ether	100	U
75-34-3	1,1-Dichloroethane (P)	100	U
108-05-4	Vinyl Acetate	500	U
156-59-2	cis-1,2-Dichloroethene	100	U
78-93-3	2-Butanone (MEK)	2500	U
74-97-5	Bromochloromethane	100	U
67-66-3	Chloroform (C)	100	U
71-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	100	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	100	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane (C)	100	U
74-95-3	Dibromomethane	100	U
75-27-4	Bromodichloromethane	100	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-pentanone (MIBK)	2500	U
108-88-3	Toluene (C)	100	U
10061-02-6	trans-1,3-Dichloropropene	100	U
79-00-5	1,1,2-Trichloroethane	100	U
127-18-4	Tetrachloroethene	100	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E14C-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E14C-MB

Sample wt/vol: 5.000 (g/ml) G Lab File ID: 0514-20

Level: (low/med) MED Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/14/02

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: 43(ml) Soil Aliquot Volume: 5(ml)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
591-78-6	2-Hexanone	2500	U
124-48-1	Dibromochloromethane	100	U
106-93-4	1,2-Dibromoethane (EDB)	100	U
108-90-7	Chlorobenzene (P)	100	U
630-20-6	1,1,1,2-Tetrachloroethane	100	U
100-41-4	Ethylbenzene (C)	100	U
136777-61-2	m,p-Xylenes	200	U
1330-20-7	Total Xylenes	300	U
95-47-6	o-Xylene	100	U
100-42-5	Styrene	100	U
75-25-2	Bromoform (P)	100	U
79-34-5	1,1,2,2-Tetrachloroethane (P	100	U
96-18-4	1,2,3-Trichloropropane	100	U
110-57-6	trans-1,4-Dichloro-2-butene	1000	U
541-73-1	1,3-Dichlorobenzene	100	U
106-46-7	1,4-Dichlorobenzene	100	U
95-50-1	1,2-Dichlorobenzene	100	U
96-12-8	1,2-Dibromo-3-chloropropane	200	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E14C-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E14C-LCS

Sample wt/vol: 5.000 (g/ml) G Lab File ID: 0514-22

Level: (low/med) MED Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/14/02

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: 43(ml) Soil Aliquot Volume: 5(ml)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	2500	
74-87-3	Chloromethane (P)	2500	
75-01-4	Vinyl Chloride (C)	2300	
74-83-9	Bromomethane	2200	
75-00-3	Chloroethane	2300	
75-69-4	Trichlorofluoromethane	2300	
75-35-4	1,1-Dichloroethene (C)	2200	
67-64-1	Acetone	9800	
74-88-4	Iodomethane	11000	
75-15-0	Carbon Disulfide	12000	
75-09-2	Methylene Chloride	2000	
156-60-5	trans-1,2-Dichloroethene	2200	
1634-04-4	Methyl tert-Butyl Ether	2000	
75-34-3	1,1-Dichloroethane (P)	2400	
108-05-4	Vinyl Acetate	9200	
156-59-2	cis-1,2-Dichloroethene	2200	
78-93-3	2-Butanone (MEK)	9200	
74-97-5	Bromochloromethane	2200	
67-66-3	Chloroform (C)	2100	
71-55-6	1,1,1-Trichloroethane	2200	
56-23-5	Carbon Tetrachloride	2200	
71-43-2	Benzene	2200	
107-06-2	1,2-Dichloroethane	2000	
79-01-6	Trichloroethene	2100	
78-87-5	1,2-Dichloropropane (C)	2100	
74-95-3	Dibromomethane	2000	
75-27-4	Bromodichloromethane	2200	
10061-01-5	cis-1,3-Dichloropropene	2100	
108-10-1	4-Methyl-2-pentanone (MIBK)	9700	
108-88-3	Toluene (C)	2200	
10061-02-6	trans-1,3-Dichloropropene	2100	
79-00-5	1,1,2-Trichloroethane	2100	
127-18-4	Tetrachloroethene	2100	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E14C-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E14C-LCS

Sample wt/vol: 5.000 (g/ml) G Lab File ID: 0514-22

Level: (low/med) MED Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/14/02

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: 43(ml) Soil Aliquot Volume: 5(ml)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
591-78-6	2-Hexanone	9000	
124-48-1	Dibromochloromethane	1900	
106-93-4	1,2-Dibromoethane (EDB)	2000	
108-90-7	Chlorobenzene (P)	2100	
630-20-6	1,1,1,2-Tetrachloroethane	2100	
100-41-4	Ethylbenzene (C)	2200	
136777-61-2	m,p-Xylenes	4500	
1330-20-7	Total Xylenes	6700	
95-47-6	o-Xylene	2200	
100-42-5	Styrene	2200	
75-25-2	Bromoform (P)	1800	
79-34-5	1,1,2,2-Tetrachloroethane (P	2100	
96-18-4	1,2,3-Trichloropropane	1900	
110-57-6	trans-1,4-Dichloro-2-butene	1300	
541-73-1	1,3-Dichlorobenzene	2200	
106-46-7	1,4-Dichlorobenzene	2000	
95-50-1	1,2-Dichlorobenzene	2100	
96-12-8	1,2-Dibromo-3-chloropropane	1400	

Columbia Analytical Services, Inc.

An Employee-Owned Company

Columbia Analytical Services
8540 Baycenter Road
Jacksonville, FL 32256
Tel 904.739.2277
Fax 904.739.2011

General Chemistry

CASE NARRATIVE
Inorganic Analysis

CAS Lab Reference No./SDG#: J2201452

Client/Project: Exponent / IP Wilmington / 8601269.003

I. RECEIPT

No exceptions were encountered unless noted on the Cooler Receipt and Preservation Form included with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHOD

Preparation: NA

Analysis: SID,S3

IV. PREPARATION

Sample preparation proceeded normally.

V. ANALYSIS

A. ✓ Calibration: N/A

B. ✓ Blanks: N/A

C. ✓ Spikes: N/A

D. ✓ Duplicates: All acceptance criteria were met.

E. ✓ Samples: Analyses proceeded normally.

F. ✓ Other: NA.

I certify that this data package is in compliance with the terms and conditions agreed to by Columbia Analytical Services, Inc. and by the client, both technically, and for completeness, except for the conditions detailed above. 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:

Signed: Martha Montero Date: 6/4/02
Martha Montero
Operations Manager

Columbia Analytical Services, Inc.
An Employee-Owned Company

Columbia Analytical Services
8540 Baycenter Road
Jacksonville, FL 32256
Tel 904-739-2277
Fax 904-739-2011

Sample Data

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Exponent	**Service Request:**	J2201452
Project:	IP Wilmington / 8601269.003	**Date Collected:**	5/1/02
Sample Matrix:	Soil	**Date Received:**	5/2/02

Inorganic Parameters

Sample Name: SO0002
Lab Code: J2201452-002
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TOC	mg/kg (ppm)	SID,S3	200	200	1	NA	5/14/02	8100	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Exponent	**Service Request:**	J2201452
Project:	IP Wilmington / 8601269.003	**Date Collected:**	5/1/02
Sample Matrix:	Soil	**Date Received:**	5/2/02

Inorganic Parameters

Sample Name: SO0004
Lab Code: J2201452-004
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TOC	mg/kg (ppm)	SID,S3	200	200	1	NA	5/14/02	3100	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Exponent	**Service Request:**	J2201452
Project:	IP Wilmington / 8601269.003	**Date Collected:**	5/1/02
Sample Matrix:	Soil	**Date Received:**	5/2/02

Inorganic Parameters

Sample Name: SO0006
Lab Code: J2201452-006 Basis: Dry
Test Notes:

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TOC	mg/kg (ppm)	SID,S3	200	200	1	NA	5/14/02	U	

U Not detected at or above the MDL.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Exponent	**Service Request:**	J2201452
Project:	IP Wilmington / 8601269.003	**Date Collected:**	5/1/02
Sample Matrix:	Soil	**Date Received:**	5/2/02

Inorganic Parameters

Sample Name: SO0010
Lab Code: J2201452-010 Basis: Dry
Test Notes:

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TOC	mg/kg (ppm)	SID,S3	200	200	1	NA	5/14/02	1500	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Exponent	**Service Request:**	J2201452
Project:	IP Wilmington / 8601269.003	**Date Collected:**	5/1/02
Sample Matrix:	Soil	**Date Received:**	5/2/02

Inorganic Parameters

Sample Name: SO0011
Lab Code: J2201452-011 Basis: Dry
Test Notes:

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TOC	mg/kg (ppm)	SID,S3	200	200	1	NA	5/14/02	410	

Columbia Analytical Services inc.
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Columbia Analytical Services
8540 Baycenter Road
Jacksonville, FL 32256
Tel 904-739-2277
Fax 904-739-2011

Chain of Custody Documentation

Columbia Analytical Services™

JACKSONVILLE LABORATOR
CONDITION UPON RECEIPT FOR

Client: Exponent **Project name:** IP Wilmington

Date received: 5/2/02 1030 **Service request number:** 52201452

Received by: David Dickie **CUR completed by:** David Dickie

Cooler/Shipping Information:

Courier: ☐ CAS ☐ Client ☐ UPS ☐ Airborne ☑ FedEx ☐ Other (describe):

Type: ☒ Cooler ☐ Box ☐ Other (describe)

Cooler temperature: Identify the cooler and document the temperature blank or ice water measurement

Cooler ID					
Temp (°C)	1.22				
Temp taken from	☐ Temp blank ☑ Sample bottle	☐ Temp blank ☐ Sample bottle	☐ Temp blank ☐ Sample bottle	☐ Temp blank ☐ Sample bottle	☐ Temp blank ☐ Sample bottle
Temp measured with	☑ IR gun ☐ Thermometer (enter ID):	☐ IR gun ☐ Thermometer (enter ID):	☐ IR gun ☐ Thermometer (enter ID):	☐ IR gun ☐ Thermometer (enter ID):	☐ IR gun ☐ Thermometer (ente ID):

Other Information:

Any "NO" responses or discrepancies should be explained in the "Comments" section below or an NCM if so required. If an NCM was initiated, write the NCM number in the appropriate space.

CHECKLIST	YES	NO	NA	NCI
1. Were custody seals on shipping container(s) intact? If "No", NCM required.	✓			
2. Were custody papers properly included with samples?	✓			
3. Were custody papers properly filled out (ink, signed, match labels)?	✓			
4. Did all bottles arrive in good condition (unbroken)?	✓			
5. Were all bottle labels complete (sample #, date, signed, analysis, preservatives)?	✓			
6. Did the sample labels agree with the chain of custody?	✓			
7. Were correct bottles used for the tests indicated?	✓			
8. Were proper sample preservation techniques indicated on the label?	✓			
9. Were samples received within holding times? If "No," NCM required.	✓			
10. Were all VOA vials checked for the presence of air bubbles? If "No", NCM required.	✓			
11. Were there air bubbles present in the VOA vials? If "Yes", NCM required.		✓		
12. Were samples in direct contact with wet ice? If "No," check one: ☐ NO ICE ☐ BLUE ICE	✓			
13. Was the cooler temperature less than 6°C?	✓			
14. Were sample pHs checked and recorded by Sample control? Checks are on reverse side of form. *NOTE: VOA samples are checked by laboratory analysts.*			✓	
15. Were the sample containers provided by CAS?	✓			
16. Were samples accepted into the laboratory?	✓			

Comments:

Columbia Analytical Services

Jacksonville Laboratory
Condition Upon Receipt - Sample pH

SR #: J 2201452 Date: 5/2/02 Initials: DD

A check mark in any space under the appropriate column headings for the selected sample indicates that the pH was checked and met the required pH criterion listed in the column heading.

	Bottle Code																								
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
	40-mL	40-mL	125-mL	250-mL	500-mL	1-L	250-mL	1-L	2-oz	4-oz	8-oz	16-oz	5 g	100-mL	250-mL	500-mL	1-L	1-L	250-mL	500-mL	1-L	250-mL	250-mL	1.75-L	500-mL	Misc.
Container	G	G	P	P	P	P	G	G	G	G	G	G	ENC	P	P	P	P	G	P	P	P	G	P	P	P	Misc.
Pres.	HCl		HCl											Sodium Thiosulfate	H2SO4	H2SO4	H2SO4	H2SO4	HNO3	HNO3	HNO3	HNO3	NaOH	NaOH	ZnAcetate NaOH	
Req. pH	<2	N/A	<2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<2	<2	<2	<2	<2	<2	<2	<2	>12	>12	>9	N/A
Sample #	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-		-	-	-	-
-001									1				3													
-002									1		1		3													
-003									1				3													
-004									1		1		3													
-005									1				3													
-006									1		1		3													
-007									1				3													
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-038																										
-039																										
-040																										

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For aqueous samples with multiple containers, only 1 bottle is checked for pH
NOTE: VOA pH checks are performed by the analytical area, not sample control

J2201452

CHAIN OF CUSTODY RECORD/SAMPLE ANALYSIS REQUEST FORM

Project: (Name and Number) IP Wilmington 8601269.003

Exponent

Exponent Contact: Mike Martin Office: BO

Samplers: R. Koelsch, D. Hall

Ship to: CAS
8540 Baymeadows Road
Jacksonville, FL 32256

Lab Contact/Phone: Cearie Myers (904) 739-2277

Environmental Group: Bellevue, WA (425) 643-9803; Boulder, CO (303) 444-7270; Lake Oswego, OR (503) 636-4338; Los Angeles, CA (310) 823-2035; Natick, MA (508) 652-8500

334

Sample No.	Tag No.	Date	Time	Matrix	VOCs 8260 Std. CAS	Soil Moisture	TOC	VOCs Hexane n-propyl acetate 8260			Extra Container	Archive	Remarks
S00001	43700	5/1/02	1110	SL	X								
↓	43721		↓			X							
S00002	43722		1145		X								
	43723		↓			X							
↓	43724		↓				X						
S00003	43725		1225		X								
↓	43726		↓			X							
S00004	43727		1255		X								
	43728		↓			X							
↓	43729		↓				X						
S00005	43730		1525					X					
↓	43731		↓			X							
S00006	43732		1545					X					
	43733		↓			X							
↓	43734		↓				X						
S00007	43735		1600					X					
↓	43736		↓			X							
S00008	43737		1615					X					
↓	43738		↓			X							
S00009	43739	↓	1640	↓				X					

Matrix Code: GW - Groundwater SL - Soil SD - Sediment SW - Surface water
OTHER - Please identify codes

Priority: ☒ Normal ☐ Rush Rush time period

Shipped via: ☒ FedEx/UPS ☐ Courier Other

Condition of Samples Upon Receipt:

Custody Seal Intact: ☐ Yes ☐ No ☐ None

Relinquished by: [signature] (Signature) Date/Time: 5/1/02 1830 Received by: FedEx 8245 1934 3274 (Signature) Date/Time:

Relinquished by: (Signature) Date/Time: Received by: [signature] (Signature) 5/2/02 1030 Date/Time: 5/2/02 1030

Distribution: White and Yellow Copies - Accompany Shipment; Pink Copy - Project File

06897

1.2°C

CHAIN OF CUSTODY RECORD/SAMPLE ANALYSIS REQUEST FORM

Project: (Name and Number) IP Wilmington

Exponent Contact: Mike Martin Office: BO

Ship to: CAS
8540 Baymeadows Road
Jacksonville, FL 32256

Lab Contact/Phone: Craig Myers (904) 739-2277

Samplers: R. Koelsch, D. Hall

Exponent
Environmental Group
Bellevue, WA (425) 643-9803
Boulder, CO (303) 444-7270
Lake Oswego, OR (503) 636-4338
Los Angeles, CA (310) 823-2035
Natick, MA (508) 652-8500

335

Sample No.	Tag No.	Date	Time	Matrix	VOCs Short List 8260	Soil Moisture	VOCs Hex. TOC	VOCs Hexane N-propyl/acetate 8260	SVOCs Short List 8270		Extra Container	Archive	Remarks
S00009	43740	5/1/02	1640	SL		X							
S00010	43741		1700					X					
	43742					X							
	43743						X						
S00011	43744							X					
	43745					X							
	43746						X						
GW0011	43747		NA	GW				X					Trip Blank
	43748							X					"
	43749							X					"
GW0012	43750		1830		X								Group w/ 4/29 and 4/30
	43751				X								GW samples
	43752				X								
	43753		1825						X				
	43754								X				

Matrix Code: GW - Groundwater SL - Soil SD - Sediment SW - Surface water
OTHER - Please identify codes

Priority: ☒ Normal ☐ Rush Rush time period

Shipped via: ☒ FedEx/UPS ☐ Courier Other

Condition of Samples Upon Receipt:

Custody Seal Intact: ☐ Yes ☐ No ☐ None

Relinquished by: [signature] (Signature) Date/Time: 5/1/02 18:30 Received by: FedEx 8245 1934 3274 (Signature) Date/Time:

Relinquished by: (Signature) Date/Time: Received by: [signature] (Signature) Date/Time: 5/2/02 1030

Distribution: White and Yellow Copies - Accompany Shipment; Pink Copy - Project File

1.2 °C

06896

ACCREDITED IN ACCORDANCE WITH nelac

Columbia Analytical Services INC.
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RECEIVED
JUN - 7 2002
At Exponent

June 05, 2002

Service Request No. J2201466

Mike Martin
Exponent
4240 Pearl East Circle, Suite 300
Boulder, CO 80301

VOCs
SVOC
Metals
TOC
6/13/02

RE: Test Report for
Project No.: 8601269.003
Project Name: IP Wilmington

Dear Mike Martin:

Enclosed are the results of the samples(s) submitted to our laboratory on May 03, 2002. For your reference, these analyses have been assigned our service request number: J2201466.

All analyses were performed according to our laboratory's quality assurance program. NELAP requirements were met unless footnotes in each sample report indicate otherwise. Estimates regarding the degree of uncertainty in measurements can be inferred from the accuracy limits in the laboratory QA manual. However, these limits do not account for possible matrix effects. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions.

Respectfully submitted,

Columbia Analytical Services, Inc.

Craig R. Myers

Craig Myers
Project Manager

S00012	S00017	S00022
S00013	S00018	S00023
S00014	S00019	S00024
S00015	S00020	S00025 (FD w/ S00026)
S00016	S00021	

CAS Jacksonville is NELAC-accredited by the State of Florida (E82502). Other state accreditations include: LA, AI 30759; MA, M-FL937; NC, 527; SC, 96021; WA, C278.

GW0013-TB GW0016

J MDL/MRL

GW0014
GW0015 } FD

8540 Baycenter Rd. ▪ Jacksonville, FL 32256 ▪ (904) 739-2277 ▪ Fax (904) 739-2011

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Non-CLP Tier IV (Tier III w/out Raw Data)

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This report contains a total of 311 pages

Organic Data Qualifiers

A -- This qualifier indicates that a TIC is a suspected aldol-condensation product.

B -- This flag is used when the analyte is found in the associated blank as well as the sample. This notation indicates possible blank contamination and suggests that the data user evaluate these compounds and their amounts carefully.

C -- The "C" flag indicates the presence of this compound has been confirmed by GC/MS analysis.

D -- This qualifier is used for all compounds identified in an analysis at a secondary dilution factor. "D" qualifiers are used only for the samples reported at more than one dilution factor.

E -- This flag indicates that the value reported exceeds the linear calibration range for that compound. Therefore, the sample should be reanalyzed at an appropriate dilution. The "E" qualified amount is an estimated concentration, and the results of the dilution will be reported on a separate Form I.

I -- This qualifier indicates that the reporting limit adjacent to the "I" qualifier has been raised. It is used when chromatographic interference prohibits detection of a compound at a level below the concentration expressed on the Form I.

J -- Indicates an estimated value. It is used when the data indicates the presence of a target compound below the reporting limit or the presence of a Tentatively Identified Compound (TIC).

N -- This qualifier indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the indentification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the "N" qualifier is not used.

P -- This qualifier is used for pesticide/aroclor target analytes when there is a 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".

U -- Indicates the compound was analyzed for but not detected. The number adjacent to the "U" qualifier indicates the reporting limit for that compound. The reporting limit can vary from sample to sample depending on dilution factors or percent moisture adjustments when indicated.

Organic Sample ID Qualifiers

DL -- Diluted reanalysis. Indicates that the results were determined in an analysis of a secondary dilution of a sample or extract. The "DL" suffix may be followed by a digit to indicate multiple dilutions of the sample or extract. The results of more than one diluted reanalyses may be reported.

MS -- Matrix spike (may be followed by a digit to indicate multiple matrix spikes within a sample set).

MSD - Matrix spike duplicate (may be followed by a digit to indicate multiple matrix spikes within a sample set).

R -- Reanalysis. The extract was reanalyzed without re-extraction. The "R" is not used if the sample was also re-extracted. May be followed by a digit to indicate multiple reanalyses of the sample at the same dilution.

RE -- Re-extraction analysis. The sample was re-extracted and reanalyzed. May be followed by a digit to indicate multiple re-extracted analyses of the sample at the same dilution.

Inorganic Qualifiers

C (Concentration) Qualifier -- Enter "B" if the reported value obtained was less than the CRDL but greater than or equal to the IDL. Enter "U" if the value was less than the IDL or was not detected.

Q Qualifier -- Entries and their meanings are:

E -- The reported value is estimated because of interference. An explanatory comment must be included in the case narrative if the problem applies to all samples in this data package or on the individual FORM I if it is an isolated problem.

M -- Duplicate injection precision was not met (two analyses of the same sample did not agree).

N -- Spiked sample recovery not within control limits.

S -- The reported value was determined by the Method of Standard Additions (MSA).

W -- Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.

* -- Duplicate analysis not within control limits

+ -- Correlation coefficient for the MSA is less than 0.995.

Entering "S", "W", or "+" is mutually exclusive. No combination of these qualifiers can appear in the same field.

M (Method) Qualifier – Enter one of the following:

P -- ICP
A -- Flame AA
F -- Furnace AA
CV -- Manual Cold Vapor AA
AV -- Automated Cold Vapor AA
AS -- Semi-Automated Spectrophotometric
CA -- Manual Spectrophotometric
T -- Titrimetric
NR -- Analyte was not required by your lab

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Columbia Analytical Services
8540 Baycenter Road
Jacksonville, FL 32256
Tel 904-739-2277
Fax 904-739-2011

CROSS REFERENCE

Lab Sample ID	Client Sample ID	Date/Time Collected	Matrix
J2201466-001	SO0012	5/02/02 0850	Soil
J2201466-002	SO0013	5/02/02 0900	Soil
J2201466-003	SO0014	5/02/02 0915	Soil
J2201466-004	SO0015	5/02/02 0925	Soil
J2201466-005	SO0016	5/02/02 0955	Soil
J2201466-006	SO0017	5/02/02 1005	Soil
J2201466-007*	SO0018	5/02/02 1020	Soil
J2201466-008	SO0019	5/02/02 1035	Soil
J2201466-009	SO0020	5/02/02 1050	Soil
J2201466-010	SO0021	5/02/02 1055	Soil
J2201466-011	SO0022	5/02/02 1100	Soil
J2201466-012	GW0013	5/02/02 NA	Water
J2201466-013	GW0014	5/02/02 1420	Water
J2201466-014	GW0015	5/02/02 1430	Water
J2201466-015*	GW0016	5/02/02 1435	Water
J2201466-020	SO0023	5/02/02 1625	Soil
J2201466-021	SO0024	5/02/02 1635	Soil
J2201466-022	SO0025	5/02/02 1645	Soil

*Client specified MS/MSD.

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GC/MS Volatiles

CASE NARRATIVE
GC/MS Volatiles

CAS Lab Reference No./SDG#: J2201466

Client/Project: Exponent / IP Wilmington

I. RECEIPT

No exceptions were encountered unless noted on the Cooler Receipt and Preservation Form included with this data package.

II. HOLDING TIMES

A. Sample preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHOD

Preparation: SW846 5035 and SW846 5030B

Analysis: SW846 8260B

IV. PREPARATION

Sample preparation proceeded normally.

V. ANALYSIS

A. Calibration: In the continuing calibration verification (CCV) standard analyzed in batch MS522E09B, lab file 0509-26, trans-1,4-dichloro-2-butene (27.1% D) is biased low. A method reporting limit (MRL) standard was analyzed with all of the target analytes being detected. No corrective action is necessary since this analyte was not detected above the reporting limit in any of the associated samples. In the CCV standard analyzed in batch MS522E07B, lab file 0504-24, the following analytes are biased low: hexane (24.5% D) and vinyl acetate (27.5% D). 2-butanone (MEK)(23.7% D) and 1,2-dibromo-3-chloropropane (23.6% D). A method reporting limit (MRL) standard was analyzed with all of the target analytes being detected. No corrective action is necessary since these analytes were not detected above the reporting limit in any of the associated samples. In the CCV standard analyzed in batch MS522E07C, lab file 0507-48, acetone (20.6% D) is biased high. No corrective action is necessary since acetone was not detected above the reporting limit in any of the associated samples. The CCV analyzed in batch MS522E16A, lab file 0516-02, was required to report a dilution for several analytes in samples SO0012 and SO0013. All of these analytes were within control criteria in the CCV.

B. Blanks: All acceptance criteria were met.

C. Surrogates: All acceptance criteria were met.

D. Spikes: The MS/MSD spikes were performed on samples SO0018 and GW0016. The percent recoveries for several analytes in these QC samples are outside of the stated control limits due to matrix interference. No corrective action is necessary since these analytes are within the control limits in the associated LCS samples.

E. LCS: The following analytes are out high in the LCS for batch MS522E09A: dichlorodifluoromethane, chloromethane, vinyl chloride, bromomethane, and 1,1-dichloroethane. No corrective action is necessary since these analytes were not detected above the reporting limit in any of the associated samples.

F. Internal standards: All acceptance criteria were met.

G. Samples: Sample analyses proceeded normally.

H. Other: Initially the lab analyzed a method detection limit study and calibration curve for isopropyl acetate when actually the study should have been for n-propyl acetate. The calibration standards analyzed with the samples contained isopropyl acetate instead of n-propyl acetate. A direct comparison between these two analytes was made with the results being comparable. N-propyl acetate and isopropyl acetate have similar response factors but differe retention times. These samples were re-quantitated and a search was made against a single calibration standard of i

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propyl acetate at the correct retention time after they were initially analyzed. N-propyl acetate was not detected in any of the samples. There was not even any peaks at all present in any of the samples at the retention time for n-propyl acetate. Based on this, not having a valid calibration for n-propyl acetate at the time of acquisition does not have a major impact on the sample result of "non-detect" for this analyte. In the standards section of the data package , spectral data and chromatograms are provided showing the retention time difference and the ions used in the search. Isopropyl acetate is also being reported since it was included in the calibration and used in the comparison with n-propyl acetate. Samples collected in the future will be analyzed with a valid calibration curve for n-propyl acetate. No corrective action was taken since n-propyl acetate was not detected in any of the samples.

I certify that this data package is in compliance with the terms and conditions agreed to by Columbia Analytical Services, Inc. and by the client, both technically, and for completeness, except for the conditions detailed above. 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:

Signed: _____ Date: 6-3-02

Bob Dempsey
Organics Manager

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Jacksonville, FL 32256
Tel 904 739-2277
Fax 904 739-2011

Sample Data

FORM I

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0012

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-001

Sample wt/vol: 5.130 (g/mL) G Lab File ID: 0507-28

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 16 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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	5.8	U
74-87-3	Chloromethane (P)	1.2	U
75-01-4	Vinyl Chloride (C)	1.2	U
74-83-9	Bromomethane	1.2	U
75-00-3	Chloroethane	1.2	U
75-69-4	Trichlorofluoromethane	1.2	U
75-35-4	1,1-Dichloroethene (C)	1.2	U
67-64-1	Acetone	45	
74-88-4	Iodomethane	5.8	U
75-15-0	Carbon Disulfide	5.8	U
75-09-2	Methylene Chloride	22	
156-60-5	trans-1,2-Dichloroethene	1.2	U
1634-04-4	Methyl tert-Butyl Ether	1.2	U
75-34-3	1,1-Dichloroethane (P)	1.2	U
108-05-4	Vinyl Acetate	12	U
156-59-2	cis-1,2-Dichloroethene	1.2	U
78-93-3	2-Butanone (MEK)	30	
74-97-5	Bromochloromethane	1.2	U
67-66-3	Chloroform (C)	0.36	J
71-55-6	1,1,1-Trichloroethane	1.2	U
56-23-5	Carbon Tetrachloride	1.2	U
71-43-2	Benzene	1.2	U
107-06-2	1,2-Dichloroethane	1.2	U
79-01-6	Trichloroethene	1.2	U
78-87-5	1,2-Dichloropropane (C)	1.2	U
74-95-3	Dibromomethane	1.2	U
75-27-4	Bromodichloromethane	1.2	U
10061-01-5	cis-1,3-Dichloropropene	1.2	U
108-10-1	4-Methyl-2-pentanone (MIBK)	12	U
108-88-3	Toluene (C)	2000	E
10061-02-6	trans-1,3-Dichloropropene	1.2	U
79-00-5	1,1,2-Trichloroethane	1.2	U
127-18-4	Tetrachloroethene	1.2	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0012

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-001

Sample wt/vol: 5.130 (g/mL) G Lab File ID: 0507-28

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 16 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	1.2	U
106-93-4	1,2-Dibromoethane (EDB)	1.2	U
108-90-7	Chlorobenzene (P)	1.2	U
630-20-6	1,1,1,2-Tetrachloroethane	1.2	U
100-41-4	Ethylbenzene (C)	24	
136777-61-2	m,p-Xylenes	46	
1330-20-7	Total Xylenes	65	
95-47-6	o-Xylene	19	
100-42-5	Styrene	1.2	U
75-25-2	Bromoform (P)	1.2	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.2	U
96-18-4	1,2,3-Trichloropropane	1.2	U
110-57-6	trans-1,4-Dichloro-2-butene	23	U
541-73-1	1,3-Dichlorobenzene	1.2	U
106-46-7	1,4-Dichlorobenzene	1.2	U
95-50-1	1,2-Dichlorobenzene	1.2	U
96-12-8	1,2-Dibromo-3-chloropropane	12	U
110-54-3	Hexane	5.8	U
108-21-4	Isopropyl Acetate	5.8	U
109-60-4	n-Propyl acetate	5.8	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

S00012D

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-001D

Sample wt/vol: 5.110 (g/ml) G Lab File ID: 0516-08

Level: (low/med) MED Date Received: 05/03/02

% Moisture: not dec. 16 Date Analyzed: 05/16/02

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 10.0

Soil Extract Volume: 43(ml) Soil Aliquot Volume: 5(ml)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	5800	U
74-87-3	Chloromethane (P)	1200	U
75-01-4	Vinyl Chloride (C)	1200	U
74-83-9	Bromomethane	1200	U
75-00-3	Chloroethane	1200	U
75-69-4	Trichlorofluoromethane	1200	U
75-35-4	1,1-Dichloroethene (C)	1200	U
67-64-1	Acetone	58000	U
74-88-4	Iodomethane	5800	U
75-15-0	Carbon Disulfide	12000	U
75-09-2	Methylene Chloride	5800	U
156-60-5	trans-1,2-Dichloroethene	1200	U
1634-04-4	Methyl tert-Butyl Ether	1200	U
110-54-3	Hexane	5800	U
75-34-3	1,1-Dichloroethane (P)	1200	U
108-05-4	Vinyl Acetate	5800	U
156-59-2	cis-1,2-Dichloroethene	1200	U
78-93-3	2-Butanone (MEK)	29000	U
74-97-5	Bromochloromethane	1200	U
67-66-3	Chloroform (C)	1200	U
71-55-6	1,1,1-Trichloroethane	1200	U
56-23-5	Carbon Tetrachloride	1200	U
71-43-2	Benzene	1200	U
107-06-2	1,2-Dichloroethane	1200	U
108-21-4	Isopropyl Acetate	5800	U
79-01-6	Trichloroethene	1200	U
78-87-5	1,2-Dichloropropane (C)	1200	U
74-95-3	Dibromomethane	1200	U
109-60-4	n-Propyl acetate	5800	U
75-27-4	Bromodichloromethane	1200	U
10061-01-5	cis-1,3-Dichloropropene	1200	U
108-10-1	4-Methyl-2-pentanone (MIBK)	29000	U
108-88-3	Toluene (C)	17000	

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0012D

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-001D

Sample wt/vol: 5.110 (g/ml) G Lab File ID: 0516-08

Level: (low/med) MED Date Received: 05/03/02

% Moisture: not dec. 16 Date Analyzed: 05/16/02

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 10.0

Soil Extract Volume: 43(ml) Soil Aliquot Volume: 5(ml)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
10061-02-6	trans-1,3-Dichloropropene	1200	U
79-00-5	1,1,2-Trichloroethane	1200	U
127-18-4	Tetrachloroethene	1200	U
591-78-6	2-Hexanone	29000	U
124-48-1	Dibromochloromethane	1200	U
106-93-4	1,2-Dibromoethane (EDB)	1200	U
108-90-7	Chlorobenzene (P)	1200	U
630-20-6	1,1,1,2-Tetrachloroethane	1200	U
100-41-4	Ethylbenzene (C)	1200	U
136777-61-2	m,p-Xylenes	2300	U
1330-20-7	Total Xylenes	3500	U
95-47-6	o-Xylene	1200	U
75-25-2	Bromoform (P)	1200	U
100-42-5	Styrene	1200	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1200	U
96-18-4	1,2,3-Trichloropropane	1200	U
110-57-6	trans-1,4-Dichloro-2-butene	12000	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
96-12-8	1,2-Dibromo-3-chloropropane	2300	U

FORM I

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0013

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-002

Sample wt/vol: 5.430 (g/mL) G Lab File ID: 0507-29

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 17 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	5.5	U
74-87-3	Chloromethane (P)	1.1	U
75-01-4	Vinyl Chloride (C)	1.1	U
74-83-9	Bromomethane	1.1	U
75-00-3	Chloroethane	1.1	U
75-69-4	Trichlorofluoromethane	1.1	U
75-35-4	1,1-Dichloroethene (C)	1.1	U
67-64-1	Acetone	2600	E
74-88-4	Iodomethane	5.5	U
75-15-0	Carbon Disulfide	5.5	U
75-09-2	Methylene Chloride	58	
156-60-5	trans-1,2-Dichloroethene	1.1	U
1634-04-4	Methyl tert-Butyl Ether	1.1	U
75-34-3	1,1-Dichloroethane (P)	1.1	U
108-05-4	Vinyl Acetate	11	U
156-59-2	cis-1,2-Dichloroethene	1.1	U
78-93-3	2-Butanone (MEK)	3800	E
74-97-5	Bromochloromethane	1.1	U
67-66-3	Chloroform (C)	1.1	U
71-55-6	1,1,1-Trichloroethane	1.1	U
56-23-5	Carbon Tetrachloride	1.1	U
71-43-2	Benzene	2.4	
107-06-2	1,2-Dichloroethane	1.1	U
79-01-6	Trichloroethene	1.1	U
78-87-5	1,2-Dichloropropane (C)	1.1	U
74-95-3	Dibromomethane	1.1	U
75-27-4	Bromodichloromethane	1.1	U
10061-01-5	cis-1,3-Dichloropropene	1.1	U
108-10-1	4-Methyl-2-pentanone (MIBK)	11	U
108-88-3	Toluene (C)	4400	E
10061-02-6	trans-1,3-Dichloropropene	1.1	U
79-00-5	1,1,2-Trichloroethane	1.1	U
127-18-4	Tetrachloroethene	1.1	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0013

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-002

Sample wt/vol: 5.430 (g/mL) G Lab File ID: 0507-29

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 17 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	1.1	U
106-93-4	1,2-Dibromoethane (EDB)	1.1	U
108-90-7	Chlorobenzene (P)	1.1	U
630-20-6	1,1,1,2-Tetrachloroethane	1.1	U
100-41-4	Ethylbenzene (C)	1.1	U
136777-61-2	m,p-Xylenes	6.5	
1330-20-7	Total Xylenes	9.1	
95-47-6	o-Xylene	2.6	
100-42-5	Styrene	1.1	U
75-25-2	Bromoform (P)	1.1	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.1	U
96-18-4	1,2,3-Trichloropropane	1.1	U
110-57-6	trans-1,4-Dichloro-2-butene	22	U
541-73-1	1,3-Dichlorobenzene	1.1	U
106-46-7	1,4-Dichlorobenzene	1.1	U
95-50-1	1,2-Dichlorobenzene	1.1	U
96-12-8	1,2-Dibromo-3-chloropropane	11	U
110-54-3	Hexane	5.5	U
108-21-4	Isopropyl Acetate	5.5	U
109-60-4	n-Propyl acetate	5.5	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0013D

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-002D

Sample wt/vol: 5.410 (g/ml) G Lab File ID: 0516-10

Level: (low/med) MED Date Received: 05/03/02

% Moisture: not dec. 17 Date Analyzed: 05/16/02

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: 43(ml) Soil Aliquot Volume: 5(ml)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	550	U
74-87-3	Chloromethane (P)	110	U
75-01-4	Vinyl Chloride (C)	110	U
74-83-9	Bromomethane	110	U
75-00-3	Chloroethane	110	U
75-69-4	Trichlorofluoromethane	110	U
75-35-4	1,1-Dichloroethene (C)	110	U
67-64-1	Acetone	1900	J
74-88-4	Iodomethane	550	U
75-15-0	Carbon Disulfide	1100	U
75-09-2	Methylene Chloride	61	J
156-60-5	trans-1,2-Dichloroethene	110	U
1634-04-4	Methyl tert-Butyl Ether	110	U
110-54-3	Hexane	550	U
75-34-3	1,1-Dichloroethane (P)	110	U
108-05-4	Vinyl Acetate	550	U
156-59-2	cis-1,2-Dichloroethene	110	U
78-93-3	2-Butanone (MEK)	3500	
74-97-5	Bromochloromethane	110	U
67-66-3	Chloroform (C)	110	U
71-55-6	1,1,1-Trichloroethane	110	U
56-23-5	Carbon Tetrachloride	110	U
71-43-2	Benzene	110	U
107-06-2	1,2-Dichloroethane	110	U
108-21-4	Isopropyl Acetate	550	U
79-01-6	Trichloroethene	110	U
78-87-5	1,2-Dichloropropane (C)	110	U
74-95-3	Dibromomethane	110	U
109-60-4	n-Propyl acetate	550	U
75-27-4	Bromodichloromethane	110	U
10061-01-5	cis-1,3-Dichloropropene	110	U
108-10-1	4-Methyl-2-pentanone (MIBK)	2800	U
108-88-3	Toluene (C)	5700	

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0013D

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-002D

Sample wt/vol: 5.410 (g/ml) G Lab File ID: 0516-10

Level: (low/med) MED Date Received: 05/03/02

% Moisture: not dec. 17 Date Analyzed: 05/16/02

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: 43(ml) Soil Aliquot Volume: 5(ml)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
10061-02-6	trans-1,3-Dichloropropene	110	U
79-00-5	1,1,2-Trichloroethane	110	U
127-18-4	Tetrachloroethene	110	U
591-78-6	2-Hexanone	2800	U
124-48-1	Dibromochloromethane	110	U
106-93-4	1,2-Dibromoethane (EDB)	110	U
108-90-7	Chlorobenzene (P)	110	U
630-20-6	1,1,1,2-Tetrachloroethane	110	U
100-41-4	Ethylbenzene (C)	110	U
136777-61-2	m,p-Xylenes	220	U
1330-20-7	Total Xylenes	330	U
95-47-6	o-Xylene	110	U
75-25-2	Bromoform (P)	110	U
100-42-5	Styrene	110	U
79-34-5	1,1,2,2-Tetrachloroethane (P	110	U
96-18-4	1,2,3-Trichloropropane	110	U
110-57-6	trans-1,4-Dichloro-2-butene	1100	U
541-73-1	1,3-Dichlorobenzene	110	U
106-46-7	1,4-Dichlorobenzene	110	U
95-50-1	1,2-Dichlorobenzene	110	U
96-12-8	1,2-Dibromo-3-chloropropane	220	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0014

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-003

Sample wt/vol: 4.620 (g/mL) G Lab File ID: 0507-56

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 4 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	5.6	U
74-87-3	Chloromethane (P)	1.1	U
75-01-4	Vinyl Chloride (C)	1.1	U
74-83-9	Bromomethane	1.1	U
75-00-3	Chloroethane	1.1	U
75-69-4	Trichlorofluoromethane	1.1	U
75-35-4	1,1-Dichloroethene (C)	1.1	U
67-64-1	Acetone	28	U
74-88-4	Iodomethane	5.6	U
75-15-0	Carbon Disulfide	5.6	U
75-09-2	Methylene Chloride	57	B
156-60-5	trans-1,2-Dichloroethene	1.1	U
1634-04-4	Methyl tert-Butyl Ether	1.1	U
75-34-3	1,1-Dichloroethane (P)	1.1	U
108-05-4	Vinyl Acetate	11	U
156-59-2	cis-1,2-Dichloroethene	1.1	U
78-93-3	2-Butanone (MEK)	11	U
74-97-5	Bromochloromethane	1.1	U
67-66-3	Chloroform (C)	0.46	J
71-55-6	1,1,1-Trichloroethane	1.1	U
56-23-5	Carbon Tetrachloride	1.1	U
71-43-2	Benzene	1.1	U
107-06-2	1,2-Dichloroethane	1.1	U
79-01-6	Trichloroethene	1.1	U
78-87-5	1,2-Dichloropropane (C)	1.1	U
74-95-3	Dibromomethane	1.1	U
75-27-4	Bromodichloromethane	1.1	U
10061-01-5	cis-1,3-Dichloropropene	1.1	U
108-10-1	4-Methyl-2-pentanone (MIBK)	11	U
108-88-3	Toluene (C)	1.1	U
10061-02-6	trans-1,3-Dichloropropene	1.1	U
79-00-5	1,1,2-Trichloroethane	1.1	U
127-18-4	Tetrachloroethene	1.1	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0014

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-003

Sample wt/vol: 4.620 (g/mL) G Lab File ID: 0507-56

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 4 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	1.1	U
106-93-4	1,2-Dibromoethane (EDB)	1.1	U
108-90-7	Chlorobenzene (P)	1.1	U
630-20-6	1,1,1,2-Tetrachloroethane	1.1	U
100-41-4	Ethylbenzene (C)	1.1	U
136777-61-2	m,p-Xylenes	2.2	U
1330-20-7	Total Xylenes	3.4	U
95-47-6	o-Xylene	1.1	U
100-42-5	Styrene	1.1	U
75-25-2	Bromoform (P)	1.1	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.1	U
96-18-4	1,2,3-Trichloropropane	1.1	U
110-57-6	trans-1,4-Dichloro-2-butene	22	U
541-73-1	1,3-Dichlorobenzene	1.1	U
106-46-7	1,4-Dichlorobenzene	1.1	U
95-50-1	1,2-Dichlorobenzene	1.1	U
96-12-8	1,2-Dibromo-3-chloropropane	11	U
110-54-3	Hexane	5.6	U
108-21-4	Isopropyl Acetate	5.6	U
109-60-4	n-Propyl acetate	5.6	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0015

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-004

Sample wt/vol: 4.950 (g/mL) G Lab File ID: 0507-57

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 17 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	6.0	U
74-87-3	Chloromethane (P)	1.2	U
75-01-4	Vinyl Chloride (C)	1.2	U
74-83-9	Bromomethane	1.2	U
75-00-3	Chloroethane	1.2	U
75-69-4	Trichlorofluoromethane	1.2	U
75-35-4	1,1-Dichloroethene (C)	1.2	U
67-64-1	Acetone	30	U
74-88-4	Iodomethane	6.0	U
75-15-0	Carbon Disulfide	6.0	U
75-09-2	Methylene Chloride	74	B
156-60-5	trans-1,2-Dichloroethene	1.2	U
1634-04-4	Methyl tert-Butyl Ether	1.2	U
75-34-3	1,1-Dichloroethane (P)	1.2	U
108-05-4	Vinyl Acetate	12	U
156-59-2	cis-1,2-Dichloroethene	1.2	U
78-93-3	2-Butanone (MEK)	12	U
74-97-5	Bromochloromethane	1.2	U
67-66-3	Chloroform (C)	0.54	J
71-55-6	1,1,1-Trichloroethane	1.2	U
56-23-5	Carbon Tetrachloride	1.2	U
71-43-2	Benzene	1.2	U
107-06-2	1,2-Dichloroethane	1.2	U
79-01-6	Trichloroethene	1.2	U
78-87-5	1,2-Dichloropropane (C)	1.2	U
74-95-3	Dibromomethane	1.2	U
75-27-4	Bromodichloromethane	1.2	U
10061-01-5	cis-1,3-Dichloropropene	1.2	U
108-10-1	4-Methyl-2-pentanone (MIBK)	12	U
108-88-3	Toluene (C)	0.88	JB
10061-02-6	trans-1,3-Dichloropropene	1.2	U
79-00-5	1,1,2-Trichloroethane	1.2	U
127-18-4	Tetrachloroethene	1.2	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0015

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-004

Sample wt/vol: 4.950 (g/mL) G Lab File ID: 0507-57

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 17 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	1.2	U
106-93-4	1,2-Dibromoethane (EDB)	1.2	U
108-90-7	Chlorobenzene (P)	1.2	U
630-20-6	1,1,1,2-Tetrachloroethane	1.2	U
100-41-4	Ethylbenzene (C)	1.2	U
136777-61-2	m,p-Xylenes	2.4	U
1330-20-7	Total Xylenes	3.6	U
95-47-6	o-Xylene	1.2	U
100-42-5	Styrene	1.2	U
75-25-2	Bromoform (P)	1.2	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.2	U
96-18-4	1,2,3-Trichloropropane	1.2	U
110-57-6	trans-1,4-Dichloro-2-butene	24	U
541-73-1	1,3-Dichlorobenzene	1.2	U
106-46-7	1,4-Dichlorobenzene	1.2	U
95-50-1	1,2-Dichlorobenzene	1.2	U
96-12-8	1,2-Dibromo-3-chloropropane	12	U
110-54-3	Hexane	6.0	U
108-21-4	Isopropyl Acetate	6.0	U
109-60-4	n-Propyl acetate	6.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0016

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-005

Sample wt/vol: 5.510 (g/mL) G Lab File ID: 0507-58

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 9 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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 (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	25	U
74-88-4	Iodomethane	5.0	U
75-15-0	Carbon Disulfide	5.0	U
75-09-2	Methylene Chloride	55	B
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	10	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	10	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	0.43	J
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U
108-88-3	Toluene (C)	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0016

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-005

Sample wt/vol: 5.510 (g/mL) G Lab File ID: 0507-58

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 9 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.0	U
1330-20-7	Total Xylenes	3.0	U
95-47-6	o-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform (P)	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	20	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
110-54-3	Hexane	5.0	U
108-21-4	Isopropyl Acetate	5.0	U
109-60-4	n-Propyl acetate	5.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0017

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-006

Sample wt/vol: 5.800 (g/mL) G Lab File ID: 0507-33

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 15 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	5.1	U
74-87-3	Chloromethane (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	25	U
74-88-4	Iodomethane	5.1	U
75-15-0	Carbon Disulfide	5.1	U
75-09-2	Methylene Chloride	63	
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	10	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	10	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	0.40	J
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U
108-88-3	Toluene (C)	1.1	
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0017

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-006

Sample wt/vol: 5.800 (g/mL) G Lab File ID: 0507-33

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 15 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.0	U
1330-20-7	Total Xylenes	3.0	U
95-47-6	o-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform (P)	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	20	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
110-54-3	Hexane	5.1	U
108-21-4	Isopropyl Acetate	5.1	U
109-60-4	n-Propyl acetate	5.1	U

FORM I

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0018

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-007

Sample wt/vol: 5.480 (g/mL) G Lab File ID: 0507-34

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 11 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	5.1	U
74-87-3	Chloromethane (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	26	U
74-88-4	Iodomethane	5.1	U
75-15-0	Carbon Disulfide	5.1	U
75-09-2	Methylene Chloride	52	
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	10	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	10	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	0.42	J
71-55-6	1,1,1-Trichloroethane	~~1.0~~	~~U~~
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U
108-88-3	Toluene (C)	0.88	J
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	0.60	J

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0018

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-007

Sample wt/vol: 5.480 (g/mL) G Lab File ID: 0507-34

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 11 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.0	U
1330-20-7	Total Xylenes	3.1	U
95-47-6	o-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform (P)	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	20	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
110-54-3	Hexane	5.1	U
108-21-4	Isopropyl Acetate	5.1	U
109-60-4	n-Propyl acetate	5.1	U

FORM I

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0018MS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-007MS

Sample wt/vol: 5.030 (g/mL) G Lab File ID: 0507-41

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 11 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	26	
74-87-3	Chloromethane (P)	21	
75-01-4	Vinyl Chloride (C)	21	
74-83-9	Bromomethane	21	
75-00-3	Chloroethane	21	
75-69-4	Trichlorofluoromethane	23	
75-35-4	1,1-Dichloroethene (C)	22	
67-64-1	Acetone	97	
74-88-4	Iodomethane	100	
75-15-0	Carbon Disulfide	92	
75-09-2	Methylene Chloride	66	
156-60-5	trans-1,2-Dichloroethene	20	
1634-04-4	Methyl tert-Butyl Ether	20	
75-34-3	1,1-Dichloroethane (P)	22	
108-05-4	Vinyl Acetate	68	
156-59-2	cis-1,2-Dichloroethene	20	
78-93-3	2-Butanone (MEK)	92	
74-97-5	Bromochloromethane	20	
67-66-3	Chloroform (C)	21	
71-55-6	1,1,1-Trichloroethane	20	
56-23-5	Carbon Tetrachloride	20	
71-43-2	Benzene	21	
107-06-2	1,2-Dichloroethane	20	
79-01-6	Trichloroethene	20	
78-87-5	1,2-Dichloropropane (C)	20	
74-95-3	Dibromomethane	20	
75-27-4	Bromodichloromethane	22	
10061-01-5	cis-1,3-Dichloropropene	19	
108-10-1	4-Methyl-2-pentanone (MIBK)	96	
108-88-3	Toluene (C)	21	
10061-02-6	trans-1,3-Dichloropropene	20	
79-00-5	1,1,2-Trichloroethane	19	
127-18-4	Tetrachloroethene	21	

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0018MS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-007MS

Sample wt/vol: 5.030 (g/mL) G Lab File ID: 0507-41

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 11 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	93	
124-48-1	Dibromochloromethane	19	
106-93-4	1,2-Dibromoethane (EDB)	19	
108-90-7	Chlorobenzene (P)	20	
630-20-6	1,1,1,2-Tetrachloroethane	20	
100-41-4	Ethylbenzene (C)	21	
136777-61-2	m,p-Xylenes	43	
1330-20-7	Total Xylenes	64	
95-47-6	o-Xylene	21	
100-42-5	Styrene	21	
75-25-2	Bromoform (P)	17	
79-34-5	1,1,2,2-Tetrachloroethane (P	19	
96-18-4	1,2,3-Trichloropropane	17	
110-57-6	trans-1,4-Dichloro-2-butene	14	J
541-73-1	1,3-Dichlorobenzene	21	
106-46-7	1,4-Dichlorobenzene	19	
95-50-1	1,2-Dichlorobenzene	19	
96-12-8	1,2-Dibromo-3-chloropropane	16	
110-54-3	Hexane	170	
108-21-4	Isopropyl Acetate	95	
109-60-4	n-Propyl acetate	5.6	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0018MSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-007MSD

Sample wt/vol: 5.280 (g/mL) G Lab File ID: 0507-42

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 11 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	19	
74-87-3	Chloromethane (P)	17	
75-01-4	Vinyl Chloride (C)	18	
74-83-9	Bromomethane	18	
75-00-3	Chloroethane	17	
75-69-4	Trichlorofluoromethane	19	
75-35-4	1,1-Dichloroethene (C)	17	
67-64-1	Acetone	110	
74-88-4	Iodomethane	85	
75-15-0	Carbon Disulfide	80	
75-09-2	Methylene Chloride	73	
156-60-5	trans-1,2-Dichloroethene	16	
1634-04-4	Methyl tert-Butyl Ether	20	
75-34-3	1,1-Dichloroethane (P)	18	
108-05-4	Vinyl Acetate	62	
156-59-2	cis-1,2-Dichloroethene	16	
78-93-3	2-Butanone (MEK)	93	
74-97-5	Bromochloromethane	18	
67-66-3	Chloroform (C)	18	
71-55-6	1,1,1-Trichloroethane	17	
56-23-5	Carbon Tetrachloride	16	
71-43-2	Benzene	17	
107-06-2	1,2-Dichloroethane	19	
79-01-6	Trichloroethene	17	
78-87-5	1,2-Dichloropropane (C)	17	
74-95-3	Dibromomethane	20	
75-27-4	Bromodichloromethane	18	
10061-01-5	cis-1,3-Dichloropropene	17	
108-10-1	4-Methyl-2-pentanone (MIBK)	100	
108-88-3	Toluene (C)	18	
10061-02-6	trans-1,3-Dichloropropene	17	
79-00-5	1,1,2-Trichloroethane	19	
127-18-4	Tetrachloroethene	16	

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0018MSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-007MSD

Sample wt/vol: 5.280 (g/mL) G Lab File ID: 0507-42

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 11 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	98	
124-48-1	Dibromochloromethane	17	
106-93-4	1,2-Dibromoethane (EDB)	18	
108-90-7	Chlorobenzene (P)	17	
630-20-6	1,1,1,2-Tetrachloroethane	18	
100-41-4	Ethylbenzene (C)	17	
136777-61-2	m,p-Xylenes	34	
1330-20-7	Total Xylenes	51	
95-47-6	o-Xylene	17	
100-42-5	Styrene	18	
75-25-2	Bromoform (P)	18	
79-34-5	1,1,2,2-Tetrachloroethane (P	18	
96-18-4	1,2,3-Trichloropropane	19	
110-57-6	trans-1,4-Dichloro-2-butene	14	J
541-73-1	1,3-Dichlorobenzene	18	
106-46-7	1,4-Dichlorobenzene	16	
95-50-1	1,2-Dichlorobenzene	17	
96-12-8	1,2-Dibromo-3-chloropropane	16	
110-54-3	Hexane	58	
108-21-4	Isopropyl Acetate	97	
109-60-4	n-Propyl acetate	5.3	U

FORM I

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0019

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-008

Sample wt/vol: 5.740 (g/mL) G Lab File ID: 0507-35

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 16 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	5.2	U
74-87-3	Chloromethane (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	26	U
74-88-4	Iodomethane	5.2	U
75-15-0	Carbon Disulfide	5.2	U
75-09-2	Methylene Chloride	49	
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	10	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	10	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	~~0.46~~	~~J~~
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U
108-88-3	Toluene (C)	~~0.79~~	~~J~~
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0019

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-008

Sample wt/vol: 5.740 (g/mL) G Lab File ID: 0507-35

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 16 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.1	U
1330-20-7	Total Xylenes	3.1	U
95-47-6	o-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform (P)	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	21	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
110-54-3	Hexane	5.2	U
108-21-4	Isopropyl Acetate	5.2	U
109-60-4	n-Propyl acetate	5.2	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0020

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-009

Sample wt/vol: 5.510 (g/mL) G Lab File ID: 0507-36

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 12 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	5.1	U
74-87-3	Chloromethane (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	26	U
74-88-4	Iodomethane	5.1	U
75-15-0	Carbon Disulfide	5.1	U
75-09-2	Methylene Chloride	36	
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	10	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	10	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	0.42	J
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U
108-88-3	Toluene (C)	0.73	J
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0020

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-009

Sample wt/vol: 5.510 (g/mL) G Lab File ID: 0507-36

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 12 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.0	U
1330-20-7	Total Xylenes	3.1	U
95-47-6	o-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform (P)	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	20	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
110-54-3	Hexane	5.1	U
108-21-4	Isopropyl Acetate	5.1	U
109-60-4	n-Propyl acetate	5.1	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0021

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-010

Sample wt/vol: 5.820 (g/mL) G Lab File ID: 0507-37

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 12 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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 (P)	0.98	U
75-01-4	Vinyl Chloride (C)	0.98	U
74-83-9	Bromomethane	0.98	U
75-00-3	Chloroethane	0.98	U
75-69-4	Trichlorofluoromethane	0.98	U
75-35-4	1,1-Dichloroethene (C)	0.98	U
67-64-1	Acetone	24	U
74-88-4	Iodomethane	4.9	U
75-15-0	Carbon Disulfide	4.9	U
75-09-2	Methylene Chloride	35	
156-60-5	trans-1,2-Dichloroethene	0.98	U
1634-04-4	Methyl tert-Butyl Ether	0.98	U
75-34-3	1,1-Dichloroethane (P)	0.98	U
108-05-4	Vinyl Acetate	9.8	U
156-59-2	cis-1,2-Dichloroethene	0.98	U
78-93-3	2-Butanone (MEK)	9.8	U
74-97-5	Bromochloromethane	0.98	U
67-66-3	Chloroform (C)	0.60	J
71-55-6	1,1,1-Trichloroethane	0.98	U
56-23-5	Carbon Tetrachloride	0.98	U
71-43-2	Benzene	0.98	U
107-06-2	1,2-Dichloroethane	0.98	U
79-01-6	Trichloroethene	0.98	U
78-87-5	1,2-Dichloropropane (C)	0.98	U
74-95-3	Dibromomethane	0.98	U
75-27-4	Bromodichloromethane	0.98	U
10061-01-5	cis-1,3-Dichloropropene	0.98	U
108-10-1	4-Methyl-2-pentanone (MIBK)	9.8	U
108-88-3	Toluene (C)	0.85	J
10061-02-6	trans-1,3-Dichloropropene	0.98	U
79-00-5	1,1,2-Trichloroethane	0.98	U
127-18-4	Tetrachloroethene	0.98	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0021

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-010

Sample wt/vol: 5.820 (g/mL) G Lab File ID: 0507-37

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 12 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	9.8	U
124-48-1	Dibromochloromethane	0.98	U
106-93-4	1,2-Dibromoethane (EDB)	0.98	U
108-90-7	Chlorobenzene (P)	0.98	U
630-20-6	1,1,1,2-Tetrachloroethane	0.98	U
100-41-4	Ethylbenzene (C)	0.98	U
136777-61-2	m,p-Xylenes	2.0	U
1330-20-7	Total Xylenes	2.9	U
95-47-6	o-Xylene	0.98	U
100-42-5	Styrene	0.98	U
75-25-2	Bromoform (P)	0.98	U
79-34-5	1,1,2,2-Tetrachloroethane (P	0.98	U
96-18-4	1,2,3-Trichloropropane	0.98	U
110-57-6	trans-1,4-Dichloro-2-butene	20	U
541-73-1	1,3-Dichlorobenzene	0.98	U
106-46-7	1,4-Dichlorobenzene	0.98	U
95-50-1	1,2-Dichlorobenzene	0.98	U
96-12-8	1,2-Dibromo-3-chloropropane	9.8	U
110-54-3	Hexane	4.9	U
108-21-4	Isopropyl Acetate	4.9	U
109-60-4	n-Propyl acetate	4.9	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0022

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-011

Sample wt/vol: 5.720 (g/mL) G Lab File ID: 0507-38

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 17 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	5.3	U
74-87-3	Chloromethane (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	26	U
74-88-4	Iodomethane	5.3	U
75-15-0	Carbon Disulfide	5.3	U
75-09-2	Methylene Chloride	37	
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	10	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	10	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	0.35	J
71-55-6	1,1,1-Trichloroethane	~~1.0~~	~~U~~
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U
108-88-3	Toluene (C)	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

S00022

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-011

Sample wt/vol: 5.720 (g/mL) G Lab File ID: 0507-38

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 17 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.1	U
1330-20-7	Total Xylenes	3.2	U
95-47-6	o-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform (P)	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	21	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
110-54-3	Hexane	5.3	U
108-21-4	Isopropyl Acetate	5.3	U
109-60-4	n-Propyl acetate	5.3	U

FORM I

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0023

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-020

Sample wt/vol: 4.430 (g/mL) G Lab File ID: 0507-39

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 18 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	6.8	U
74-87-3	Chloromethane (P)	1.4	U
75-01-4	Vinyl Chloride (C)	1.4	U
74-83-9	Bromomethane	1.4	U
75-00-3	Chloroethane	1.4	U
75-69-4	Trichlorofluoromethane	1.4	U
75-35-4	1,1-Dichloroethene (C)	1.4	U
67-64-1	Acetone	34	U
74-88-4	Iodomethane	6.8	U
75-15-0	Carbon Disulfide	6.8	U
75-09-2	Methylene Chloride	26	
156-60-5	trans-1,2-Dichloroethene	1.4	U
1634-04-4	Methyl tert-Butyl Ether	1.4	U
75-34-3	1,1-Dichloroethane (P)	1.4	U
108-05-4	Vinyl Acetate	14	U
156-59-2	cis-1,2-Dichloroethene	1.4	U
78-93-3	2-Butanone (MEK)	14	U
74-97-5	Bromochloromethane	1.4	U
67-66-3	Chloroform (C)	0.46	J
71-55-6	1,1,1-Trichloroethane	1.4	U
56-23-5	Carbon Tetrachloride	1.4	U
71-43-2	Benzene	1.4	U
107-06-2	1,2-Dichloroethane	1.4	U
79-01-6	Trichloroethene	1.4	U
78-87-5	1,2-Dichloropropane (C)	1.4	U
74-95-3	Dibromomethane	1.4	U
75-27-4	Bromodichloromethane	1.4	U
10061-01-5	cis-1,3-Dichloropropene	1.4	U
108-10-1	4-Methyl-2-pentanone (MIBK)	14	U
108-88-3	Toluene (C)	1.4	U
10061-02-6	trans-1,3-Dichloropropene	1.4	U
79-00-5	1,1,2-Trichloroethane	1.4	U
127-18-4	Tetrachloroethene	1.4	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0023

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-020

Sample wt/vol: 4.430 (g/mL) G Lab File ID: 0507-39

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 18 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	14	U
124-48-1	Dibromochloromethane	1.4	U
106-93-4	1,2-Dibromoethane (EDB)	1.4	U
108-90-7	Chlorobenzene (P)	1.4	U
630-20-6	1,1,1,2-Tetrachloroethane	1.4	U
100-41-4	Ethylbenzene (C)	1.4	U
136777-61-2	m,p-Xylenes	2.7	U
1330-20-7	Total Xylenes	4.1	U
95-47-6	o-Xylene	1.4	U
100-42-5	Styrene	1.4	U
75-25-2	Bromoform (P)	1.4	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.4	U
96-18-4	1,2,3-Trichloropropane	1.4	U
110-57-6	trans-1,4-Dichloro-2-butene	27	U
541-73-1	1,3-Dichlorobenzene	1.4	U
106-46-7	1,4-Dichlorobenzene	1.4	U
95-50-1	1,2-Dichlorobenzene	1.4	U
96-12-8	1,2-Dibromo-3-chloropropane	14	U
108-21-4	Isopropyl Acetate	6.8	U
109-60-4	n-Propyl acetate	6.8	U

FORM I

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0024

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021

Sample wt/vol: 5.660 (g/mL) G Lab File ID: 0507-43

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 19 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	5.5	U
74-87-3	Chloromethane (P)	1.1	U
75-01-4	Vinyl Chloride (C)	1.1	U
74-83-9	Bromomethane	1.1	U
75-00-3	Chloroethane	1.1	U
75-69-4	Trichlorofluoromethane	1.1	U
75-35-4	1,1-Dichloroethene (C)	1.1	U
67-64-1	Acetone	27	U
74-88-4	Iodomethane	5.5	U
75-15-0	Carbon Disulfide	5.5	U
75-09-2	Methylene Chloride	11	U
156-60-5	trans-1,2-Dichloroethene	1.1	U
1634-04-4	Methyl tert-Butyl Ether	1.1	U
75-34-3	1,1-Dichloroethane (P)	1.1	U
108-05-4	Vinyl Acetate	11	U
156-59-2	cis-1,2-Dichloroethene	1.1	U
78-93-3	2-Butanone (MEK)	11	U
74-97-5	Bromochloromethane	1.1	U
67-66-3	Chloroform (C)	1.1	U
71-55-6	1,1,1-Trichloroethane	1.1	U
56-23-5	Carbon Tetrachloride	1.1	U
71-43-2	Benzene	1.1	U
107-06-2	1,2-Dichloroethane	1.1	U
79-01-6	Trichloroethene	1.1	U
78-87-5	1,2-Dichloropropane (C)	1.1	U
74-95-3	Dibromomethane	1.1	U
75-27-4	Bromodichloromethane	1.1	U
10061-01-5	cis-1,3-Dichloropropene	1.1	U
108-10-1	4-Methyl-2-pentanone (MIBK)	11	U
108-88-3	Toluene (C)	1.1	U
10061-02-6	trans-1,3-Dichloropropene	1.1	U
79-00-5	1,1,2-Trichloroethane	1.1	U
127-18-4	Tetrachloroethene	1.1	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0024

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021

Sample wt/vol: 5.660 (g/mL) G Lab File ID: 0507-43

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 19 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	1.1	U
106-93-4	1,2-Dibromoethane (EDB)	1.1	U
108-90-7	Chlorobenzene (P)	1.1	U
630-20-6	1,1,1,2-Tetrachloroethane	1.1	U
100-41-4	Ethylbenzene (C)	1.1	U
136777-61-2	m,p-Xylenes	2.2	U
1330-20-7	Total Xylenes	3.3	U
95-47-6	o-Xylene	1.1	U
100-42-5	Styrene	1.1	U
75-25-2	Bromoform (P)	1.1	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.1	U
96-18-4	1,2,3-Trichloropropane	1.1	U
110-57-6	trans-1,4-Dichloro-2-butene	22	U
541-73-1	1,3-Dichlorobenzene	1.1	U
106-46-7	1,4-Dichlorobenzene	1.1	U
95-50-1	1,2-Dichlorobenzene	1.1	U
96-12-8	1,2-Dibromo-3-chloropropane	11	U
108-21-4	Isopropyl Acetate	5.5	U
109-60-4	n-Propyl acetate	5.5	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0025

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-022

Sample wt/vol: 5.480 (g/mL) G Lab File ID: 0507-40

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 16 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	5.4	U
74-87-3	Chloromethane (P)	1.1	U
75-01-4	Vinyl Chloride (C)	1.1	U
74-83-9	Bromomethane	1.1	U
75-00-3	Chloroethane	1.1	U
75-69-4	Trichlorofluoromethane	1.1	U
75-35-4	1,1-Dichloroethene (C)	1.1	U
67-64-1	Acetone	27	U
74-88-4	Iodomethane	5.4	U
75-15-0	Carbon Disulfide	5.4	U
75-09-2	Methylene Chloride	18	
156-60-5	trans-1,2-Dichloroethene	1.1	U
1634-04-4	Methyl tert-Butyl Ether	1.1	U
75-34-3	1,1-Dichloroethane (P)	1.1	U
108-05-4	Vinyl Acetate	11	U
156-59-2	cis-1,2-Dichloroethene	1.1	U
78-93-3	2-Butanone (MEK)	11	U
74-97-5	Bromochloromethane	1.1	U
67-66-3	Chloroform (C)	1.1	U
71-55-6	1,1,1-Trichloroethane	1.1	U
56-23-5	Carbon Tetrachloride	1.1	U
71-43-2	Benzene	1.1	U
107-06-2	1,2-Dichloroethane	1.1	U
79-01-6	Trichloroethene	1.1	U
78-87-5	1,2-Dichloropropane (C)	1.1	U
74-95-3	Dibromomethane	1.1	U
75-27-4	Bromodichloromethane	1.1	U
10061-01-5	cis-1,3-Dichloropropene	1.1	U
108-10-1	4-Methyl-2-pentanone (MIBK)	11	U
108-88-3	Toluene (C)	1.1	U
10061-02-6	trans-1,3-Dichloropropene	1.1	U
79-00-5	1,1,2-Trichloroethane	1.1	U
127-18-4	Tetrachloroethene	1.1	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0025

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-022

Sample wt/vol: 5.480 (g/mL) G Lab File ID: 0507-40

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. 16 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	1.1	U
106-93-4	1,2-Dibromoethane (EDB)	1.1	U
108-90-7	Chlorobenzene (P)	1.1	U
630-20-6	1,1,1,2-Tetrachloroethane	1.1	U
100-41-4	Ethylbenzene (C)	1.1	U
136777-61-2	m,p-Xylenes	2.2	U
1330-20-7	Total Xylenes	3.3	U
95-47-6	o-Xylene	1.1	U
100-42-5	Styrene	1.1	U
75-25-2	Bromoform (P)	1.1	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.1	U
96-18-4	1,2,3-Trichloropropane	1.1	U
110-57-6	trans-1,4-Dichloro-2-butene	22	U
541-73-1	1,3-Dichlorobenzene	1.1	U
106-46-7	1,4-Dichlorobenzene	1.1	U
95-50-1	1,2-Dichlorobenzene	1.1	U
96-12-8	1,2-Dibromo-3-chloropropane	11	U
108-21-4	Isopropyl Acetate	5.4	U
109-60-4	n-Propyl acetate	5.4	U

FORM I

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW0013

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: J2201466-012

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-39

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. _____ Date Analyzed: 05/10/02

GC Column: DB-624 ID: 0.18 (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	5.0	U
74-87-3	Chloromethane (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	50	U
74-88-4	Iodomethane	5.0	U
75-15-0	Carbon Disulfide	10	U
75-09-2	Methylene Chloride	0.83	J
156-60-5	~~trans-1,2-Dichloroethene~~	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
110-54-3	Hexane	5.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	25	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
108-21-4	Isopropyl Acetate	5.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
109-60-4	n-Propyl acetate	5.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	25	U
108-88-3	Toluene (C)	1.0	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW0013

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: J2201466-012

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-39

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. _____ Date Analyzed: 05/10/02

GC Column: DB-624 ID: 0.18 (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
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.0	U
1330-20-7	Total Xylenes	3.0	U
95-47-6	o-Xylene	1.0	U
75-25-2	Bromoform (P)	1.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	10	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	2.0	U

FORM 1
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CLIENT SAMPLE NO.

GW0014

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: J2201466-013

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-40

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. _____ Date Analyzed: 05/10/02

GC Column: DB-624 ID: 0.18 (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	5.0	U
74-87-3	Chloromethane (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	50	U
74-88-4	Iodomethane	5.0	U
75-15-0	Carbon Disulfide	10	U
75-09-2	Methylene Chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
110-54-3	Hexane	5.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	25	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
108-21-4	Isopropyl Acetate	5.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
109-60-4	n-Propyl acetate	5.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	25	U
108-88-3	Toluene (C)	0.39	J

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW0014

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: J2201466-013

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-40

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. _____ Date Analyzed: 05/10/02

GC Column: DB-624 ID: 0.18 (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
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	0.91	J
1330-20-7	~~Total Xylenes~~	3.0	U
95-47-6	o-Xylene	1.0	U
75-25-2	Bromoform (P)	1.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	10	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	2.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW0015

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: J2201466-014

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-41

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. _____ Date Analyzed: 05/10/02

GC Column: DB-624 ID: 0.18 (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	5.0	U
74-87-3	Chloromethane (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	50	U
74-88-4	Iodomethane	5.0	U
75-15-0	Carbon Disulfide	10	U
75-09-2	Methylene Chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
110-54-3	Hexane	5.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	25	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
108-21-4	Isopropyl Acetate	5.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
109-60-4	n-Propyl acetate	5.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	25	U
108-88-3	Toluene (C)	1.0	U

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW0015

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: J2201466-014

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-41

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. _____ Date Analyzed: 05/10/02

GC Column: DB-624 ID: 0.18 (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
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	0.73	J
1330-20-7	Total Xylenes	3.0	U
95-47-6	o-Xylene	1.0	U
75-25-2	Bromoform (P)	1.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	10	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	2.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW0016

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: J2201466-015

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-42

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. _____ Date Analyzed: 05/10/02

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 5.0

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	25	U
74-87-3	Chloromethane (P)	5.0	U
75-01-4	Vinyl Chloride (C)	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 (C)	5.0	U
67-64-1	Acetone	250	U
74-88-4	Iodomethane	25	U
75-15-0	Carbon Disulfide	50	U
75-09-2	Methylene Chloride	25	U
156-60-5	trans-1,2-Dichloroethene	5.0	U
1634-04-4	Methyl tert-Butyl Ether	5.0	U
110-54-3	Hexane	25	U
75-34-3	1,1-Dichloroethane (P)	5.0	U
108-05-4	Vinyl Acetate	25	U
156-59-2	cis-1,2-Dichloroethene	5.0	U
78-93-3	2-Butanone (MEK)	120	U
74-97-5	Bromochloromethane	5.0	U
67-66-3	Chloroform (C)	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
108-21-4	Isopropyl Acetate	25	U
79-01-6	Trichloroethene	5.0	U
78-87-5	1,2-Dichloropropane (C)	5.0	U
74-95-3	Dibromomethane	5.0	U
109-60-4	n-Propyl acetate	25	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 (MIBK)	120	U
108-88-3	Toluene (C)	5.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW0016

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: J2201466-015

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-42

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. _____ Date Analyzed: 05/10/02

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 5.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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	120	U
124-48-1	Dibromochloromethane	5.0	U
106-93-4	1,2-Dibromoethane (EDB)	5.0	U
108-90-7	Chlorobenzene (P)	5.0	U
630-20-6	1,1,1,2-Tetrachloroethane	5.0	U
100-41-4	Ethylbenzene (C)	5.0	U
136777-61-2	m,p-Xylenes	10	U
1330-20-7	Total Xylenes	15	U
95-47-6	o-Xylene	5.0	U
75-25-2	Bromoform (P)	5.0	U
100-42-5	Styrene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	5.0	U
96-18-4	1,2,3-Trichloropropane	5.0	U
110-57-6	trans-1,4-Dichloro-2-butene	50	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	10	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW0016MS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: J2201466-015MS

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-43

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. _____ Date Analyzed: 05/10/02

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 5.0

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	94	
74-87-3	Chloromethane (P)	110	
75-01-4	Vinyl Chloride (C)	89	
74-83-9	Bromomethane	87	
75-00-3	Chloroethane	88	
75-69-4	Trichlorofluoromethane	85	
75-35-4	1,1-Dichloroethene (C)	81	
67-64-1	Acetone	390	
74-88-4	Iodomethane	420	
75-15-0	Carbon Disulfide	460	
75-09-2	Methylene Chloride	77	
156-60-5	trans-1,2-Dichloroethene	86	
1634-04-4	Methyl tert-Butyl Ether	76	
110-54-3	Hexane	330	
75-34-3	1,1-Dichloroethane (P)	89	
108-05-4	Vinyl Acetate	360	
156-59-2	cis-1,2-Dichloroethene	82	
78-93-3	2-Butanone (MEK)	340	
74-97-5	Bromochloromethane	80	
67-66-3	Chloroform (C)	80	
71-55-6	1,1,1-Trichloroethane	78	
56-23-5	Carbon Tetrachloride	79	
71-43-2	Benzene	82	
107-06-2	1,2-Dichloroethane	73	
108-21-4	Isopropyl Acetate	290	
79-01-6	Trichloroethene	76	
78-87-5	1,2-Dichloropropane (C)	79	
74-95-3	Dibromomethane	78	
109-60-4	n-Propyl acetate	25	U
75-27-4	Bromodichloromethane	78	
10061-01-5	cis-1,3-Dichloropropene	73	
108-10-1	4-Methyl-2-pentanone (MIBK)	350	
108-88-3	Toluene (C)	76	

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VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW0016MS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: J2201466-015MS

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-43

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. _____ Date Analyzed: 05/10/02

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 5.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-02-6	trans-1,3-Dichloropropene	72	
79-00-5	1,1,2-Trichloroethane	76	
127-18-4	Tetrachloroethene	77	
591-78-6	2-Hexanone	320	
124-48-1	Dibromochloromethane	72	
106-93-4	1,2-Dibromoethane (EDB)	75	
108-90-7	Chlorobenzene (P)	78	
630-20-6	1,1,1,2-Tetrachloroethane	75	
100-41-4	Ethylbenzene (C)	81	
136777-61-2	m,p-Xylenes	160	
1330-20-7	Total Xylenes	240	
95-47-6	o-Xylene	78	
75-25-2	Bromoform (P)	65	
100-42-5	Styrene	78	
79-34-5	1,1,2,2-Tetrachloroethane (P	79	
96-18-4	1,2,3-Trichloropropane	71	
110-57-6	trans-1,4-Dichloro-2-butene	49	J
541-73-1	1,3-Dichlorobenzene	82	
106-46-7	1,4-Dichlorobenzene	76	
95-50-1	1,2-Dichlorobenzene	76	
96-12-8	1,2-Dibromo-3-chloropropane	54	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW0016MSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: J2201466-015MSD

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-44

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. _____ Date Analyzed: 05/10/02

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 5.0

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	93	
74-87-3	Chloromethane (P)	99	
75-01-4	Vinyl Chloride (C)	90	
74-83-9	Bromomethane	86	
75-00-3	Chloroethane	87	
75-69-4	Trichlorofluoromethane	81	
75-35-4	1,1-Dichloroethene (C)	77	
67-64-1	Acetone	390	
74-88-4	Iodomethane	400	
75-15-0	Carbon Disulfide	440	
75-09-2	Methylene Chloride	73	
156-60-5	trans-1,2-Dichloroethene	80	
1634-04-4	Methyl tert-Butyl Ether	74	
110-54-3	Hexane	280	
75-34-3	1,1-Dichloroethane (P)	84	
108-05-4	Vinyl Acetate	350	
156-59-2	cis-1,2-Dichloroethene	77	
78-93-3	2-Butanone (MEK)	320	
74-97-5	Bromochloromethane	77	
67-66-3	Chloroform (C)	76	
71-55-6	1,1,1-Trichloroethane	73	
56-23-5	Carbon Tetrachloride	74	
71-43-2	Benzene	78	
107-06-2	1,2-Dichloroethane	70	
108-21-4	Isopropyl Acetate	300	
79-01-6	Trichloroethene	71	
78-87-5	1,2-Dichloropropane (C)	74	
74-95-3	Dibromomethane	74	
109-60-4	n-Propyl acetate	25	U
75-27-4	Bromodichloromethane	76	
10061-01-5	cis-1,3-Dichloropropene	70	
108-10-1	4-Methyl-2-pentanone (MIBK)	350	
108-88-3	Toluene (C)	72	

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW0016MSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: J2201466-015MSD

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-44

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: not dec. _____ Date Analyzed: 05/10/02

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 5.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-02-6	trans-1,3-Dichloropropene	70	
79-00-5	1,1,2-Trichloroethane	72	
127-18-4	Tetrachloroethene	73	
591-78-6	2-Hexanone	330	
124-48-1	Dibromochloromethane	69	
106-93-4	1,2-Dibromoethane (EDB)	70	
108-90-7	Chlorobenzene (P)	74	
630-20-6	1,1,1,2-Tetrachloroethane	72	
100-41-4	Ethylbenzene (C)	76	
136777-61-2	m,p-Xylenes	150	
1330-20-7	Total Xylenes	230	
95-47-6	o-Xylene	73	
75-25-2	Bromoform (P)	64	
100-42-5	Styrene	74	
79-34-5	1,1,2,2-Tetrachloroethane (P	75	
96-18-4	1,2,3-Trichloropropane	69	
110-57-6	trans-1,4-Dichloro-2-butene	47	J
541-73-1	1,3-Dichlorobenzene	77	
106-46-7	1,4-Dichlorobenzene	72	
95-50-1	1,2-Dichlorobenzene	72	
96-12-8	1,2-Dibromo-3-chloropropane	54	

FORM I
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E07B-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07B-MB

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-27

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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 (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	25	U
74-88-4	Iodomethane	5.0	U
75-15-0	Carbon Disulfide	5.0	U
75-09-2	Methylene Chloride	10	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	10	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	10	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U
108-88-3	Toluene (C)	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U

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CLIENT SAMPLE NO.

MS522E07B-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07B-MB

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-27

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.0	U
1330-20-7	Total Xylenes	3.0	U
95-47-6	o-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform (P)	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	20	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
110-54-3	Hexane	5.0	U
108-21-4	Isopropyl Acetate	5.0	U
109-60-4	n-Propyl acetate	5.0	U

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CLIENT SAMPLE NO.

MS522E07B-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07B-LCS

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-25

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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	26	
74-87-3	Chloromethane (P)	23	
75-01-4	Vinyl Chloride (C)	24	
74-83-9	Bromomethane	26	
75-00-3	Chloroethane	25	
75-69-4	Trichlorofluoromethane	24	
75-35-4	1,1-Dichloroethene (C)	23	
67-64-1	Acetone	140	
74-88-4	Iodomethane	120	
75-15-0	Carbon Disulfide	110	
75-09-2	Methylene Chloride	23	
156-60-5	trans-1,2-Dichloroethene	21	
1634-04-4	Methyl tert-Butyl Ether	24	
75-34-3	1,1-Dichloroethane (P)	22	
108-05-4	Vinyl Acetate	85	
156-59-2	cis-1,2-Dichloroethene	20	
78-93-3	2-Butanone (MEK)	120	
74-97-5	Bromochloromethane	22	
67-66-3	Chloroform (C)	20	
71-55-6	1,1,1-Trichloroethane	20	
56-23-5	Carbon Tetrachloride	19	
71-43-2	Benzene	20	
107-06-2	1,2-Dichloroethane	22	
79-01-6	Trichloroethene	20	
78-87-5	1,2-Dichloropropane (C)	20	
74-95-3	Dibromomethane	21	
75-27-4	Bromodichloromethane	22	
10061-01-5	cis-1,3-Dichloropropene	19	
108-10-1	4-Methyl-2-pentanone (MIBK)	120	
108-88-3	Toluene (C)	20	
10061-02-6	trans-1,3-Dichloropropene	22	
79-00-5	1,1,2-Trichloroethane	22	
127-18-4	Tetrachloroethene	17	

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CLIENT SAMPLE NO.

MS522E07B-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07B-LCS

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-25

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	130	
124-48-1	Dibromochloromethane	21	
106-93-4	1,2-Dibromoethane (EDB)	22	
108-90-7	Chlorobenzene (P)	19	
630-20-6	1,1,1,2-Tetrachloroethane	20	
100-41-4	Ethylbenzene (C)	19	
136777-61-2	m,p-Xylenes	39	
1330-20-7	Total Xylenes	59	
95-47-6	o-Xylene	20	
100-42-5	Styrene	20	
75-25-2	Bromoform (P)	21	
79-34-5	1,1,2,2-Tetrachloroethane (P	22	
96-18-4	1,2,3-Trichloropropane	22	
110-57-6	trans-1,4-Dichloro-2-butene	19	J
541-73-1	1,3-Dichlorobenzene	19	
106-46-7	1,4-Dichlorobenzene	18	
95-50-1	1,2-Dichlorobenzene	20	
96-12-8	1,2-Dibromo-3-chloropropane	23	
110-54-3	Hexane	79	
108-21-4	Isopropyl Acetate	120	
109-60-4	n-Propyl acetate	5.0	U

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CLIENT SAMPLE NO.

MS522E07C-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07C-MB

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-52

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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 (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	25	U
74-88-4	Iodomethane	5.0	U
75-15-0	Carbon Disulfide	5.0	U
75-09-2	Methylene Chloride	1.1	J
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	10	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	10	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U
108-88-3	Toluene (C)	0.70	J
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U

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CLIENT SAMPLE NO.

MS522E07C-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07C-MB

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-52

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.0	U
1330-20-7	Total Xylenes	3.0	U
95-47-6	o-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform (P)	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	20	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U
110-54-3	Hexane	5.0	U
108-21-4	Isopropyl Acetate	5.0	U
109-60-4	n-Propyl acetate	5.0	U

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CLIENT SAMPLE NO.

MS522E07C-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07C-LCS

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-49

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	30	
74-87-3	Chloromethane (P)	26	
75-01-4	Vinyl Chloride (C)	29	
74-83-9	Bromomethane	29	
75-00-3	Chloroethane	28	
75-69-4	Trichlorofluoromethane	28	
75-35-4	1,1-Dichloroethene (C)	28	
67-64-1	Acetone	120	
74-88-4	Iodomethane	130	
75-15-0	Carbon Disulfide	130	
75-09-2	Methylene Chloride	26	B
156-60-5	trans-1,2-Dichloroethene	24	
1634-04-4	Methyl tert-Butyl Ether	24	
75-34-3	1,1-Dichloroethane (P)	24	
108-05-4	Vinyl Acetate	120	
156-59-2	cis-1,2-Dichloroethene	22	
78-93-3	2-Butanone (MEK)	98	
74-97-5	Bromochloromethane	23	
67-66-3	Chloroform (C)	23	
71-55-6	1,1,1-Trichloroethane	22	
56-23-5	Carbon Tetrachloride	23	
71-43-2	Benzene	22	
107-06-2	1,2-Dichloroethane	23	
79-01-6	Trichloroethene	22	
78-87-5	1,2-Dichloropropane (C)	22	
74-95-3	Dibromomethane	23	
75-27-4	Bromodichloromethane	24	
10061-01-5	cis-1,3-Dichloropropene	23	
108-10-1	4-Methyl-2-pentanone (MIBK)	110	
108-88-3	Toluene (C)	23	B
10061-02-6	trans-1,3-Dichloropropene	24	
79-00-5	1,1,2-Trichloroethane	22	
127-18-4	Tetrachloroethene	22	

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VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E07C-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07C-LCS

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-49

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	110	
124-48-1	Dibromochloromethane	23	
106-93-4	1,2-Dibromoethane (EDB)	22	
108-90-7	Chlorobenzene (P)	22	
630-20-6	1,1,1,2-Tetrachloroethane	23	
100-41-4	Ethylbenzene (C)	23	
136777-61-2	m,p-Xylenes	47	
1330-20-7	Total Xylenes	70	
95-47-6	o-Xylene	23	
100-42-5	Styrene	24	
75-25-2	Bromoform (P)	22	
79-34-5	1,1,2,2-Tetrachloroethane (P	23	
96-18-4	1,2,3-Trichloropropane	21	
110-57-6	trans-1,4-Dichloro-2-butene	22	
541-73-1	1,3-Dichlorobenzene	24	
106-46-7	1,4-Dichlorobenzene	22	
95-50-1	1,2-Dichlorobenzene	23	
96-12-8	1,2-Dibromo-3-chloropropane	21	
110-54-3	Hexane	110	
108-21-4	Isopropyl Acetate	110	
109-60-4	n-Propyl acetate	5.0	U

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CLIENT SAMPLE NO.

MS522E07
C-MBLCSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07C-LCSD

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-50

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	28	
74-87-3	Chloromethane (P)	24	
75-01-4	Vinyl Chloride (C)	25	
74-83-9	Bromomethane	24	
75-00-3	Chloroethane	23	
75-69-4	Trichlorofluoromethane	24	
75-35-4	1,1-Dichloroethene (C)	23	
67-64-1	Acetone	110	
74-88-4	Iodomethane	110	
75-15-0	Carbon Disulfide	120	
75-09-2	Methylene Chloride	22	B
156-60-5	trans-1,2-Dichloroethene	22	
1634-04-4	Methyl tert-Butyl Ether	22	
75-34-3	1,1-Dichloroethane (P)	23	
108-05-4	Vinyl Acetate	120	
156-59-2	cis-1,2-Dichloroethene	22	
78-93-3	2-Butanone (MEK)	110	
74-97-5	Bromochloromethane	22	
67-66-3	Chloroform (C)	22	
71-55-6	1,1,1-Trichloroethane	21	
56-23-5	Carbon Tetrachloride	22	
71-43-2	Benzene	22	
107-06-2	1,2-Dichloroethane	23	
79-01-6	Trichloroethene	22	
78-87-5	1,2-Dichloropropane (C)	22	
74-95-3	Dibromomethane	23	
75-27-4	Bromodichloromethane	24	
10061-01-5	cis-1,3-Dichloropropene	23	
108-10-1	4-Methyl-2-pentanone (MIBK)	110	
108-88-3	Toluene (C)	22	B
10061-02-6	trans-1,3-Dichloropropene	24	
79-00-5	1,1,2-Trichloroethane	22	
127-18-4	Tetrachloroethene	22	

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CLIENT SAMPLE NO.

MS522E07
C-MBLCSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07C-LCSD

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-50

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	110	
124-48-1	Dibromochloromethane	22	
106-93-4	1,2-Dibromoethane (EDB)	22	
108-90-7	Chlorobenzene (P)	22	
630-20-6	1,1,1,2-Tetrachloroethane	22	
100-41-4	Ethylbenzene (C)	22	
136777-61-2	m,p-Xylenes	45	
1330-20-7	Total Xylenes	67	
95-47-6	o-Xylene	22	
100-42-5	Styrene	23	
75-25-2	Bromoform (P)	22	
79-34-5	1,1,2,2-Tetrachloroethane (P	22	
96-18-4	1,2,3-Trichloropropane	22	
110-57-6	trans-1,4-Dichloro-2-butene	22	
541-73-1	1,3-Dichlorobenzene	23	
106-46-7	1,4-Dichlorobenzene	22	
95-50-1	1,2-Dichlorobenzene	22	
96-12-8	1,2-Dibromo-3-chloropropane	22	
110-54-3	Hexane	110	
108-21-4	Isopropyl Acetate	110	
109-60-4	n-Propyl acetate	5.0	U

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CLIENT SAMPLE NO.

MS522E16B-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E16B-MB

Sample wt/vol: 5.000 (g/ml) G Lab File ID: 0516-07

Level: (low/med) MED Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/16/02

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: 43(ml) Soil Aliquot Volume: 5(ml)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	500	U
74-87-3	Chloromethane (P)	100	U
75-01-4	Vinyl Chloride (C)	100	U
74-83-9	Bromomethane	100	U
75-00-3	Chloroethane	100	U
75-69-4	Trichlorofluoromethane	100	U
75-35-4	1,1-Dichloroethene (C)	100	U
67-64-1	Acetone	5000	U
74-88-4	Iodomethane	500	U
75-15-0	Carbon Disulfide	1000	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	100	U
1634-04-4	Methyl tert-Butyl Ether	100	U
110-54-3	Hexane	500	U
75-34-3	1,1-Dichloroethane (P)	100	U
108-05-4	Vinyl Acetate	500	U
156-59-2	cis-1,2-Dichloroethene	100	U
78-93-3	2-Butanone (MEK)	2500	U
74-97-5	Bromochloromethane	100	U
67-66-3	Chloroform (C)	100	U
71-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	100	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	100	U
108-21-4	Isopropyl Acetate	500	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane (C)	100	U
74-95-3	Dibromomethane	100	U
109-60-4	n-Propyl acetate	500	U
75-27-4	Bromodichloromethane	100	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-pentanone (MIBK)	2500	U
108-88-3	Toluene (C)	100	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E16B-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E16B-MB

Sample wt/vol: 5.000 (g/ml) G Lab File ID: 0516-07

Level: (low/med) MED Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/16/02

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: 43(ml) Soil Aliquot Volume: 5(ml)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
10061-02-6	trans-1,3-Dichloropropene	100	U
79-00-5	1,1,2-Trichloroethane	100	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	2500	U
124-48-1	Dibromochloromethane	100	U
106-93-4	1,2-Dibromoethane (EDB)	100	U
108-90-7	Chlorobenzene (P)	100	U
630-20-6	1,1,1,2-Tetrachloroethane	100	U
100-41-4	Ethylbenzene (C)	100	U
136777-61-2	m,p-Xylenes	200	U
1330-20-7	Total Xylenes	300	U
95-47-6	o-Xylene	100	U
75-25-2	Bromoform (P)	100	U
100-42-5	Styrene	100	U
79-34-5	1,1,2,2-Tetrachloroethane (P	100	U
96-18-4	1,2,3-Trichloropropane	100	U
110-57-6	trans-1,4-Dichloro-2-butene	1000	U
541-73-1	1,3-Dichlorobenzene	100	U
106-46-7	1,4-Dichlorobenzene	100	U
95-50-1	1,2-Dichlorobenzene	100	U
96-12-8	1,2-Dibromo-3-chloropropane	200	U

FORM I
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E16B-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E16B-LCS

Sample wt/vol: 5.000 (g/ml) G Lab File ID: 0516-04

Level: (low/med) MED Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/16/02

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: 43(ml) Soil Aliquot Volume: 5(ml)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	2400	
74-87-3	Chloromethane (P)	2600	
75-01-4	Vinyl Chloride (C)	2300	
74-83-9	Bromomethane	2200	
75-00-3	Chloroethane	2300	
75-69-4	Trichlorofluoromethane	2100	
75-35-4	1,1-Dichloroethene (C)	2100	
67-64-1	Acetone	9800	
74-88-4	Iodomethane	11000	
75-15-0	Carbon Disulfide	12000	
75-09-2	Methylene Chloride	2000	
156-60-5	trans-1,2-Dichloroethene	2200	
1634-04-4	Methyl tert-Butyl Ether	2200	
110-54-3	Hexane	500	U
75-34-3	1,1-Dichloroethane (P)	2300	
108-05-4	Vinyl Acetate	11000	
156-59-2	cis-1,2-Dichloroethene	2200	
78-93-3	2-Butanone (MEK)	9800	
74-97-5	Bromochloromethane	2200	
67-66-3	Chloroform (C)	2100	
71-55-6	1,1,1-Trichloroethane	2000	
56-23-5	Carbon Tetrachloride	2100	
71-43-2	Benzene	2200	
107-06-2	1,2-Dichloroethane	2000	
108-21-4	Isopropyl Acetate	500	U
79-01-6	Trichloroethene	2000	
78-87-5	1,2-Dichloropropane (C)	2000	
74-95-3	Dibromomethane	2000	
109-60-4	n-Propyl acetate	500	U
75-27-4	Bromodichloromethane	2000	
10061-01-5	cis-1,3-Dichloropropene	2100	
108-10-1	4-Methyl-2-pentanone (MIBK)	10000	
108-88-3	Toluene (C)	2000	

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E16B-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E16B-LCS

Sample wt/vol: 5.000 (g/ml) G Lab File ID: 0516-04

Level: (low/med) MED Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/16/02

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: 43(ml) Soil Aliquot Volume: 5(ml)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
10061-02-6	trans-1,3-Dichloropropene	2100	
79-00-5	1,1,2-Trichloroethane	2000	
127-18-4	Tetrachloroethene	2100	
591-78-6	2-Hexanone	9900	
124-48-1	Dibromochloromethane	1900	
106-93-4	1,2-Dibromoethane (EDB)	2000	
108-90-7	Chlorobenzene (P)	2100	
630-20-6	1,1,1,2-Tetrachloroethane	2100	
100-41-4	Ethylbenzene (C)	2100	
136777-61-2	m,p-Xylenes	4400	
1330-20-7	Total Xylenes	6500	
95-47-6	o-Xylene	2100	
75-25-2	Bromoform (P)	1700	
100-42-5	Styrene	2100	
79-34-5	1,1,2,2-Tetrachloroethane (P	2200	
96-18-4	1,2,3-Trichloropropane	1900	
110-57-6	trans-1,4-Dichloro-2-butene	1400	
541-73-1	1,3-Dichlorobenzene	2200	
106-46-7	1,4-Dichlorobenzene	2000	
95-50-1	1,2-Dichlorobenzene	2000	
96-12-8	1,2-Dibromo-3-chloropropane	1600	

FORM I

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E09B-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: MS522E09B-MB

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-30

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/10/02

GC Column: DB-624 ID: 0.18 (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	5.0	U
74-87-3	Chloromethane (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	50	U
74-88-4	Iodomethane	5.0	U
75-15-0	Carbon Disulfide	10	U
75-09-2	Methylene Chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
110-54-3	Hexane	5.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	25	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
108-21-4	Isopropyl Acetate	5.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
109-60-4	n-Propyl acetate	5.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	25	U
108-88-3	Toluene (C)	1.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E09B-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: MS522E09B-MB

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-30

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/10/02

GC Column: DB-624 ID: 0.18 (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
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.0	U
1330-20-7	Total Xylenes	3.0	U
95-47-6	o-Xylene	1.0	U
75-25-2	Bromoform (P)	1.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	10	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	2.0	U

FORM I

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E09B-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: MS522E09B-LCS

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-27

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/09/02

GC Column: DB-624 ID: 0.18 (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	29	
74-87-3	Chloromethane (P)	32	
75-01-4	Vinyl Chloride (C)	29	
74-83-9	Bromomethane	29	
75-00-3	Chloroethane	28	
75-69-4	Trichlorofluoromethane	26	
75-35-4	1,1-Dichloroethene (C)	24	
67-64-1	Acetone	110	
74-88-4	Iodomethane	130	
75-15-0	Carbon Disulfide	130	
75-09-2	Methylene Chloride	22	
156-60-5	trans-1,2-Dichloroethene	24	
1634-04-4	Methyl tert-Butyl Ether	24	
110-54-3	Hexane	87	
75-34-3	1,1-Dichloroethane (P)	25	
108-05-4	Vinyl Acetate	86	
156-59-2	cis-1,2-Dichloroethene	23	
78-93-3	2-Butanone (MEK)	99	
74-97-5	Bromochloromethane	23	
67-66-3	Chloroform (C)	22	
71-55-6	1,1,1-Trichloroethane	22	
56-23-5	Carbon Tetrachloride	22	
71-43-2	Benzene	23	
107-06-2	1,2-Dichloroethane	21	
108-21-4	Isopropyl Acetate	98	
79-01-6	Trichloroethene	22	
78-87-5	1,2-Dichloropropane (C)	22	
74-95-3	Dibromomethane	22	
109-60-4	n-Propyl acetate	5.0	U
75-27-4	Bromodichloromethane	23	
10061-01-5	cis-1,3-Dichloropropene	22	
108-10-1	4-Methyl-2-pentanone (MIBK)	100	
108-88-3	Toluene (C)	21	

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E09B-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: MS522E09B-LCS

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-27

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/09/02

GC Column: DB-624 ID: 0.18 (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
10061-02-6	trans-1,3-Dichloropropene	22	
79-00-5	1,1,2-Trichloroethane	22	
127-18-4	Tetrachloroethene	22	
591-78-6	2-Hexanone	99	
124-48-1	Dibromochloromethane	21	
106-93-4	1,2-Dibromoethane (EDB)	22	
108-90-7	Chlorobenzene (P)	22	
630-20-6	1,1,1,2-Tetrachloroethane	23	
100-41-4	Ethylbenzene (C)	23	
136777-61-2	m,p-Xylenes	48	
1330-20-7	Total Xylenes	70	
95-47-6	o-Xylene	23	
75-25-2	Bromoform (P)	20	
100-42-5	Styrene	23	
79-34-5	1,1,2,2-Tetrachloroethane (P	22	
96-18-4	1,2,3-Trichloropropane	21	
110-57-6	trans-1,4-Dichloro-2-butene	16	
541-73-1	1,3-Dichlorobenzene	24	
106-46-7	1,4-Dichlorobenzene	22	
95-50-1	1,2-Dichlorobenzene	23	
96-12-8	1,2-Dibromo-3-chloropropane	18	

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GC/MS Semivolatiles

CASE NARRATIVE
GC/MS Semivolatiles

CAS Lab Reference No./SDG#: J2201466

Client/Project: Exponent / IP Wilmington

I. RECEIPT

No exceptions were encountered unless noted on the Cooler Receipt and Preservation Form included with this data package.

II. HOLDING TIMES

A. Sample preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHOD

Preparation: SW846 3550B

Analysis: SW846 8270C

IV. PREPARATION

Sample preparation proceeded normally.

V. ANALYSIS

A. Calibration: All acceptance criteria were met.

B. Blanks: All acceptance criteria were met.

C. Surrogates: All acceptance criteria were met.

D. Spikes: Some of the recoveries in the MS/MSD on sample SO0024RE are outside the lower limit. These recoveries in the associated LCS sample are acceptable, which indicates the analytical batch was in control. No further corrective action was taken.

E. LCS: All acceptance criteria were met.

F. Internal standards: All acceptance criteria were met.

G. Samples: Samples SO0023, SO0024 and SO0025 were re-extracted outside of holding time because of low surrogate recoveries. The re-extracted samples confirmed low surrogate recoveries as a result of matrix interference. No further corrective action was taken.

H. Other:

I certify that this data package is in compliance with the terms and conditions agreed to by Columbia Analytical Services, Inc. and by the client, both technically, and for completeness, except for the conditions detailed above. 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:

Signed: _____ Date: 6-3-02

Bob Dempsey
Organics Manager

Columbia Analytical Services
8540 Baycenter Road
Jacksonville, FL 32256
Phone: (904) 739-2277
Fax: (904) 739-2011

Columbia Analytical Services inc.
An Employee-Owned Company

Columbia Analytical Services
8540 Baycenter Road
Jacksonville, FL 32256
Tel 904-739-2277
Fax 904-739-2011

Sample Data

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0023

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-020

Sample wt/vol: 30.130 (g/mL) G Lab File ID: 0531-26

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 18 decanted: (Y/N) N Date Extracted: 05/16/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 06/01/02

Injection Volume: NA (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	200	U
111-44-4	Bis(2-Chloroethyl) Ether	200	U
95-57-8	2-Chlorophenol	200	U
541-73-1	1,3-Dichlorobenzene	200	U
106-46-7	1,4-Dichlorobenzene (C)	200	U
100-51-6	Benzyl Alcohol	200	U
95-50-1	1,2-Dichlorobenzene	200	U
108-60-1	Bis(2-chloroisopropyl) Ether	200	U
95-48-7	2-Methylphenol (o-Cresol)	200	U
98-86-2	Acetophenone	200	U
106-44-5	3 and 4-Methylphenol Coeluti	400	U
621-64-7	N-Nitrosodi-n-propylamine (P	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol (C)	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	bis(2-Chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol (C)	200	U
120-82-1	1,2,4-Trichlorobenzene	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene (C)	200	U
59-50-7	4-Chloro-3-Methylphenol (C)	200	U
91-57-6	2-Methylnaphthalene	200	U
90-12-0	1-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene (P	200	U
88-06-2	2,4,6-Trichlorophenol (C)	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	200	U
131-11-3	Dimethyl Phthalate	200	U
208-96-8	Acenaphthylene	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0023

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-020

Sample wt/vol: 30.130 (g/mL) G Lab File ID: 0531-26

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 18 decanted: (Y/N) N Date Extracted: 05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	200	U
99-09-2	3-Nitroaniline	200	U
83-32-9	Acenaphthene (C)	200	U
51-28-5	2,4-Dinitrophenol (P)	810	U
132-64-9	Dibenzofuran	200	U
100-02-7	4-Nitrophenol (P)	810	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethyl Phthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl Phenyl Ether	200	U
100-01-6	4-Nitroaniline	200	U
534-52-1	4,6-Dinitro-2-methylphenol	810	U
86-30-6	N-Nitrosodiphenylamine (C) (1)	200	U
101-55-3	4-Bromophenyl Phenyl Ether	200	U
118-74-1	Hexachlorobenzene	200	U
87-86-5	Pentachlorophenol (C)	810	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butyl Phthalate	200	U
206-44-0	Fluoranthene (C)	200	U
129-00-0	Pyrene	200	U
85-68-7	Butyl Benzyl Phthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	810	U
56-55-3	Benz(a)anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	200	U
117-84-0	Di-n-octyl Phthalate (C)	200	U
205-99-2	Benzo(b)fluoranthene	200	U
207-08-9	Benzo(k)fluoranthene	200	U
50-32-8	Benzo(a)pyrene (C)	200	U
193-39-5	Indeno(1,2,3-cd)pyrene	200	U
53-70-3	Dibenz(a,h)anthracene	200	U

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0023

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-020

Sample wt/vol: 30.130 (g/mL) G Lab File ID: 0531-26

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 18 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2	Benzo(g,h,i)perylene	200	U

FORM I SV

FORM I

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0023RE

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-020RE

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-32

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 18 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	200	U
111-44-4	Bis(2-Chloroethyl) Ether	200	U
95-57-8	2-Chlorophenol	200	U
541-73-1	1,3-Dichlorobenzene	200	U
106-46-7	1,4-Dichlorobenzene (C)	200	U
100-51-6	Benzyl Alcohol	200	U
95-50-1	1,2-Dichlorobenzene	200	U
108-60-1	Bis(2-chloroisopropyl) Ether	200	U
95-48-7	2-Methylphenol (o-Cresol)	200	U
98-86-2	Acetophenone	200	U
106-44-5	3 and 4-Methylphenol Coeluti	400	U
621-64-7	N-Nitrosodi-n-propylamine (P	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol (C)	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	bis(2-Chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol (C)	200	U
120-82-1	1,2,4-Trichlorobenzene	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene (C)	200	U
59-50-7	4-Chloro-3-Methylphenol (C)	200	U
91-57-6	2-Methylnaphthalene	200	U
90-12-0	1-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene (P	200	U
88-06-2	2,4,6-Trichlorophenol (C)	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	200	U
131-11-3	Dimethyl Phthalate	200	U
208-96-8	Acenaphthylene	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0023RE

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-020RE

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-32

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 18 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 06/01/02

Injection Volume: NA (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	200	U
99-09-2	3-Nitroaniline	200	U
83-32-9	Acenaphthene (C)	200	U
51-28-5	2,4-Dinitrophenol (P)	800	U
132-64-9	Dibenzofuran	200	U
100-02-7	4-Nitrophenol (P)	800	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethyl Phthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl Phenyl Ether	200	U
100-01-6	4-Nitroaniline	200	U
534-52-1	4,6-Dinitro-2-methylphenol	800	U
86-30-6	N-Nitrosodiphenylamine (C) (1)	200	U
101-55-3	4-Bromophenyl Phenyl Ether	200	U
118-74-1	Hexachlorobenzene	200	U
87-86-5	Pentachlorophenol (C)	800	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butyl Phthalate	200	U
206-44-0	Fluoranthene (C)	200	U
129-00-0	Pyrene	200	U
85-68-7	Butyl Benzyl Phthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	800	U
56-55-3	Benz(a)anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	46	J
117-84-0	Di-n-octyl Phthalate (C)	200	U
205-99-2	Benzo(b)fluoranthene	200	U
207-08-9	Benzo(k)fluoranthene	200	U
50-32-8	Benzo(a)pyrene (C)	200	U
193-39-5	Indeno(1,2,3-cd)pyrene	200	U
53-70-3	Dibenz(a,h)anthracene	200	U

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0023RE

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-020RE

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-32

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 18 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

726

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2--------	Benzo(g,h,i)perylene	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0024

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021

Sample wt/vol: 30.550 (g/mL) G Lab File ID: 0531-27

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 19 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	200	U
111-44-4	Bis(2-Chloroethyl) Ether	200	U
95-57-8	2-Chlorophenol	200	U
541-73-1	1,3-Dichlorobenzene	200	U
106-46-7	1,4-Dichlorobenzene (C)	200	U
100-51-6	Benzyl Alcohol	200	U
95-50-1	1,2-Dichlorobenzene	200	U
108-60-1	Bis(2-chloroisopropyl) Ether	200	U
95-48-7	2-Methylphenol (o-Cresol)	200	U
98-86-2	Acetophenone	200	U
106-44-5	3 and 4-Methylphenol Coeluti	410	U
621-64-7	N-Nitrosodi-n-propylamine (P	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol (C)	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	bis(2-Chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol (C)	200	U
120-82-1	1,2,4-Trichlorobenzene	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene (C)	200	U
59-50-7	4-Chloro-3-Methylphenol (C)	200	U
91-57-6	2-Methylnaphthalene	200	U
90-12-0	1-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene (P	200	U
88-06-2	2,4,6-Trichlorophenol (C)	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	200	U
131-11-3	Dimethyl Phthalate	200	U
208-96-8	Acenaphthylene	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0024

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021

Sample wt/vol: 30.550 (g/mL) G Lab File ID: 0531-27

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 19 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	200	U
99-09-2	3-Nitroaniline	200	U
83-32-9	Acenaphthene (C)	200	U
51-28-5	2,4-Dinitrophenol (P)	810	U
132-64-9	Dibenzofuran	200	U
100-02-7	4-Nitrophenol (P)	810	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethyl Phthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl Phenyl Ether	200	U
100-01-6	4-Nitroaniline	200	U
534-52-1	4,6-Dinitro-2-methylphenol	810	U
86-30-6	N-Nitrosodiphenylamine (C) (1)	200	U
101-55-3	4-Bromophenyl Phenyl Ether	200	U
118-74-1	Hexachlorobenzene	200	U
87-86-5	Pentachlorophenol (C)	810	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butyl Phthalate	200	U
206-44-0	Fluoranthene (C)	200	U
129-00-0	Pyrene	200	U
85-68-7	Butyl Benzyl Phthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	810	U
56-55-3	Benz(a)anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	200	U
117-84-0	Di-n-octyl Phthalate (C)	200	U
205-99-2	Benzo(b)fluoranthene	200	U
207-08-9	Benzo(k)fluoranthene	200	U
50-32-8	Benzo(a)pyrene (C)	200	U
193-39-5	Indeno(1,2,3-cd)pyrene	200	U
53-70-3	Dibenz(a,h)anthracene	200	U

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0024

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021

Sample wt/vol: 30.550 (g/mL) G Lab File ID: 0531-27

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 19 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2--------	Benzo(g,h,i)perylene_____	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0024RE

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021RE

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-23

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 19 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	200	U
111-44-4	Bis(2-Chloroethyl) Ether	200	U
95-57-8	2-Chlorophenol	200	U
541-73-1	1,3-Dichlorobenzene	200	U
106-46-7	1,4-Dichlorobenzene (C)	200	U
100-51-6	Benzyl Alcohol	200	U
95-50-1	1,2-Dichlorobenzene	200	U
108-60-1	Bis(2-chloroisopropyl) Ether	200	U
95-48-7	2-Methylphenol (o-Cresol)	200	U
98-86-2	Acetophenone	200	U
106-44-5	3 and 4-Methylphenol Coeluti	410	U
621-64-7	N-Nitrosodi-n-propylamine (P	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol (C)	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	bis(2-Chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol (C)	200	U
120-82-1	1,2,4-Trichlorobenzene	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene (C)	200	U
59-50-7	4-Chloro-3-Methylphenol (C)	200	U
91-57-6	2-Methylnaphthalene	200	U
90-12-0	1-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene (P	200	U
88-06-2	2,4,6-Trichlorophenol (C)	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	200	U
131-11-3	Dimethyl Phthalate	200	U
208-96-8	Acenaphthylene	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0024RE

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021RE

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-23

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 19 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	200	U
99-09-2	3-Nitroaniline	200	U
83-32-9	Acenaphthene (C)	200	U
51-28-5	2,4-Dinitrophenol (P)	810	U
132-64-9	Dibenzofuran	200	U
100-02-7	4-Nitrophenol (P)	810	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethyl Phthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl Phenyl Ether	200	U
100-01-6	4-Nitroaniline	200	U
534-52-1	4,6-Dinitro-2-methylphenol	810	U
86-30-6	N-Nitrosodiphenylamine (C) (1)	200	U
101-55-3	4-Bromophenyl Phenyl Ether	200	U
118-74-1	Hexachlorobenzene	200	U
87-86-5	Pentachlorophenol (C)	810	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butyl Phthalate	200	U
206-44-0	Fluoranthene (C)	200	U
129-00-0	Pyrene	200	U
85-68-7	Butyl Benzyl Phthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	810	U
56-55-3	Benz(a)anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	200	U
117-84-0	Di-n-octyl Phthalate (C)	200	U
205-99-2	Benzo(b)fluoranthene	200	U
207-08-9	Benzo(k)fluoranthene	200	U
50-32-8	Benzo(a)pyrene (C)	200	U
193-39-5	Indeno(1,2,3-cd)pyrene	200	U
53-70-3	Dibenz(a,h)anthracene	200	U

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0024RE

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021RE

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-23

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 19 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2--------	Benzo(g,h,i)perylene_____	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0024REMS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021REMS

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-21

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 19 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	3500	
111-44-4	Bis(2-Chloroethyl) Ether	2900	
95-57-8	2-Chlorophenol	3200	
541-73-1	1,3-Dichlorobenzene	1100	
106-46-7	1,4-Dichlorobenzene (C)	1200	
100-51-6	Benzyl Alcohol	3500	
95-50-1	1,2-Dichlorobenzene	1400	
108-60-1	Bis(2-chloroisopropyl) Ether	2800	
95-48-7	2-Methylphenol (o-Cresol)	3500	
98-86-2	Acetophenone	210	U
106-44-5	3 and 4-Methylphenol Coeluti	6200	
621-64-7	N-Nitrosodi-n-propylamine (P	3400	
67-72-1	Hexachloroethane	1100	
98-95-3	Nitrobenzene	2900	
78-59-1	Isophorone	3500	
88-75-5	2-Nitrophenol (C)	3400	
105-67-9	2,4-Dimethylphenol	3300	
111-91-1	bis(2-Chloroethoxy)methane	3400	
120-83-2	2,4-Dichlorophenol (C)	3400	
120-82-1	1,2,4-Trichlorobenzene	2000	
91-20-3	Naphthalene	2500	
106-47-8	4-Chloroaniline	3100	
87-68-3	Hexachlorobutadiene (C)	1600	
59-50-7	4-Chloro-3-Methylphenol (C)	3500	
91-57-6	2-Methylnaphthalene	2800	
90-12-0	1-Methylnaphthalene	3000	
77-47-4	Hexachlorocyclopentadiene (P	2500	
88-06-2	2,4,6-Trichlorophenol (C)	3500	
95-95-4	2,4,5-Trichlorophenol	3600	
91-58-7	2-Chloronaphthalene	3100	
88-74-4	2-Nitroaniline	3400	
131-11-3	Dimethyl Phthalate	3400	
208-96-8	Acenaphthylene	3400	

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0024REMS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021REMS

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-21

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 19 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	3800	
99-09-2	3-Nitroaniline	3300	
83-32-9	Acenaphthene (C)	3300	
51-28-5	2,4-Dinitrophenol (P)	3000	
132-64-9	Dibenzofuran	3300	
100-02-7	4-Nitrophenol (P)	3400	
121-14-2	2,4-Dinitrotoluene	3600	
84-66-2	Diethyl Phthalate	3400	
86-73-7	Fluorene	3500	
7005-72-3	4-Chlorophenyl Phenyl Ether	3500	
100-01-6	4-Nitroaniline	3500	
534-52-1	4,6-Dinitro-2-methylphenol	3900	
86-30-6	N-Nitrosodiphenylamine (C) (1)	3600	
101-55-3	4-Bromophenyl Phenyl Ether	3600	
118-74-1	Hexachlorobenzene	3400	
87-86-5	Pentachlorophenol (C)	3500	
85-01-8	Phenanthrene	3500	
120-12-7	Anthracene	3600	
86-74-8	Carbazole	3500	
84-74-2	Di-n-butyl Phthalate	3600	
206-44-0	Fluoranthene (C)	3600	
129-00-0	Pyrene	3000	
85-68-7	Butyl Benzyl Phthalate	3400	
91-94-1	3,3'-Dichlorobenzidine	3100	
56-55-3	Benz(a)anthracene	3700	
218-01-9	Chrysene	3600	
117-81-7	Bis(2-Ethylhexyl) Phthalate	3800	
117-84-0	Di-n-octyl Phthalate (C)	4100	
205-99-2	Benzo(b)fluoranthene	3600	
207-08-9	Benzo(k)fluoranthene	3700	
50-32-8	Benzo(a)pyrene (C)	3600	
193-39-5	Indeno(1,2,3-cd)pyrene	3900	
53-70-3	Dibenz(a,h)anthracene	3700	

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0024REMS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021REMS

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-21

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 19 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2--------	Benzo(g,h,i)perylene	3700	

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0024REMSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021REMSD

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-22

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 19 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	4200	
111-44-4	Bis(2-Chloroethyl) Ether	3200	
95-57-8	2-Chlorophenol	3700	
541-73-1	1,3-Dichlorobenzene	1100	
106-46-7	1,4-Dichlorobenzene (C)	1100	
100-51-6	Benzyl Alcohol	4200	
95-50-1	1,2-Dichlorobenzene	1300	
108-60-1	Bis(2-chloroisopropyl) Ether	2800	
95-48-7	2-Methylphenol (o-Cresol)	4000	
98-86-2	Acetophenone	200	U
106-44-5	3 and 4-Methylphenol Coeluti	7300	E
621-64-7	N-Nitrosodi-n-propylamine (P	3800	
67-72-1	Hexachloroethane	1100	
98-95-3	Nitrobenzene	3200	
78-59-1	Isophorone	4000	
88-75-5	2-Nitrophenol (C)	3900	
105-67-9	2,4-Dimethylphenol	3700	
111-91-1	bis(2-Chloroethoxy)methane	3900	
120-83-2	2,4-Dichlorophenol (C)	4000	
120-82-1	1,2,4-Trichlorobenzene	2000	
91-20-3	Naphthalene	2500	
106-47-8	4-Chloroaniline	2800	
87-68-3	Hexachlorobutadiene (C)	1700	
59-50-7	4-Chloro-3-Methylphenol (C)	4000	
91-57-6	2-Methylnaphthalene	3100	
90-12-0	1-Methylnaphthalene	3300	
77-47-4	Hexachlorocyclopentadiene (P	2700	
88-06-2	2,4,6-Trichlorophenol (C)	4200	
95-95-4	2,4,5-Trichlorophenol	4100	
91-58-7	2-Chloronaphthalene	3500	
88-74-4	2-Nitroaniline	3900	
131-11-3	Dimethyl Phthalate	3900	
208-96-8	Acenaphthylene	3800	

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0024REMSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021REMSD

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-22

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 19 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 06/01/02

Injection Volume: NA (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	4300	
99-09-2	3-Nitroaniline	3300	
83-32-9	Acenaphthene (C)	3700	
51-28-5	2,4-Dinitrophenol (P)	3400	
132-64-9	Dibenzofuran	3700	
100-02-7	4-Nitrophenol (P)	3800	
121-14-2	2,4-Dinitrotoluene	4100	
84-66-2	Diethyl Phthalate	3800	
86-73-7	Fluorene	3900	
7005-72-3	4-Chlorophenyl Phenyl Ether	3900	
100-01-6	4-Nitroaniline	4000	
534-52-1	4,6-Dinitro-2-methylphenol	4400	
86-30-6	N-Nitrosodiphenylamine (C) (1)	4000	
101-55-3	4-Bromophenyl Phenyl Ether	4200	
118-74-1	Hexachlorobenzene	4200	
87-86-5	Pentachlorophenol (C)	3900	
85-01-8	Phenanthrene	3900	
120-12-7	Anthracene	4000	
86-74-8	Carbazole	3900	
84-74-2	Di-n-butyl Phthalate	4000	
206-44-0	Fluoranthene (C)	4000	
129-00-0	Pyrene	3600	
85-68-7	Butyl Benzyl Phthalate	3900	
91-94-1	3,3'-Dichlorobenzidine	3400	
56-55-3	Benz(a)anthracene	4200	
218-01-9	Chrysene	4100	
117-81-7	Bis(2-Ethylhexyl) Phthalate	4300	
117-84-0	Di-n-octyl Phthalate (C)	4700	
205-99-2	Benzo(b)fluoranthene	4200	
207-08-9	Benzo(k)fluoranthene	4100	
50-32-8	Benzo(a)pyrene (C)	4100	
193-39-5	Indeno(1,2,3-cd)pyrene	4600	
53-70-3	Dibenz(a,h)anthracene	4400	

(1) - Cannot be separated from Diphenylamine

FORM I SV

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0024REMSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021REMSD

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-22

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 19 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2--------	Benzo(g,h,i)perylene	4300	

FORM I SV

FORM I

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0025

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-022

Sample wt/vol: 30.640 (g/mL) G Lab File ID: 0531-28

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 16 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	190	U
111-44-4	Bis(2-Chloroethyl) Ether	190	U
95-57-8	2-Chlorophenol	190	U
541-73-1	1,3-Dichlorobenzene	190	U
106-46-7	1,4-Dichlorobenzene (C)	190	U
100-51-6	Benzyl Alcohol	190	U
95-50-1	1,2-Dichlorobenzene	190	U
108-60-1	Bis(2-chloroisopropyl) Ether	190	U
95-48-7	2-Methylphenol (o-Cresol)	190	U
98-86-2	Acetophenone	190	U
106-44-5	3 and 4-Methylphenol Coeluti	390	U
621-64-7	N-Nitrosodi-n-propylamine (P	190	U
67-72-1	Hexachloroethane	190	U
98-95-3	Nitrobenzene	190	U
78-59-1	Isophorone	190	U
88-75-5	2-Nitrophenol (C)	190	U
105-67-9	2,4-Dimethylphenol	190	U
111-91-1	bis(2-Chloroethoxy)methane	190	U
120-83-2	2,4-Dichlorophenol (C)	190	U
120-82-1	1,2,4-Trichlorobenzene	190	U
91-20-3	Naphthalene	190	U
106-47-8	4-Chloroaniline	190	U
87-68-3	Hexachlorobutadiene (C)	190	U
59-50-7	4-Chloro-3-Methylphenol (C)	190	U
91-57-6	2-Methylnaphthalene	190	U
90-12-0	1-Methylnaphthalene	190	U
77-47-4	Hexachlorocyclopentadiene (P	190	U
88-06-2	2,4,6-Trichlorophenol (C)	190	U
95-95-4	2,4,5-Trichlorophenol	190	U
91-58-7	2-Chloronaphthalene	190	U
88-74-4	2-Nitroaniline	190	U
131-11-3	Dimethyl Phthalate	190	U
208-96-8	Acenaphthylene	190	U

FORM I SV

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SO0025

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-022

Sample wt/vol: 30.640 (g/mL) G Lab File ID: 0531-28

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 16 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	190	U
99-09-2	3-Nitroaniline	190	U
83-32-9	Acenaphthene (C)	190	U
51-28-5	2,4-Dinitrophenol (P)	780	U
132-64-9	Dibenzofuran	190	U
100-02-7	4-Nitrophenol (P)	780	U
121-14-2	2,4-Dinitrotoluene	190	U
84-66-2	Diethyl Phthalate	190	U
86-73-7	Fluorene	190	U
7005-72-3	4-Chlorophenyl Phenyl Ether	190	U
100-01-6	4-Nitroaniline	190	U
534-52-1	4,6-Dinitro-2-methylphenol	780	U
86-30-6	N-Nitrosodiphenylamine (C)(1)	190	U
101-55-3	4-Bromophenyl Phenyl Ether	190	U
118-74-1	Hexachlorobenzene	190	U
87-86-5	Pentachlorophenol (C)	780	U
85-01-8	Phenanthrene	190	U
120-12-7	Anthracene	190	U
86-74-8	Carbazole	190	U
84-74-2	Di-n-butyl Phthalate	190	U
206-44-0	Fluoranthene (C)	190	U
129-00-0	Pyrene	190	U
85-68-7	Butyl Benzyl Phthalate	190	U
91-94-1	3,3'-Dichlorobenzidine	780	U
56-55-3	Benz(a)anthracene	190	U
218-01-9	Chrysene	190	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	47	J
117-84-0	Di-n-octyl Phthalate (C)	190	U
205-99-2	Benzo(b)fluoranthene	190	U
207-08-9	Benzo(k)fluoranthene	190	U
50-32-8	Benzo(a)pyrene (C)	190	U
193-39-5	Indeno(1,2,3-cd)pyrene	190	U
53-70-3	Dibenz(a,h)anthracene	190	U

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM I

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0025

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-022

Sample wt/vol: 30.640 (g/mL) G Lab File ID: 0531-28

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 16 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2	Benzo(g,h,i)perylene	190	U

FORM I SV

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SO0025RE

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-022RE

Sample wt/vol: 30.400 (g/mL) G Lab File ID: 0531-33

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 16 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	200	U
111-44-4	Bis(2-Chloroethyl) Ether	200	U
95-57-8	2-Chlorophenol	200	U
541-73-1	1,3-Dichlorobenzene	200	U
106-46-7	1,4-Dichlorobenzene (C)	200	U
100-51-6	Benzyl Alcohol	200	U
95-50-1	1,2-Dichlorobenzene	200	U
108-60-1	Bis(2-chloroisopropyl) Ether	200	U
95-48-7	2-Methylphenol (o-Cresol)	200	U
98-86-2	Acetophenone	200	U
106-44-5	3 and 4-Methylphenol Coeluti	390	U
621-64-7	N-Nitrosodi-n-propylamine (P	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol (C)	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	bis(2-Chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol (C)	200	U
120-82-1	1,2,4-Trichlorobenzene	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene (C)	200	U
59-50-7	4-Chloro-3-Methylphenol (C)	200	U
91-57-6	2-Methylnaphthalene	200	U
90-12-0	1-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene (P	200	U
88-06-2	2,4,6-Trichlorophenol (C)	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	200	U
131-11-3	Dimethyl Phthalate	200	U
208-96-8	Acenaphthylene	200	U

FORM I SV

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0025RE

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-022RE

Sample wt/vol: 30.400 (g/mL) G Lab File ID: 0531-33

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 16 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 06/01/02

Injection Volume: NA (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	200	U
99-09-2	3-Nitroaniline	200	U
83-32-9	Acenaphthene (C)	200	U
51-28-5	2,4-Dinitrophenol (P)	780	U
132-64-9	Dibenzofuran	200	U
100-02-7	4-Nitrophenol (P)	780	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethyl Phthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl Phenyl Ether	200	U
100-01-6	4-Nitroaniline	200	U
534-52-1	4,6-Dinitro-2-methylphenol	780	U
86-30-6	N-Nitrosodiphenylamine (C) (1)	200	U
101-55-3	4-Bromophenyl Phenyl Ether	200	U
118-74-1	Hexachlorobenzene	200	U
87-86-5	Pentachlorophenol (C)	780	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butyl Phthalate	200	U
206-44-0	Fluoranthene (C)	200	U
129-00-0	Pyrene	200	U
85-68-7	Butyl Benzyl Phthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	780	U
56-55-3	Benz(a)anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	38	J
117-84-0	Di-n-octyl Phthalate (C)	200	U
205-99-2	Benzo(b)fluoranthene	200	U
207-08-9	Benzo(k)fluoranthene	200	U
50-32-8	Benzo(a)pyrene (C)	200	U
193-39-5	Indeno(1,2,3-cd)pyrene	200	U
53-70-3	Dibenz(a,h)anthracene	200	U

(1) - Cannot be separated from Diphenylamine

FORM I SV

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SO0025RE

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-022RE

Sample wt/vol: 30.400 (g/mL) G Lab File ID: 0531-33

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 16 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2--------	Benzo(g,h,i)perylene	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220184MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220184

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-11

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	170	U
111-44-4	Bis(2-Chloroethyl) Ether	170	U
95-57-8	2-Chlorophenol	170	U
541-73-1	1,3-Dichlorobenzene	170	U
106-46-7	1,4-Dichlorobenzene (C)	170	U
100-51-6	Benzyl Alcohol	170	U
95-50-1	1,2-Dichlorobenzene	170	U
108-60-1	Bis(2-chloroisopropyl) Ether	170	U
95-48-7	2-Methylphenol (o-Cresol)	170	U
98-86-2	Acetophenone	170	U
106-44-5	3 and 4-Methylphenol Coeluti	330	U
621-64-7	N-Nitrosodi-n-propylamine (P	170	U
67-72-1	Hexachloroethane	170	U
98-95-3	Nitrobenzene	170	U
78-59-1	Isophorone	170	U
88-75-5	2-Nitrophenol (C)	170	U
105-67-9	2,4-Dimethylphenol	170	U
111-91-1	bis(2-Chloroethoxy)methane	170	U
120-83-2	2,4-Dichlorophenol (C)	170	U
120-82-1	1,2,4-Trichlorobenzene	170	U
91-20-3	Naphthalene	170	U
106-47-8	4-Chloroaniline	170	U
87-68-3	Hexachlorobutadiene (C)	170	U
59-50-7	4-Chloro-3-Methylphenol (C)	170	U
91-57-6	2-Methylnaphthalene	170	U
90-12-0	1-Methylnaphthalene	170	U
77-47-4	Hexachlorocyclopentadiene (P	170	U
88-06-2	2,4,6-Trichlorophenol (C)	170	U
95-95-4	2,4,5-Trichlorophenol	170	U
91-58-7	2-Chloronaphthalene	170	U
88-74-4	2-Nitroaniline	170	U
131-11-3	Dimethyl Phthalate	170	U
208-96-8	Acenaphthylene	170	U

FORM I SV

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EX220184MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220184

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-11

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	170	U
99-09-2	3-Nitroaniline	170	U
83-32-9	Acenaphthene (C)	170	U
51-28-5	2,4-Dinitrophenol (P)	670	U
132-64-9	Dibenzofuran	170	U
100-02-7	4-Nitrophenol (P)	670	U
121-14-2	2,4-Dinitrotoluene	170	U
84-66-2	Diethyl Phthalate	170	U
86-73-7	Fluorene	170	U
7005-72-3	4-Chlorophenyl Phenyl Ether	170	U
100-01-6	4-Nitroaniline	170	U
534-52-1	4,6-Dinitro-2-methylphenol	670	U
86-30-6	N-Nitrosodiphenylamine (C)(1)	170	U
101-55-3	4-Bromophenyl Phenyl Ether	170	U
118-74-1	Hexachlorobenzene	170	U
87-86-5	Pentachlorophenol (C)	670	U
85-01-8	Phenanthrene	170	U
120-12-7	Anthracene	170	U
86-74-8	Carbazole	170	U
84-74-2	Di-n-butyl Phthalate	170	U
206-44-0	Fluoranthene (C)	170	U
129-00-0	Pyrene	170	U
85-68-7	Butyl Benzyl Phthalate	170	U
91-94-1	3,3'-Dichlorobenzidine	670	U
56-55-3	Benz(a)anthracene	170	U
218-01-9	Chrysene	170	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	63	J
117-84-0	Di-n-octyl Phthalate (C)	170	U
205-99-2	Benzo(b)fluoranthene	170	U
207-08-9	Benzo(k)fluoranthene	170	U
50-32-8	Benzo(a)pyrene (C)	170	U
193-39-5	Indeno(1,2,3-cd)pyrene	170	U
53-70-3	Dibenz(a,h)anthracene	170	U

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM I

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220184MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220184

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-11

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2--------	Benzo(g,h,i)perylene	170	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220184MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220184LCS

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-12

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted: 05/16/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	2900	
111-44-4	Bis(2-Chloroethyl) Ether	2700	
95-57-8	2-Chlorophenol	2800	
541-73-1	1,3-Dichlorobenzene	2700	
106-46-7	1,4-Dichlorobenzene (C)	2700	
100-51-6	Benzyl Alcohol	2800	
95-50-1	1,2-Dichlorobenzene	2700	
108-60-1	Bis(2-chloroisopropyl) Ether	2800	
95-48-7	2-Methylphenol (o-Cresol)	2800	
98-86-2	Acetophenone	170	U
106-44-5	3 and 4-Methylphenol Coeluti	5000	
621-64-7	N-Nitrosodi-n-propylamine (P	2800	
67-72-1	Hexachloroethane	2700	
98-95-3	Nitrobenzene	2700	
78-59-1	Isophorone	2900	
88-75-5	2-Nitrophenol (C)	2900	
105-67-9	2,4-Dimethylphenol	2700	
111-91-1	bis(2-Chloroethoxy)methane	2900	
120-83-2	2,4-Dichlorophenol (C)	2800	
120-82-1	1,2,4-Trichlorobenzene	2800	
91-20-3	Naphthalene	2800	
106-47-8	4-Chloroaniline	2000	
87-68-3	Hexachlorobutadiene (C)	2900	
59-50-7	4-Chloro-3-Methylphenol (C)	2800	
91-57-6	2-Methylnaphthalene	2800	
90-12-0	1-Methylnaphthalene	2900	
77-47-4	Hexachlorocyclopentadiene (P	3300	
88-06-2	2,4,6-Trichlorophenol (C)	2800	
95-95-4	2,4,5-Trichlorophenol	2900	
91-58-7	2-Chloronaphthalene	2800	
88-74-4	2-Nitroaniline	2800	
131-11-3	Dimethyl Phthalate	2800	
208-96-8	Acenaphthylene	2900	

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220184MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220184LCS

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-12

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	3000	
99-09-2	3-Nitroaniline	2200	
83-32-9	Acenaphthene (C)	2800	
51-28-5	2,4-Dinitrophenol (P)	3000	
132-64-9	Dibenzofuran	2800	
100-02-7	4-Nitrophenol (P)	2800	
121-14-2	2,4-Dinitrotoluene	3000	
84-66-2	Diethyl Phthalate	2800	
86-73-7	Fluorene	2900	
7005-72-3	4-Chlorophenyl Phenyl Ether	3000	
100-01-6	4-Nitroaniline	2800	
534-52-1	4,6-Dinitro-2-methylphenol	3200	
86-30-6	N-Nitrosodiphenylamine (C) (1)	3000	
101-55-3	4-Bromophenyl Phenyl Ether	3100	
118-74-1	Hexachlorobenzene	2700	
87-86-5	Pentachlorophenol (C)	2800	
85-01-8	Phenanthrene	3000	
120-12-7	Anthracene	2900	
86-74-8	Carbazole	3000	
84-74-2	Di-n-butyl Phthalate	3000	
206-44-0	Fluoranthene (C)	3000	
129-00-0	Pyrene	2600	
85-68-7	Butyl Benzyl Phthalate	2900	
91-94-1	3,3'-Dichlorobenzidine	2300	
56-55-3	Benz(a)anthracene	3000	
218-01-9	Chrysene	3000	
117-81-7	Bis(2-Ethylhexyl) Phthalate	3100	
117-84-0	Di-n-octyl Phthalate (C)	3300	
205-99-2	Benzo(b)fluoranthene	3100	
207-08-9	Benzo(k)fluoranthene	2900	
50-32-8	Benzo(a)pyrene (C)	2900	
193-39-5	Indeno(1,2,3-cd)pyrene	3100	
53-70-3	Dibenz(a,h)anthracene	2900	

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220184MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220184LCS

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-12

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2--------	Benzo(g,h,i)perylene	3000	

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BATCH QC

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004

Sample wt/vol: 30.270 (g/mL) G Lab File ID: 0531-15

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 20 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	200	U
111-44-4	Bis(2-Chloroethyl) Ether	200	U
95-57-8	2-Chlorophenol	200	U
541-73-1	1,3-Dichlorobenzene	200	U
106-46-7	1,4-Dichlorobenzene (C)	200	U
100-51-6	Benzyl Alcohol	200	U
95-50-1	1,2-Dichlorobenzene	200	U
108-60-1	Bis(2-chloroisopropyl) Ether	200	U
95-48-7	2-Methylphenol (o-Cresol)	200	U
98-86-2	Acetophenone	200	U
106-44-5	3 and 4-Methylphenol Coeluti	410	U
621-64-7	N-Nitrosodi-n-propylamine (P	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol (C)	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	bis(2-Chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol (C)	200	U
120-82-1	1,2,4-Trichlorobenzene	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene (C)	200	U
59-50-7	4-Chloro-3-Methylphenol (C)	200	U
91-57-6	2-Methylnaphthalene	200	U
90-12-0	1-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene (P	200	U
88-06-2	2,4,6-Trichlorophenol (C)	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	200	U
131-11-3	Dimethyl Phthalate	200	U
208-96-8	Acenaphthylene	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BATCH QC

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004

Sample wt/vol: 30.270 (g/mL) G Lab File ID: 0531-15

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 20 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	200	U
99-09-2	3-Nitroaniline	200	U
83-32-9	Acenaphthene (C)	200	U
51-28-5	2,4-Dinitrophenol (P)	820	U
132-64-9	Dibenzofuran	200	U
100-02-7	4-Nitrophenol (P)	820	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethyl Phthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl Phenyl Ether	200	U
100-01-6	4-Nitroaniline	200	U
534-52-1	4,6-Dinitro-2-methylphenol	820	U
86-30-6	N-Nitrosodiphenylamine (C) (1)	200	U
101-55-3	4-Bromophenyl Phenyl Ether	200	U
118-74-1	Hexachlorobenzene	200	U
87-86-5	Pentachlorophenol (C)	820	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butyl Phthalate	200	U
206-44-0	Fluoranthene (C)	200	U
129-00-0	Pyrene	200	U
85-68-7	Butyl Benzyl Phthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	820	U
56-55-3	Benz(a)anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	200	U
117-84-0	Di-n-octyl Phthalate (C)	200	U
205-99-2	Benzo(b)fluoranthene	200	U
207-08-9	Benzo(k)fluoranthene	200	U
50-32-8	Benzo(a)pyrene (C)	200	U
193-39-5	Indeno(1,2,3-cd)pyrene	200	U
53-70-3	Dibenz(a,h)anthracene	200	U

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BATCH QC

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004

Sample wt/vol: 30.270 (g/mL) G Lab File ID: 0531-15

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 20 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2--------	Benzo(g,h,i)perylene	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BATCH QCMS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004MS

Sample wt/vol: 30.190 (g/mL) G Lab File ID: 0531-13

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 20 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	3200	
111-44-4	Bis(2-Chloroethyl) Ether	3000	
95-57-8	2-Chlorophenol	3000	
541-73-1	1,3-Dichlorobenzene	2900	
106-46-7	1,4-Dichlorobenzene (C)	2900	
100-51-6	Benzyl Alcohol	3200	
95-50-1	1,2-Dichlorobenzene	3000	
108-60-1	Bis(2-chloroisopropyl) Ether	3100	
95-48-7	2-Methylphenol (o-Cresol)	3100	
98-86-2	Acetophenone	200	U
106-44-5	3 and 4-Methylphenol Coeluti	5600	
621-64-7	N-Nitrosodi-n-propylamine (P	3100	
67-72-1	Hexachloroethane	2900	
98-95-3	Nitrobenzene	3000	
78-59-1	Isophorone	3200	
88-75-5	2-Nitrophenol (C)	3100	
105-67-9	2,4-Dimethylphenol	2900	
111-91-1	bis(2-Chloroethoxy)methane	3100	
120-83-2	2,4-Dichlorophenol (C)	3100	
120-82-1	1,2,4-Trichlorobenzene	3000	
91-20-3	Naphthalene	3000	
106-47-8	4-Chloroaniline	2100	
87-68-3	Hexachlorobutadiene (C)	3100	
59-50-7	4-Chloro-3-Methylphenol (C)	3100	
91-57-6	2-Methylnaphthalene	3000	
90-12-0	1-Methylnaphthalene	3100	
77-47-4	Hexachlorocyclopentadiene (P	3500	
88-06-2	2,4,6-Trichlorophenol (C)	3100	
95-95-4	2,4,5-Trichlorophenol	3100	
91-58-7	2-Chloronaphthalene	3100	
88-74-4	2-Nitroaniline	3000	
131-11-3	Dimethyl Phthalate	3000	
208-96-8	Acenaphthylene	3200	

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BATCH QCMS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004MS

Sample wt/vol: 30.190 (g/mL) G Lab File ID: 0531-13

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 20 decanted: (Y/N) N Date Extracted: 05/16/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__ (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	3300	
99-09-2	3-Nitroaniline	2300	
83-32-9	Acenaphthene (C)	3100	
51-28-5	2,4-Dinitrophenol (P)	3100	
132-64-9	Dibenzofuran	3100	
100-02-7	4-Nitrophenol (P)	3000	
121-14-2	2,4-Dinitrotoluene	3200	
84-66-2	Diethyl Phthalate	3000	
86-73-7	Fluorene	3200	
7005-72-3	4-Chlorophenyl Phenyl Ether	3200	
100-01-6	4-Nitroaniline	3000	
534-52-1	4,6-Dinitro-2-methylphenol	3300	
86-30-6	N-Nitrosodiphenylamine (C) (1)	3200	
101-55-3	4-Bromophenyl Phenyl Ether	3300	
118-74-1	Hexachlorobenzene	3100	
87-86-5	Pentachlorophenol (C)	3000	
85-01-8	Phenanthrene	3200	
120-12-7	Anthracene	3200	
86-74-8	Carbazole	3100	
84-74-2	Di-n-butyl Phthalate	3200	
206-44-0	Fluoranthene (C)	3200	
129-00-0	Pyrene	2800	
85-68-7	Butyl Benzyl Phthalate	3100	
91-94-1	3,3'-Dichlorobenzidine	2400	
56-55-3	Benz(a)anthracene	3200	
218-01-9	Chrysene	3200	
117-81-7	Bis(2-Ethylhexyl) Phthalate	3300	
117-84-0	Di-n-octyl Phthalate (C)	3500	
205-99-2	Benzo(b)fluoranthene	3400	
207-08-9	Benzo(k)fluoranthene	3100	
50-32-8	Benzo(a)pyrene (C)	3100	
193-39-5	Indeno(1,2,3-cd)pyrene	3300	
53-70-3	Dibenz(a,h)anthracene	3100	

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BATCH QCMS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004MS

Sample wt/vol: 30.190 (g/mL) G Lab File ID: 0531-13

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 20 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2	Benzo(g,h,i)perylene	3200	

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BATCH QCMSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004MSD

Sample wt/vol: 30.110 (g/mL) G Lab File ID: 0531-14

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 20 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	3700	
111-44-4	Bis(2-Chloroethyl) Ether	3500	
95-57-8	2-Chlorophenol	3500	
541-73-1	1,3-Dichlorobenzene	3300	
106-46-7	1,4-Dichlorobenzene (C)	3300	
100-51-6	Benzyl Alcohol	3600	
95-50-1	1,2-Dichlorobenzene	3400	
108-60-1	Bis(2-chloroisopropyl) Ether	3600	
95-48-7	2-Methylphenol (o-Cresol)	3600	
98-86-2	Acetophenone	210	U
106-44-5	3 and 4-Methylphenol Coeluti	6300	
621-64-7	N-Nitrosodi-n-propylamine (P	3600	
67-72-1	Hexachloroethane	3300	
98-95-3	Nitrobenzene	3500	
78-59-1	Isophorone	3700	
88-75-5	2-Nitrophenol (C)	3700	
105-67-9	2,4-Dimethylphenol	3400	
111-91-1	bis(2-Chloroethoxy)methane	3700	
120-83-2	2,4-Dichlorophenol (C)	3600	
120-82-1	1,2,4-Trichlorobenzene	3500	
91-20-3	Naphthalene	3500	
106-47-8	4-Chloroaniline	2200	
87-68-3	Hexachlorobutadiene (C)	3600	
59-50-7	4-Chloro-3-Methylphenol (C)	3600	
91-57-6	2-Methylnaphthalene	3500	
90-12-0	1-Methylnaphthalene	3600	
77-47-4	Hexachlorocyclopentadiene (P	4000	
88-06-2	2,4,6-Trichlorophenol (C)	3600	
95-95-4	2,4,5-Trichlorophenol	3600	
91-58-7	2-Chloronaphthalene	3600	
88-74-4	2-Nitroaniline	3400	
131-11-3	Dimethyl Phthalate	3500	
208-96-8	Acenaphthylene	3600	

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BATCH QCMSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004MSD

Sample wt/vol: 30.110 (g/mL) G Lab File ID: 0531-14

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 20 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	3900	
99-09-2	3-Nitroaniline	2600	
83-32-9	Acenaphthene (C)	3600	
51-28-5	2,4-Dinitrophenol (P)	3600	
132-64-9	Dibenzofuran	3500	
100-02-7	4-Nitrophenol (P)	3500	
121-14-2	2,4-Dinitrotoluene	3700	
84-66-2	Diethyl Phthalate	3500	
86-73-7	Fluorene	3600	
7005-72-3	4-Chlorophenyl Phenyl Ether	3600	
100-01-6	4-Nitroaniline	3500	
534-52-1	4,6-Dinitro-2-methylphenol	4000	
86-30-6	N-Nitrosodiphenylamine (C) (1)	3700	
101-55-3	4-Bromophenyl Phenyl Ether	3800	
118-74-1	Hexachlorobenzene	3600	
87-86-5	Pentachlorophenol (C)	3500	
85-01-8	Phenanthrene	3600	
120-12-7	Anthracene	3600	
86-74-8	Carbazole	3600	
84-74-2	Di-n-butyl Phthalate	3700	
206-44-0	Fluoranthene (C)	3700	
129-00-0	Pyrene	3200	
85-68-7	Butyl Benzyl Phthalate	3600	
91-94-1	3,3'-Dichlorobenzidine	2700	
56-55-3	Benz(a)anthracene	3700	
218-01-9	Chrysene	3700	
117-81-7	Bis(2-Ethylhexyl) Phthalate	3800	
117-84-0	Di-n-octyl Phthalate (C)	4000	
205-99-2	Benzo(b)fluoranthene	3800	
207-08-9	Benzo(k)fluoranthene	3600	
50-32-8	Benzo(a)pyrene (C)	3600	
193-39-5	Indeno(1,2,3-cd)pyrene	3900	
53-70-3	Dibenz(a,h)anthracene	3800	

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BATCH QCMSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004MSD

Sample wt/vol: 30.110 (g/mL) G Lab File ID: 0531-14

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 20 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2--------	Benzo(g,h,i)perylene	3800	

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220197MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220197

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-19

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	170	U
111-44-4	Bis(2-Chloroethyl) Ether	170	U
95-57-8	2-Chlorophenol	170	U
541-73-1	1,3-Dichlorobenzene	170	U
106-46-7	1,4-Dichlorobenzene (C)	170	U
100-51-6	Benzyl Alcohol	170	U
95-50-1	1,2-Dichlorobenzene	170	U
108-60-1	Bis(2-chloroisopropyl) Ether	170	U
95-48-7	2-Methylphenol (o-Cresol)	170	U
98-86-2	Acetophenone	170	U
106-44-5	3 and 4-Methylphenol Coeluti	330	U
621-64-7	N-Nitrosodi-n-propylamine (P	170	U
67-72-1	Hexachloroethane	170	U
98-95-3	Nitrobenzene	170	U
78-59-1	Isophorone	170	U
88-75-5	2-Nitrophenol (C)	170	U
105-67-9	2,4-Dimethylphenol	170	U
111-91-1	bis(2-Chloroethoxy)methane	170	U
120-83-2	2,4-Dichlorophenol (C)	170	U
120-82-1	1,2,4-Trichlorobenzene	170	U
91-20-3	Naphthalene	170	U
106-47-8	4-Chloroaniline	170	U
87-68-3	Hexachlorobutadiene (C)	170	U
59-50-7	4-Chloro-3-Methylphenol (C)	170	U
91-57-6	2-Methylnaphthalene	170	U
90-12-0	1-Methylnaphthalene	170	U
77-47-4	Hexachlorocyclopentadiene (P	170	U
88-06-2	2,4,6-Trichlorophenol (C)	170	U
95-95-4	2,4,5-Trichlorophenol	170	U
91-58-7	2-Chloronaphthalene	170	U
88-74-4	2-Nitroaniline	170	U
131-11-3	Dimethyl Phthalate	170	U
208-96-8	Acenaphthylene	170	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220197MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220197

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-19

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	170	U
99-09-2	3-Nitroaniline	170	U
83-32-9	Acenaphthene (C)	170	U
51-28-5	2,4-Dinitrophenol (P)	670	U
132-64-9	Dibenzofuran	170	U
100-02-7	4-Nitrophenol (P)	670	U
121-14-2	2,4-Dinitrotoluene	170	U
84-66-2	Diethyl Phthalate	170	U
86-73-7	Fluorene	170	U
7005-72-3	4-Chlorophenyl Phenyl Ether	170	U
100-01-6	4-Nitroaniline	170	U
534-52-1	4,6-Dinitro-2-methylphenol	670	U
86-30-6	N-Nitrosodiphenylamine (C) (1)	170	U
101-55-3	4-Bromophenyl Phenyl Ether	170	U
118-74-1	Hexachlorobenzene	170	U
87-86-5	Pentachlorophenol (C)	670	U
85-01-8	Phenanthrene	170	U
120-12-7	Anthracene	170	U
86-74-8	Carbazole	170	U
84-74-2	Di-n-butyl Phthalate	170	U
206-44-0	Fluoranthene (C)	170	U
129-00-0	Pyrene	170	U
85-68-7	Butyl Benzyl Phthalate	170	U
91-94-1	3,3'-Dichlorobenzidine	670	U
56-55-3	Benz(a)anthracene	170	U
218-01-9	Chrysene	170	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	170	U
117-84-0	Di-n-octyl Phthalate (C)	170	U
205-99-2	Benzo(b)fluoranthene	170	U
207-08-9	Benzo(k)fluoranthene	170	U
50-32-8	Benzo(a)pyrene (C)	170	U
193-39-5	Indeno(1,2,3-cd)pyrene	170	U
53-70-3	Dibenz(a,h)anthracene	170	U

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220197MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220197

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-19

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2	--------Benzo(g,h,i)perylene_____	170	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220197MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220197LCS

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-20

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	2600	
111-44-4	Bis(2-Chloroethyl) Ether	2400	
95-57-8	2-Chlorophenol	2500	
541-73-1	1,3-Dichlorobenzene	2400	
106-46-7	1,4-Dichlorobenzene (C)	2400	
100-51-6	Benzyl Alcohol	2600	
95-50-1	1,2-Dichlorobenzene	2400	
108-60-1	Bis(2-chloroisopropyl) Ether	2500	
95-48-7	2-Methylphenol (o-Cresol)	2600	
98-86-2	Acetophenone	170	U
106-44-5	3 and 4-Methylphenol Coeluti	4600	
621-64-7	N-Nitrosodi-n-propylamine (P	2600	
67-72-1	Hexachloroethane	2400	
98-95-3	Nitrobenzene	2400	
78-59-1	Isophorone	2600	
88-75-5	2-Nitrophenol (C)	2600	
105-67-9	2,4-Dimethylphenol	2300	
111-91-1	bis(2-Chloroethoxy)methane	2600	
120-83-2	2,4-Dichlorophenol (C)	2500	
120-82-1	1,2,4-Trichlorobenzene	2500	
91-20-3	Naphthalene	2500	
106-47-8	4-Chloroaniline	2000	
87-68-3	Hexachlorobutadiene (C)	2600	
59-50-7	4-Chloro-3-Methylphenol (C)	2500	
91-57-6	2-Methylnaphthalene	2500	
90-12-0	1-Methylnaphthalene	2600	
77-47-4	Hexachlorocyclopentadiene (P	2900	
88-06-2	2,4,6-Trichlorophenol (C)	2600	
95-95-4	2,4,5-Trichlorophenol	2600	
91-58-7	2-Chloronaphthalene	2600	
88-74-4	2-Nitroaniline	2500	
131-11-3	Dimethyl Phthalate	2500	
208-96-8	Acenaphthylene	2600	

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220197MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220197LCS

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-20

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	2700	
99-09-2	3-Nitroaniline	2100	
83-32-9	Acenaphthene (C)	2600	
51-28-5	2,4-Dinitrophenol (P)	2700	
132-64-9	Dibenzofuran	2500	
100-02-7	4-Nitrophenol (P)	2500	
121-14-2	2,4-Dinitrotoluene	2700	
84-66-2	Diethyl Phthalate	2500	
86-73-7	Fluorene	2600	
7005-72-3	4-Chlorophenyl Phenyl Ether	2600	
100-01-6	4-Nitroaniline	2500	
534-52-1	4,6-Dinitro-2-methylphenol	2800	
86-30-6	N-Nitrosodiphenylamine (C) (1)	2700	
101-55-3	4-Bromophenyl Phenyl Ether	2800	
118-74-1	Hexachlorobenzene	2100	
87-86-5	Pentachlorophenol (C)	2600	
85-01-8	Phenanthrene	2600	
120-12-7	Anthracene	2600	
86-74-8	Carbazole	2600	
84-74-2	Di-n-butyl Phthalate	2700	
206-44-0	Fluoranthene (C)	2700	
129-00-0	Pyrene	2300	
85-68-7	Butyl Benzyl Phthalate	2600	
91-94-1	3,3'-Dichlorobenzidine	2200	
56-55-3	Benz(a)anthracene	2700	
218-01-9	Chrysene	2700	
117-81-7	Bis(2-Ethylhexyl) Phthalate	2800	
117-84-0	Di-n-octyl Phthalate (C)	2900	
205-99-2	Benzo(b)fluoranthene	2600	
207-08-9	Benzo(k)fluoranthene	2800	
50-32-8	Benzo(a)pyrene (C)	2700	
193-39-5	Indeno(1,2,3-cd)pyrene	2700	
53-70-3	Dibenz(a,h)anthracene	2600	

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220197MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220197LCS

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-20

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2	--------Benzo(g,h,i)perylene_____	2600	_____

FORM I SV

Columbia Analytical Services inc.
An Employee-Owned Company

Columbia Analytical Services
8540 Baycenter Road
Jacksonville, FL 32256
Tel 904-739-2277
Fax 904-739-2011

Cations

CASE NARRATIVE
Inorganic Analysis

CAS Lab Reference No./SDG#: J2201466

Client/Project: Exponent / IP Wilmington / 8601269.003

I. RECEIPT

No exceptions were encountered unless noted on the Cooler Receipt and Preservation Form included with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHOD

Preparation: 3050B

Analysis: 6020

IV. PREPARATION

Sample preparation proceeded normally.

V. ANALYSIS

A. Calibration: All acceptance criteria were met.

B. Blanks: The Continuing Calibration and Preparation Blanks have values greater than the MDL but less than the MRL and are flagged by "B" qualifiers on Form 3.

C. Spikes: All acceptance criteria were met.

D. Duplicates: All acceptance criteria were met.

E. Samples: The samples are flagged by "E" qualifiers because the serial dilution is outside of acceptance criteria. However, the post digestion spike is acceptable therefore no corrective action was taken.

I certify that this data package is in compliance with the terms and conditions agreed to by Columbia Analytical Services, Inc. and by the client, both technically, and for completeness, except for the conditions detailed above. 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:

Signed: Martha Montero Date: 5/30/12

Martha Montero
Operations Manager

Columbia Analytical Services
8540 Baycenter Road
Jacksonville, FL 32256
Phone: (904) 739-2277
Fax: (904) 739-2011

TOTAL METALS
- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Contract: Exponent SDG No.: J2201466

Lab Code: JAX Case No.: 8601269.003 SAS No.:

SOW No.: 6020

Sample No.	Lab Sample ID.
SO0023	J2201466-020
SO0024	J2201466-021
SO0025	J2201466-022
BATCH QC	J2201475-004
BATCH QCS	J2201475-004S
BATCH QCSD	J2201475-004SD

Were ICP interelement corrections applied? Yes/No NA

Were ICP background corrections applied? Yes/No NA

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 floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Martha Montero Name: Martha Montero

Date: 5/30/02 Title: Operations Manager.

Columbia Analytical Services inc.
An Employee-Owned Company

Columbia Analytical Services
8540 Baycenter Road
Jacksonville, FL 32256
Tel 904-739-2277
Fax 904-739-2011

Sample Data

TOTAL METALS
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
BATCH QC

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201466

Matrix (soil/water): SOIL Lab Sample ID: J2201475-004

Level (low/med): LOW Date Received: 05/04/2002

% Solids: 80.4

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.040			MS
7440-47-3	Chromium	7.040		E	MS
7440-50-8	Copper	1.070	B		MS
7439-92-1	Lead	4.000			MS
7782-49-2	Selenium	1.45	U		MS

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Form I - IN

SW-846

Columbia Analytical Services, Inc.

TOTAL METALS
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
SO0023

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201466

Matrix (soil/water): SOIL Lab Sample ID: J2201466-020

Level (low/med): LOW Date Received: 05/03/2002

% Solids: 82.3

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	5.680			MS
7440-47-3	Chromium	20.5		E	MS
7440-50-8	Copper	3.290			MS
7439-92-1	Lead	6.320			MS
7782-49-2	Selenium	1.44	U		MS

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Form I - IN

SW-846

TOTAL METALS
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
SO0024

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201466

Matrix (soil/water): SOIL Lab Sample ID: J2201466-021

Level (low/med): LOW Date Received: 05/03/2002

% Solids: 80.6

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	1.810			MS
7440-47-3	Chromium	2.940		E	MS
7440-50-8	Copper	0.203	B		MS
7439-92-1	Lead	1.930			MS
7782-49-2	Selenium	1.47	U		MS

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

SO0025

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201466

Matrix (soil/water): SOIL Lab Sample ID: J2201466-022

Level (low/med): LOW Date Received: 05/03/2002

% Solids: 83.8

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	2.870			MS
7440-47-3	Chromium	15.7		E	MS
7440-50-8	Copper	2.340			MS
7439-92-1	Lead	5.480			MS
7782-49-2	Selenium	1.34	U		MS

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

TOTAL METALS
- 2a -
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201466

Initial Calibration Source: INORGANIC / ENVIRONMENTAL

Continuing Calibration Source: CPI / ULTRA / INORGANIC

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Arsenic	50	48.8	98	25	24.4	98	23.7	95	MS
Chromium	20	20.3	101	25	24.6	98	24.5	98	MS
Copper	25	24.6	98	25	24.0	96	23.8	95	MS
Lead	50	48.9	98	25	24.6	98	23.8	95	MS
Selenium	50	50.6	101	25	24.6	98	24.1	96	MS

TOTAL METALS
- 2a -
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201466

Initial Calibration Source:

Continuing Calibration Source: CPI / ULTRA / INORGANIC

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Arsenic				25	23.5	94			MS
Chromium				25	24.1	96			MS
Copper				25	23.0	92			MS
Lead				25	24.1	96			MS
Selenium				25	24.0	96			MS

TOTAL METALS
- 2b -
CRDL STANDARD FOR AA AND ICP

Contract: Exponent

Lab Code: JAX Case No.: 8601269.0 SAS No.: SDG No.: J2201466

AA CRDL Standard Source:

ICP CRDL Standard Source: CPI / ULTRA / INORGANIC

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
				Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Arsenic				0.50	0.45	90	0.560	112
Chromium				2.0	1.90	95	1.91	96
Copper				2.0	2.05	103	2.07	104
Lead				1.0	0.92	92	0.983	98
Selenium				2.0	1.94	97	1.90	95

TOTAL METALS
- 3 -
BLANKS

Contract: Exponent

Lab Code: JAX Case No.: 8601269.0 SAS No.: SDG NO.: J2201466

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
Arsenic	0.350	U	0.350	U	0.350	U	0.350	U	0.350	U	MS
Chromium	0.077	U	0.077	U	0.08	U	-0.080	B	0.392	B	MS
Copper	0.120	U	0.120	U	0.120	U	0.120	U	0.120	U	MS
Lead	0.063	U	0.063	U	0.06	U	0.063	U	0.063	U	MS
Selenium	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U	MS

Action limit

Cr

0.392 x 5 = 1.96 mg/kg

TOTAL METALS

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Contract: Exponent

Lab Code: JAX Case No.: 8601269.0 SAS No.: SDG NO.: J2201466

ICP ID Number: VG ICPMS ICS Source: INORGANIC

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Arsenic		20	0.003	20.6	103			
Chromium		20	0.169	20.7	104			
Copper		20	0.110	19.1	96			
Lead			0.088	0.066				
Selenium			-0.040	-0.040				

TOTAL METALS

- 5a -

SPIKE SAMPLE RECOVERY

SAMPLE NO.

BATCH QCS

Contract: Exponent

Lab Code: JAX Case No.: 8601269.0 SAS No.: SDG NO.: J2201466

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 80.4

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic	75 - 125	123		7.040		121	96		MS
Chromium	75 - 125	131		7.040		121	102		MS
Copper	75 - 125	117		1.070	B	121	96		MS
Lead	75 - 125	237		4.000		242	96		MS
Selenium	75 - 125	116		1.450	U	121	96		MS

Comments:

TOTAL METALS

- 5a -

SPIKE SAMPLE RECOVERY

SAMPLE NO.

BATCH QCSD

Contract: Exponent

Lab Code: JAX Case No.: 8601269.0 SAS No.: SDG NO.: J2201466

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 80.4

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic	75 - 125	128		7.040		121	100		MS
Chromium	75 - 125	133		7.040		121	104		MS
Copper	75 - 125	116		1.070	B	121	95		MS
Lead	75 - 125	240		4.000		242	98		MS
Selenium	75 - 125	119		1.450	U	121	98		MS

Comments:

TOTAL METALS
- 5b -
POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

BATCH QCAS

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201466

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic		25.2		5.83		20.0	97		MS
Chromium		25.2		5.83		20.0	97		MS
Copper		19.4		0.885	B	20.0	93		MS
Lead		22.5		3.31		20.0	96		MS
Selenium		19.0		1.20	U	20.0	95		MS

Comments:

TOTAL METALS
- 6 -
DUPLICATES

SAMPLE NO.

BATCH QCSD

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201466

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 80.4 % Solids for Duplicate: 80.4

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Arsenic		123		128		4		MS
Chromium		131		133		2		MS
Copper		117		116		1		MS
Lead		237		240		1		MS
Selenium		116		119		3		MS

TOTAL METALS
- 7 -
LABORATORY CONTROL SAMPLE

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201466

Solid LCS Source: CPI

Aqueous LCS Source: CPI

Analyte	Aqueous mg/L True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Arsenic				100	102		80.0	120	102
Chromium				100	101		80.0	120	101
Copper				100	94.1		80.0	120	94
Lead				200	197		80.0	120	99
Selenium				100	99.0		80.0	120	99

TOTAL METALS
- 9 -
ICP SERIAL DILUTIONS

SAMPLE NO.

BATCH QCL

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201466

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Arsenic	5.83		6.03		3		MS
Chromium	5.83		6.78	B	16	E	MS
Copper	0.885	B	1.19	B	35		MS
Lead	3.31		3.36	B	1		MS
Selenium	1.20	U	6.00	U			MS

TOTAL METALS
-10-
METHOD DETECTION LIMITS

Contract: Exponent

Lab Code: JAX Case No.: 8601269.0 SAS No.: SDG NO.: J2201466

ICP ID Number: VG ICPMS Date: 4/4/01

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Mass	Back-ground	MRL (ug/L)	MDL (ug/L)	M
Arsenic	75		0.500	0.350	MS
Chromium	52		2.000	0.077	MS
Copper	65		2.000	0.120	MS
Lead	208		1.000	0.063	MS
Selenium	82		2.000	1.200	MS

Comments

TOTAL METALS
- 12 -
ICP LINEAR RANGES

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201466

ICP ID Number: VG ICPMS Date: 4/20/02

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Arsenic	15.00	600.0	MS
Chromium	15.00	600.0	MS
Copper	15.00	600.0	MS
Lead	15.00	300.0	MS
Selenium	15.00	100.0	MS

Comments:

TOTAL METALS
- 13 -
PREPARATION LOG

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201466

Method MS

Sample No.	Preparation Date	Weight (grams)	Volume (mL)
BATCH QC	5/18/02	1.03	50
BATCH QCS	5/18/02	1.03	50
BATCH QCSD	5/18/02	1.03	50
LCSS	5/18/02	1.00	50
PBS	5/18/02	1.00	50
SO0023	5/18/02	1.01	50
SO0024	5/18/02	1.01	50
SO0025	5/18/02	1.07	50

TOTAL METALS
- 14 -
ANALYSIS RUN LOG

Contract Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG No.: J2201466

Instrument ID Number: VG ICPMS Method: MS

Start Date: 5/21/02 End Date: 5/21/02

Sample ID.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Calibration Blank	1.00	01:27				X					X		X		X						X						
Calibration Standard	1.00	01:33				X					X		X		X						X						
Calibration Standard	1.00	01:38				X					X		X		X						X						
ICV2	1.00	01:42				X					X		X		X						X						
ICB2	1.00	01:48				X					X		X		X						X						
CRDL1	1.00	01:53				X					X		X		X						X						
ICS-A1	1.00	01:59				X					X		X		X						X						
ICS-AB1	1.00	02:04				X					X		X		X						X						
CCV1	1.00	02:10				X					X		X		X						X						
CCB1	1.00	02:15				X					X		X		X						X						
PBS	20.00	02:21				X					X		X		X						X						
LCSS	50.00	02:26				X					X		X		X						X						
BATCH QC	20.00	02:32				X					X		X		X						X						
BATCH QCS	50.00	02:37				X					X		X		X						X						
BATCH QCSD	50.00	02:43				X					X		X		X						X						
BATCH QCL	100.00	02:48				X					X		X		X						X						
BATCH QCAS	20.00	02:54				X					X		X		X						X						
ZZZZZZ	20.00	02:59																									
ZZZZZZ	20.00	03:05																									
ZZZZZZ	20.00	03:10																									
CCV2	1.00	03:16				X					X		X		X						X						
CCB2	1.00	03:21				X					X		X		X						X						
SO0023	20.00	03:27				X					X		X		X						X						
SO0024	20.00	03:32				X					X		X		X						X						
SO0025	20.00	03:38				X					X		X		X						X						
ZZZZZZ	1.00	03:43																									
ZZZZZZ	1.00	03:49																									
ZZZZZZ	1.00	03:54																									
ZZZZZZ	1.00	04:00																									
CRDL2	1.00	04:05				X					X		X		X						X						
CCV3	1.00	04:11				X					X		X		X						X						
CCB3	1.00	04:16				X					X		X		X						X						

* - Denotes additional elements (other than the standard elements) are represented on another Form 14

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8540 Baycenter Road
Jacksonville, FL 32256
Tel 904-739-2277
Fax 904-739-2011

Prep Logs

Columbia Analytical Services, Inc.
Jacksonville, Florida

Metals Digestion Log
Soil

JM22047

Service Request Numbers : 1475, 1466, 1485, 1615, 1458

Analysis for: FLAA / ICP and ICP-MS / GFAA | Method Number: 3050B

	Sample Number	Initial Wt. (g)	Final Vol (mL)	Matrix	Initial Color / Texture	Final Color / Clarity	Spike Added (mL)	Comment Artifact
1	MBS 1 0518	1.00	50	Teflonchip	White	Colorless		
2	LCSS 1 0518	1.00	50				0.2	
3	1475-4	1.03		Soil	BRN C			
4	-4S	1.03					0.2	
5	-4SD	1.03					0.2	
6	-1	1.07						
7	-2	1.02						
8	-3	1.01						
9	1466-20	1.01						
10	-21	1.01						
11	-22	1.07						
12	1485-1	1.00		Paper	BRN WHT.			
13	1615-1	1.0		Liq waste				Flammable
14	1458-6	1.01		Soil				Study
15	1458-6DUP	1.00		Soil				Study
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Reagent	Standard ID #
HNO_3	MET 1-16D
HCl	MET 1-17F
H_2O_2	MET 1-14G

Standard	Standard ID #
ICP Spike A	MET 1-17B,C,D
ICP Spike B	
ICP-MS Spike	

Hot Block Temp ✓ (90-95 de

Texture: Fine Medium Course Clarity: Clear Cloudy Opaque

Analyst: JLG	Date: 5/18/02 Time: 1415	Page Num
Reviewed By: NP	Date: ~~5/18/02~~ 5/20/02	297

r:gfa\bench\Dig2.xls

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8540 Baycenter Road
Jacksonville, FL 32256
Tel 904-739-2277
Fax 904-739-2011

General Chemistry

CASE NARRATIVE
Inorganic Analysis

CAS Lab Reference No./SDG#: J2201466

Client/Project: Exponent / IP Wilmington / 8601269.003

I. RECEIPT

No exceptions were encountered unless noted on the Cooler Receipt and Preservation Form included with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHOD

Preparation: NA

Analysis: SID,S3

IV. PREPARATION

Sample preparation proceeded normally.

V. ANALYSIS

A. Calibration: N/A

B. Blanks: N/A

C. Spikes: N/A

D. Duplicates: All acceptance criteria were met.

E. Samples: Analyses proceeded normally.

F. Other: NA.

I certify that this data package is in compliance with the terms and conditions agreed to by Columbia Analytical Services, Inc. and by the client, both technically, and for completeness, except for the conditions detailed above. 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:

Signed: Martha Montero Date: 6/4/02
Martha Montero
Operations Manager

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Columbia Analytical Services
8540 Baycenter Road
Jacksonville, FL 32256
Tel 904-739-2277
Fax 904-739-2011

Sample Data

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Exponent	**Service Request:**	J2201466
Project:	IP Wilmington / 8601269.003	**Date Collected:**	5/2/2002
Sample Matrix:	Soil	**Date Received:**	5/3/2002

Inorganic Parameters

Sample Name: SO0017
Lab Code: J2201466-006 Basis: Dry
Test Notes:

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TOC	mg/kg (ppm)	SID,S3	200	200	1	NA	5/14/2002	3600	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Exponent	**Service Request:**	J2201466
Project:	IP Wilmington / 8601269.003	**Date Collected:**	5/2/2002
Sample Matrix:	Soil	**Date Received:**	5/3/2002

Inorganic Parameters

Sample Name: SO0019
Lab Code: J2201466-008 Basis: Dry
Test Notes:

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TOC	mg/kg (ppm)	SID,S3	200	200	1	NA	5/14/2002	3400	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Exponent	**Service Request:**	J2201466
Project:	IP Wilmington / 8601269.003	**Date Collected:**	5/2/2002
Sample Matrix:	Soil	**Date Received:**	5/3/2002

Inorganic Parameters

Sample Name: SO0024
Lab Code: J2201466-021 Basis: Dry
Test Notes:

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TOC	mg/kg (ppm)	SID,S3	200	200	1	NA	5/14/2002	940	

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Fax 904-739-2011

QC Summary

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Exponent
Project: IP Wilmington / 8601269.003
Sample Matrix: Soil

Service Request: J2201466
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 5/14/2002

Duplicate Summary
Inorganic Parameters

Sample Name: BATCH QC
Lab Code: J2201475-004DUP
Test Notes:

Basis: NA

Analyte	Units	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
TOC	mg/kg (ppm)	SID,S3	200	3180	3610	3400	13	

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Chain of Custody Documentation

Columbia Analytical Services

JACKSONVILLE LABORATORY
CONDITION UPON RECEIPT FORM

Client: Exponent **Project name:** H Wilmington

Date received: 513102 1030 **Service request number:** 52201466

Received by: David Dickie **CUR completed by:** David Dickie

Cooler/Shipping Information:

Courier: ☐ CAS ☐ Client ☐ UPS ☐ Airborne ☒ FedEx ☐ Other (describe):

Type: ☒ Cooler ☐ Box ☐ Other (describe)

Cooler temperature: Identify the cooler and document the temperature blank or ice water measurement

Cooler ID	1				
Temp (°C)	0.9°C				
Temp taken from	☐ Temp blank ☒ Sample bottle	☐ Temp blank ☐ Sample bottle	☐ Temp blank ☐ Sample bottle	☐ Temp blank ☐ Sample bottle	☐ Temp blank ☐ Sample bottle
Temp measured with	☒ IR gun ☐ Thermometer (enter ID):	☐ IR gun ☐ Thermometer (enter ID):	☐ IR gun ☐ Thermometer (enter ID):	☐ IR gun ☐ Thermometer (enter ID):	☐ IR gun ☐ Thermometer (enter ID):

Other Information:

Any "NO" responses or discrepancies should be explained in the "Comments" section below or an NCM if so required. If an NCM was initiated, write the NCM number in the appropriate space.

CHECKLIST	YES	NO	NA	NCM
1. Were custody seals on shipping container(s) intact? If "No", NCM required.	✓			
2. Were custody papers properly included with samples?	✓			
3. Were custody papers properly filled out (ink, signed, match labels)?	✓			
4. Did all bottles arrive in good condition (unbroken)?	✓			
5. Were all bottle labels complete (sample #, date, signed, analysis, preservatives)?	✓			
6. Did the sample labels agree with the chain of custody?	✓			
7. Were correct bottles used for the tests indicated?	✓			
8. Were proper sample preservation techniques indicated on the label?	✓			
9. Were samples received within holding times? If "No," NCM required.	✓			
10. Were all VOA vials checked for the presence of air bubbles? If "No", NCM required.	✓			
11. Were there air bubbles present in the VOA vials? If "Yes", NCM required.		✓		
12. Were samples in direct contact with wet ice? If "No," check one: ☐ NO ICE ☐ BLUE ICE	✓			
13. Was the cooler temperature less than 6°C?	✓			
14. Were sample pHs checked and recorded by Sample control? Checks are on reverse side of form. *NOTE: VOA samples are checked by laboratory analysts.*			✓	
15. Were the sample containers provided by CAS?	✓			
16. Were samples accepted into the laboratory?	✓			

Comments:

Jacksonville Laboratory

Condition Upon Receipt - Sample pH

SR #: J 2201466 Date: 5/3/02 Initials: DAD

A check mark in any space under the appropriate column headings for the selected sample indicates that the pH was checked and met the required pH criterion listed in the column heading.

	Bottle Code																									
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
	40-mL	40-mL	125-mL	250-mL	500-mL	1-L	250-mL	1-L	2-oz	4-oz	8-oz	16-oz	5 g	100-mL	250-mL	500-mL	1-L	1-L	250-mL	500-mL	1-L	250-mL	250-mL	1.75-L	500-mL	Misc.
Container	G	G	P	P	P	P	G	G	G	G	G	G	ENC	P	P	P	P	G	P	P	P	G	P	P	P	Misc.
Pres.	HCl		HCl											Sodium Thiosulfate	H2SO4	H2SO4	H2SO4	H2SO4	HNO3	HNO3	HNO3	HNO3	NaOH	NaOH	ZnAcetate NaOH	
Req. pH	<2	N/A	<2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<2	<2	<2	<2	<2	<2	<2	<2	>12	>12	>9	N/A
Sample #	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-001									1				3													
-002									1				3													
-003									1				3													
-004									1				3													
-005									1				3													
-006									1		1		3													
-007									1				6													
-008									1		1		3													
-009									1				3													
-010									1				3													
-011									1				3													
-012	3																									
-013	3																									
-014	3																									
-015	6																									
-016									1		1		3													
-017											2		3													
-018											1		3													
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-034																										
-035																										
-036																										
-037																										
-038																										
-039																										
-040																										

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For aqueous samples with multiple containers, only 1 bottle is checked for pH

NOTE: VOA pH checks are performed by the analytical area, not sample control

J2201466

CHAIN OF CUSTODY RECORD/SAMPLE ANALYSIS REQUEST FORM

Project: (Name and Number) IP Wilmington 8601269.003

Exponent

Exponent Contact: Mike Martin Office: BO

Samplers: R Koelsch D Hall

Ship to: CAS
8540 Baymeadows Road
Jacksonville, FL 32256

Lab Contact/Phone: Craig Myers (904) 737-2277

Environmental Group: Bellevue, WA (425) 643-9803; Boulder, CO (303) 444-7270; Lake Oswego, OR (503) 636-4338; Los Angeles, CA (310) 823-2035; Natick, MA (508) 652-8500

309

Sample No.	Tag No.	Date	Time	Matrix	VOCs Hexane N-Propyl Acetate	Soil Moisture	TOC				Extra Container	Archive	Remarks
S00012	43755	5/2/02	850	SL	X								
↓	43756		↓			X							
S00013	43757		900		X								
↓	43758		↓			X							
S00014	43759		915		X								
↓	43760		↓			X							
S00015	43761		925		X								
↓	43762		↓			X							
S00016	43763		955		X								
↓	43764		↓			X							
S00017	43765		1005		X								
~~S00017~~ ↓	43766		1005			X							
~~S00018~~	43767		1005				X						Homogenize all TOC thoroughly
S00018	43768		1020		X								
↓	43769		↓		X								MS/MSD
↓	43770		↓			X							
S00019	43771		1035		X								
↓	43772		↓				X						
↓	43773		↓			X							
S00020	43774	↓	1050	↓	X								

Matrix Code: GW - Groundwater SL - Soil SD - Sediment SW - Surface water
OTHER - Please identify codes

Priority: ☒ Normal ☐ Rush Rush time period

Shipped via: ☒ FedEx/UPS ☐ Courier Other

Condition of Samples Upon Receipt:

Custody Seal Intact: ☐ Yes ☐ No ☐ None

Relinquished by: [signature] (Signature) Date/Time: 5/2/02 1900 Received by: FedEx 8245 1934 3285 (Signature) Date/Time:

Relinquished by: (Signature) Date/Time: Received by: [signature] (Signature) Date/Time: 5/3/02 1030

Distribution: White and Yellow Copies - Accompany Shipment; Pink Copy - Project File

06892

CHAIN OF CUSTODY RECORD/SAMPLE ANALYSIS REQUEST FORM

Project: (Name and Number) IP Wilmington 8601269.003

Exponent Environmental Group
Bellevue, WA (425) 643-9803
Boulder, CO (303) 444-7270
Lake Oswego, OR (503) 636-4338
Los Angeles, CA (310) 823-2035
Natick, MA (508) 652-8500

Exponent Contact: Mike Martin Office: BO

Ship to: CAS
8540 Baycenter Road
Jacksonville, FL 32256

Lab Contact/Phone: Craig Myers (904) 731-2277

Samplers: R Koelsch D Hall

310

Sample No.	Tag No.	Date	Time	Matrix	VOCs Hexane Methanol Acetone	Soil Moisture	TOC				Extra Container	Archive	Remarks
S00020	43775	5/2/02	1050	SL		X							
S00021	43776		1055		X								
	43777					X							
S00022	43778		1100		X	X							
	43779				X								
GW0013	43780		NA		X								Trip Blank
	43781				X								
	43782				X								
GW0014	43783		1420		X								
	43784				X								
	43785				X								
GW0015	43786		1430		X								
	43787				X								
	43788				X								
GW0016	43801		1435		X								
	43802				X								
	43803				X								Bubbles
	43804				X								No HCl
	43805				X								MS/MSD
	43806				X								

Matrix Code: GW - Groundwater SL - Soil SD - Sediment SW - Surface water
OTHER - Please identify codes

Priority: ☒ Normal ☐ Rush Rush time period

Shipped via: ☒ FedEx/UPS ☐ Courier Other

Condition of Samples Upon Receipt:

Custody Seal Intact: ☐ Yes ☐ No ☐ None

Relinquished by: R Koelsch (Signature) Date/Time: 5/2/02 1900 Received by: Fedex 8245 1934 3285 (Signature) Date/Time:

Relinquished by: (Signature) Date/Time: Received by: (Signature) Date/Time: 5/3/02 1030

Distribution: White and Yellow Copies - Accompany Shipment; Pink Copy - Project File

06893

CHAIN OF CUSTODY RECORD/SAMPLE ANALYSIS REQUEST FORM

Exponent™

Project: (Name and Number) IP Wilmington 8601269.003

Exponent Contact: Mike Martin Office: BO

Samplers: R. Koelsch D. Hall

Ship to: CAS
8540 Baymeadows Road
Jacksonville, FL 32256

Lab Contact/Phone: Craig Myers (904) 739-2277

Environmental Group
Bellevue, WA (425) 643-9803
Boulder, CO (303) 444-7270
Lake Oswego, OR (503) 636-4338
Los Angeles, CA (310) 823-2035
Natick, MA (508) 652-8500

311

Sample No.	Tag No.	Date	Time	Matrix		Soil Moisture	TOC	VOCs No Hexane 2 preservatives	SVOCs	Metals As, Cr, Cu Pb, Se	Extra Container	Archive	Remarks
S00023	43789	5/2/02	1625	SL				X					
↓	43790	↓	↓	↓		X							
↓	43791	↓	↓	↓					X	X			
S00024	43792	↓	1635	↓				X					
↓	43793	↓	↓	↓					X	X			
↓	43794	↓	↓	↓		X	X						
S00025	43795	↓	1645	↓				X					
↓	43796	↓	↓	↓		X			X	X			

Matrix Code: GW - Groundwater SL - Soil SD - Sediment SW - Surface water
OTHER - Please identify codes

Priority: ☒ Normal ☐ Rush Rush time period

Shipped via: ☒ FedEx/UPS ☐ Courier Other

Condition of Samples Upon Receipt:

Custody Seal Intact: ☐ Yes ☐ No ☐ None

Relinquished by: [signature] (Signature) Date/Time: 5/2/02 1900 Received by: FedEx 8245 1934 3285 (Signature) Date/Time:

Relinquished by: (Signature) Date/Time: Received by: [signature] (Signature) Date/Time: 5/3/02 1130

Distribution: White and Yellow Copies - Accompany Shipment; Pink Copy - Project File

06891

ACCREDITED IN ACCORDANCE WITH nelac

Columbia Analytical Services INC.
An Employee-Owned Company

June 05, 2002

Service Request No. J2201475

VOCs 6/12/02
SVOCs
Splits
Metals
TOC

RECEIVED
JUN - 7 2002
At Exponent

Mike Martin
Exponent
4240 Pearl East Circle, Suite 300
Boulder, CO 80301

RE: Test Report for
Project No.: 8601269.003
Project Name: IP Wilmington

Dear Mike Martin:

Enclosed are the results of the samples(s) submitted to our laboratory on May 04, 2002. For your reference, these analyses have been assigned our service request number: J2201475.

All analyses were performed according to our laboratory's quality assurance program. NELAP requirements were met unless footnotes in each sample report indicate otherwise. Estimates regarding the degree of uncertainty in measurements can be inferred from the accuracy limits in the laboratory QA manual. However, these limits do not account for possible matrix effects. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions.

500026 FD (w/500025)
500027
500028
500029?

GW0007-EB
GW0019-TB

Respectfully submitted,

Columbia Analytical Services, Inc.

Craig R. Myers

Craig Myers
Project Manager

CAS Jacksonville is NELAC-accredited by the State of Florida (E82502). Other state accreditations include: LA, AI 30759; MA, M-FL937; NC, 527; SC, 96021; WA, C278.

JMDL, MRL

8540 Baycenter Rd. ▪ Jacksonville, FL 32256 ▪ (904) 739-2277 ▪ Fax (904) 739-2011

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Non-CLP Tier IV (Tier III w/out Raw Data)

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This report contains a total of 446 pages

Organic Data Qualifiers

A -- This qualifier indicates that a TIC is a suspected aldol-condensation product.

B -- This flag is used when the analyte is found in the associated blank as well as the sample. This notation indicates possible blank contamination and suggests that the data user evaluate these compounds and their amounts carefully.

C -- The "C" flag indicates the presence of this compound has been confirmed by GC/MS analysis.

D -- This qualifier is used for all compounds identified in an analysis at a secondary dilution factor. "D" qualifiers are used only for the samples reported at more than one dilution factor.

E -- This flag indicates that the value reported exceeds the linear calibration range for that compound. Therefore, the sample should be reanalyzed at an appropriate dilution. The "E" qualified amount is an estimated concentration, and the results of the dilution will be reported on a separate Form I.

I -- This qualifier indicates that the reporting limit adjacent to the "I" qualifier has been raised. It is used when chromatographic interference prohibits detection of a compound at a level below the concentration expressed on the Form I.

J -- Indicates an estimated value. It is used when the data indicates the presence of a target compound below the reporting limit or the presence of a Tentatively Identified Compound (TIC).

N -- This qualifier indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the indentification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the "N" qualifier is not used.

P -- This qualifier is used for pesticide/aroclor target analytes when there is a 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".

U -- Indicates the compound was analyzed for but not detected. The number adjacent to the "U" qualifier indicates the reporting limit for that compound. The reporting limit can vary from sample to sample depending on dilution factors or percent moisture adjustments when indicated.

Organic Sample ID Qualifiers

DL -- Diluted reanalysis. Indicates that the results were determined in an analysis of a secondary dilution of a sample or extract. The "DL" suffix may be followed by a digit to indicate multiple dilutions of the sample or extract. The results of more than one diluted reanalyses may be reported.

MS -- Matrix spike (may be followed by a digit to indicate multiple matrix spikes within a sample set).

MSD - Matrix spike duplicate (may be followed by a digit to indicate multiple matrix spikes within a sample set).

R -- Reanalysis. The extract was reanalyzed without re-extraction. The "R" is not used if the sample was also re-extracted. May be followed by a digit to indicate multiple reanalyses of the sample at the same dilution.

RE -- Re-extraction analysis. The sample was re-extracted and reanalyzed. May be followed by a digit to indicate multiple re-extracted analyses of the sample at the same dilution.

Inorganic Qualifiers

C (Concentration) Qualifier -- Enter "B" if the reported value obtained was less than the CRDL but greater than or equal to the IDL. Enter "U" if the value was less than the IDL or was not detected.

Q Qualifier -- Entries and their meanings are:

E -- The reported value is estimated because of interference. An explanatory comment must be included in the case narrative if the problem applies to all samples in this data package or on the individual FORM I if it is an isolated problem.

M -- Duplicate injection precision was not met (two analyses of the same sample did not agree).

N -- Spiked sample recovery not within control limits.

S -- The reported value was determined by the Method of Standard Additions (MSA).

W -- Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.

* -- Duplicate analysis not within control limits

+ -- Correlation coefficient for the MSA is less than 0.995.

Entering "S", "W", or "+" is mutually exclusive. No combination of these qualifiers can appear in the same field.

M (Method) Qualifier – Enter one of the following:

P -- ICP
A -- Flame AA
F -- Furnace AA
CV -- Manual Cold Vapor AA
AV -- Automated Cold Vapor AA
AS -- Semi-Automated Spectrophotometric
CA -- Manual Spectrophotometric
T -- Titrimetric
NR -- Analyte was not required by your lab

Columbia Analytical Services inc.
An Employee-Owned Company

Columbia Analytical Services
8540 Baycenter Road
Jacksonville, FL 32256
Tel 904-739-2277
Fax 904-739-2011

CROSS REFERENCE

Lab Sample ID	Client Sample ID	Date/Time Collected	Matrix
J2201475-001	SO0026	5/02/02 1650	Soil
J2201475-002	SO0027	5/02/02 1655	Soil
J2201475-003	SO0028	5/02/02 1715	Soil
J2201475-004*	SO0029	5/02/02 1725	Soil
J2201475-005	GW0017	5/03/02 0830	Water
J2201475-006	GW0018	5/03/02 0840	Water
J2201475-007	GW0019	5/03/02 NA	Water

*Client specified MS/MSD.

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Columbia Analytical Services
8340 Baymeadows Road
Jacksonville, FL 32256
Tel 904.739.2277
Fax 904.739.2011

GC/MS Volatiles

CASE NARRATIVE
GC/MS Volatiles

CAS Lab Reference No./SDG#: J2201475

Client/Project: Exponent / IP Wilmington

I. RECEIPT

No exceptions were encountered unless noted on the Cooler Receipt and Preservation Form included with this data package.

II. HOLDING TIMES

A. Sample preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHOD

Preparation: SW846 5035 and SW846 5030B

Analysis: SW846 8260B

IV. PREPARATION

Sample preparation proceeded normally.

V. ANALYSIS

A. Calibration: In the continuing calibration verification (CCV) standard analyzed in batch MS522E09A, lab file 0509-02, chloromethane (24.0%D) and carbon disulfide (21.0%D) were biased high. No corrective action is necessary since these analytes were not detected above the reporting limit in any of the associated samples. In the CCV standard analyzed in batch MS522E07A, lab file 0504-02, the following analytes are biased low: dichlorodifluoromethane (21.7% D), chloromethane (25.8%D), trichlorofluoromethane (20.8% D) and hexane (25.4% D). A method reporting limit (MRL) standard was analyzed with all of the target analytes being detected. No corrective action is necessary since these analytes were not detected above the reporting limit in any of the associated samples. In the CCV standard analyzed in batch MS522E07C, lab file 0507-48, acetone (20.6% D) is biased high. No corrective action is necessary since acetone was not detected above the reporting limit in any of the associated samples.

B. Blanks: All acceptance criteria were met.

C. Surrogates: All acceptance criteria were met.

D. Spikes: The MS/MSD spikes were performed on samples SO0029 and a sample serving as batch QC. The percent recoveries for several analytes in these QC samples are outside of the stated control limits due to matrix interference. No corrective action is necessary since these analytes are within the control limits in th eassociated LCS samples.

E. LCS: In the LCS for batch MS522E09A, several analytes are biased high. No corrective action is necessary since these analytes were not detected in the associated samples.

F. Internal standards: All acceptance criteria were met.

G. Samples: Sample analyses proceeded normally.

H. Other: Initially the lab analyzed a method detection limit study and calibration curve for isopropyl acetate when actually the study should have been for n-propyl acetate. The calibration standards analyzed with the samples contained isopropyl acetate instead of n-propyl acetate. A direct comparison between these two analytes was made with the results being comparable. N-propyl acetate and isopropyl acetate have similar response factors but different retention times. These samples were re-quantitated and a search was made against a single calibration standard of n-propyl acetate at the correct retention time after they were initially analyzed. N-propyl acetate was not detected in any of the samples. There was not even any peaks at all present in any of the samples at the retention time for n-

propyl acetate. Based on this, not having a valid calibration for n-propyl acetate at the time of acquisition does not have a major impact on the sample result of "non-detect" for this analyte. In the standards section of the data package , spectral data and chromatograms are provided showing the retention time difference and the ions used in the search. Isopropyl acetate is also being reported since it was included in the calibration and used in the comparison with n-propyl acetate. Samples collected in the future will be analyzed with a valid calibration curve for n-propyl acetate. No corrective action was taken since n-propyl acetate was not detected in any of the samples.

I certify that this data package is in compliance with the terms and conditions agreed to by Columbia Analytical Services, Inc. and by the client, both technically, and for completeness, except for the conditions detailed above. 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:

Signed: _____ Date: 6-3-22

Bob Dempsey
Organics Manager

Columbia Analytical Services
An Employee-Owned Company

Columbia Analytical Services
8940 Baycenter Road
Jacksonville, FL 32256
Tel: 904-739-2277
Fax: 904-739-2011

Sample Data

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0026

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-001

Sample wt/vol: 5.020 (g/mL) G Lab File ID: 0507-17

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: not dec. 17 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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	6.0	U
74-87-3	Chloromethane (P)	1.2	U
75-01-4	Vinyl Chloride (C)	1.2	U
74-83-9	Bromomethane	1.2	U
75-00-3	Chloroethane	1.2	U
75-69-4	Trichlorofluoromethane	1.2	U
75-35-4	1,1-Dichloroethene (C)	1.2	U
67-64-1	Acetone	30	U
74-88-4	Iodomethane	6.0	U
75-15-0	Carbon Disulfide	6.0	U
75-09-2	Methylene Chloride	7.2	JB
156-60-5	trans-1,2-Dichloroethene	1.2	U
1634-04-4	Methyl tert-Butyl Ether	1.2	U
75-34-3	1,1-Dichloroethane (P)	1.2	U
108-05-4	Vinyl Acetate	12	U
156-59-2	cis-1,2-Dichloroethene	1.2	U
78-93-3	2-Butanone (MEK)	12	U
74-97-5	Bromochloromethane	1.2	U
67-66-3	Chloroform (C)	1.2	U
71-55-6	1,1,1-Trichloroethane	1.2	U
56-23-5	Carbon Tetrachloride	1.2	U
71-43-2	Benzene	1.2	U
107-06-2	1,2-Dichloroethane	1.2	U
79-01-6	Trichloroethene	1.2	U
78-87-5	1,2-Dichloropropane (C)	1.2	U
74-95-3	Dibromomethane	1.2	U
75-27-4	Bromodichloromethane	1.2	U
10061-01-5	cis-1,3-Dichloropropene	1.2	U
108-10-1	4-Methyl-2-pentanone (MIBK)	12	U
108-88-3	Toluene (C)	1.2	U
10061-02-6	trans-1,3-Dichloropropene	1.2	U
79-00-5	1,1,2-Trichloroethane	1.2	U
127-18-4	Tetrachloroethene	1.2	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0026

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-001

Sample wt/vol: 5.020 (g/mL) G Lab File ID: 0507-17

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: not dec. 17 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	1.2	U
106-93-4	1,2-Dibromoethane (EDB)	1.2	U
108-90-7	Chlorobenzene (P)	1.2	U
630-20-6	1,1,1,2-Tetrachloroethane	1.2	U
100-41-4	Ethylbenzene (C)	1.2	U
136777-61-2	m,p-Xylenes	2.4	U
1330-20-7	Total Xylenes	3.6	U
95-47-6	o-Xylene	1.2	U
100-42-5	Styrene	1.2	U
75-25-2	Bromoform (P)	1.2	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.2	U
96-18-4	1,2,3-Trichloropropane	1.2	U
110-57-6	trans-1,4-Dichloro-2-butene	24	U
541-73-1	1,3-Dichlorobenzene	1.2	U
106-46-7	1,4-Dichlorobenzene	1.2	U
95-50-1	1,2-Dichlorobenzene	1.2	U
96-12-8	1,2-Dibromo-3-chloropropane	12	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0027

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-002

Sample wt/vol: 5.850 (g/mL) G Lab File ID: 0507-18

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: not dec. 19 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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	5.3	U
74-87-3	Chloromethane (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	15	J
74-88-4	Iodomethane	5.3	U
75-15-0	Carbon Disulfide	5.3	U
75-09-2	Methylene Chloride	9.1	JB
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	10	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	10	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U
108-88-3	Toluene (C)	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0027

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-002

Sample wt/vol: 5.850 (g/mL) G Lab File ID: 0507-18

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: not dec. 19 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.1	U
1330-20-7	Total Xylenes	3.2	U
95-47-6	o-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform (P)	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	21	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U

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CLIENT SAMPLE NO.

SO0028

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-003

Sample wt/vol: 5.820 (g/mL) G Lab File ID: 0507-59

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: not dec. 18 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	5.2	U
74-87-3	Chloromethane (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	23	J
74-88-4	Iodomethane	5.2	U
75-15-0	Carbon Disulfide	5.2	U
75-09-2	Methylene Chloride	7.2	JB
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	10	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	10	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U
108-88-3	Toluene (C)	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U

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CLIENT SAMPLE NO.

SO0028

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-003

Sample wt/vol: 5.820 (g/mL) G Lab File ID: 0507-59

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: not dec. 18 Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.1	U
1330-20-7	Total Xylenes	3.1	U
95-47-6	o-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform (P)	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	21	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U

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CLIENT SAMPLE NO.

SO0029MS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004MS

Sample wt/vol: 5.730 (g/mL) G Lab File ID: 0507-21

Level: (low/med) LOW Date Received: 05/04/02 ✓

% Moisture: not dec. 20 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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	21	
74-87-3	Chloromethane (P)	20	
75-01-4	Vinyl Chloride (C)	20	
74-83-9	Bromomethane	20	
75-00-3	Chloroethane	19	
75-69-4	Trichlorofluoromethane	21	
75-35-4	1,1-Dichloroethene (C)	21	
67-64-1	Acetone	87	
74-88-4	Iodomethane	98	
75-15-0	Carbon Disulfide	100	
75-09-2	Methylene Chloride	29	B
156-60-5	trans-1,2-Dichloroethene	20	
1634-04-4	Methyl tert-Butyl Ether	20	
75-34-3	1,1-Dichloroethane (P)	21	
108-05-4	Vinyl Acetate	55	
156-59-2	cis-1,2-Dichloroethene	20	
78-93-3	2-Butanone (MEK)	86	
74-97-5	Bromochloromethane	19	
67-66-3	Chloroform (C)	20	
71-55-6	1,1,1-Trichloroethane	19	
56-23-5	Carbon Tetrachloride	19	
71-43-2	Benzene	20	
107-06-2	1,2-Dichloroethane	20	
79-01-6	Trichloroethene	19	
78-87-5	1,2-Dichloropropane (C)	19	
74-95-3	Dibromomethane	19	
75-27-4	Bromodichloromethane	20	
10061-01-5	cis-1,3-Dichloropropene	19	
108-10-1	4-Methyl-2-pentanone (MIBK)	94	
108-88-3	Toluene (C)	20	
10061-02-6	trans-1,3-Dichloropropene	20	
79-00-5	1,1,2-Trichloroethane	20	
127-18-4	Tetrachloroethene	18	

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CLIENT SAMPLE NO.

SO0029MS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004MS

Sample wt/vol: 5.730 (g/mL) G Lab File ID: 0507-21

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: not dec. 20 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	92	
124-48-1	Dibromochloromethane	18	
106-93-4	1,2-Dibromoethane (EDB)	19	
108-90-7	Chlorobenzene (P)	19	
630-20-6	1,1,1,2-Tetrachloroethane	20	
100-41-4	Ethylbenzene (C)	20	
136777-61-2	m,p-Xylenes	40	
1330-20-7	Total Xylenes	60	
95-47-6	o-Xylene	20	
100-42-5	Styrene	20	
75-25-2	Bromoform (P)	17	
79-34-5	1,1,2,2-Tetrachloroethane (P	19	
96-18-4	1,2,3-Trichloropropane	17	
110-57-6	trans-1,4-Dichloro-2-butene	16	J
541-73-1	1,3-Dichlorobenzene	20	
106-46-7	1,4-Dichlorobenzene	18	
95-50-1	1,2-Dichlorobenzene	19	
96-12-8	1,2-Dibromo-3-chloropropane	16	

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CLIENT SAMPLE NO.

SO0029MSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004MSD

Sample wt/vol: 4.930 (g/mL) G Lab File ID: 0507-22

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: not dec. 20 Date Analyzed: 05/07/02 ✓

GC Column: DB-624 ID: 0.18 (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	29	
74-87-3	Chloromethane (P)	26	
75-01-4	Vinyl Chloride (C)	27	
74-83-9	Bromomethane	26	
75-00-3	Chloroethane	25	
75-69-4	Trichlorofluoromethane	25	
75-35-4	1,1-Dichloroethene (C)	25	
67-64-1	Acetone	100	
74-88-4	Iodomethane	120	
75-15-0	Carbon Disulfide	120	
75-09-2	Methylene Chloride	38	B
156-60-5	trans-1,2-Dichloroethene	24	
1634-04-4	Methyl tert-Butyl Ether	23	
75-34-3	1,1-Dichloroethane (P)	26	
108-05-4	Vinyl Acetate	55	
156-59-2	cis-1,2-Dichloroethene	23	
78-93-3	2-Butanone (MEK)	99	
74-97-5	Bromochloromethane	23	
67-66-3	Chloroform (C)	24	
71-55-6	1,1,1-Trichloroethane	23	
56-23-5	Carbon Tetrachloride	23	
71-43-2	Benzene	24	
107-06-2	1,2-Dichloroethane	24	
79-01-6	Trichloroethene	23	
78-87-5	1,2-Dichloropropane (C)	23	
74-95-3	Dibromomethane	22	
75-27-4	Bromodichloromethane	25	
10061-01-5	cis-1,3-Dichloropropene	23	
108-10-1	4-Methyl-2-pentanone (MIBK)	100	
108-88-3	Toluene (C)	24	
10061-02-6	trans-1,3-Dichloropropene	23	
79-00-5	1,1,2-Trichloroethane	21	
127-18-4	Tetrachloroethene	21	

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CLIENT SAMPLE NO.

SO0029MSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004MSD

Sample wt/vol: 4.930 (g/mL) G Lab File ID: 0507-22

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: not dec. 20 Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	100	
124-48-1	Dibromochloromethane	22	
106-93-4	1,2-Dibromoethane (EDB)	22	
108-90-7	Chlorobenzene (P)	22	
630-20-6	1,1,1,2-Tetrachloroethane	23	
100-41-4	Ethylbenzene (C)	23	
136777-61-2	m,p-Xylenes	47	
1330-20-7	Total Xylenes	70	
95-47-6	o-Xylene	23	
100-42-5	Styrene	24	
75-25-2	Bromoform (P)	20	
79-34-5	1,1,2,2-Tetrachloroethane (P	21	
96-18-4	1,2,3-Trichloropropane	21	
110-57-6	trans-1,4-Dichloro-2-butene	18	J
541-73-1	1,3-Dichlorobenzene	23	
106-46-7	1,4-Dichlorobenzene	21	
95-50-1	1,2-Dichlorobenzene	23	
96-12-8	1,2-Dibromo-3-chloropropane	19	

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CLIENT SAMPLE NO.

GW0017

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: J2201475-005

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-20

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: not dec. _____ Date Analyzed: 05/09/02

GC Column: DB-624 ID: 0.18 (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	5.0	U
74-87-3	Chloromethane (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	50	U
74-88-4	Iodomethane	5.0	U
75-15-0	Carbon Disulfide	10	U
75-09-2	Methylene Chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
110-54-3	Hexane	5.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	25	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
108-21-4	Isopropyl Acetate	5.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
109-60-4	n-Propyl acetate	5.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	25	U
108-88-3	Toluene (C)	1.0	U

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CLIENT SAMPLE NO.

GW0017

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: J2201475-005

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-20

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: not dec. _____ Date Analyzed: 05/09/02 ✓

GC Column: DB-624 ID: 0.18 (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
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.0	U
1330-20-7	Total Xylenes	3.0	U
95-47-6	o-Xylene	1.0	U
75-25-2	Bromoform (P)	1.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	10	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	2.0	U

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CLIENT SAMPLE NO.

GW0019

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: J2201475-007

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-21

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: not dec. _____ Date Analyzed: 05/09/02 ✓

GC Column: DB-624 ID: 0.18 (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	5.0	U
74-87-3	Chloromethane (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	50	U
74-88-4	Iodomethane	5.0	U
75-15-0	Carbon Disulfide	10	U
75-09-2	Methylene Chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
110-54-3	Hexane	5.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	25	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
108-21-4	Isopropyl Acetate	5.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
109-60-4	n-Propyl acetate	5.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	25	U
108-88-3	Toluene (C)	1.0	U

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CLIENT SAMPLE NO.

GW0019

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: J2201475-007

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-21

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: not dec. _____ Date Analyzed: 05/09/02 ✓

GC Column: DB-624 ID: 0.18 (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
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.0	U
1330-20-7	Total Xylenes	3.0	U
95-47-6	o-Xylene	1.0	U
75-25-2	Bromoform (P)	1.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	10	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	2.0	U

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CLIENT SAMPLE NO.

MS522E07A-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07A-MB

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-05

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (mm) Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND		Q
75-71-8	Dichlorodifluoromethane	5.0	U
74-87-3	Chloromethane (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	25	U
74-88-4	Iodomethane	5.0	U
75-15-0	Carbon Disulfide	5.0	U
75-09-2	Methylene Chloride	1.2	J
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	10	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	10	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U
108-88-3	Toluene (C)	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U

FORM I VOA

x10 Action limit = 12 ug/kg

MRL = 5.0 ug/kg

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E07A-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07A-MB

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-05

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.0	U
1330-20-7	Total Xylenes	3.0	U
95-47-6	o-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform (P)	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	20	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E07A-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07A-LCS

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-03

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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	21	
74-87-3	Chloromethane (P)	19	
75-01-4	Vinyl Chloride (C)	20	
74-83-9	Bromomethane	22	
75-00-3	Chloroethane	21	
75-69-4	Trichlorofluoromethane	20	
75-35-4	1,1-Dichloroethene (C)	19	
67-64-1	Acetone	130	
74-88-4	Iodomethane	100	
75-15-0	Carbon Disulfide	91	
75-09-2	Methylene Chloride	19	B
156-60-5	trans-1,2-Dichloroethene	18	
1634-04-4	Methyl tert-Butyl Ether	21	
75-34-3	1,1-Dichloroethane (P)	19	
108-05-4	Vinyl Acetate	93	
156-59-2	cis-1,2-Dichloroethene	18	
78-93-3	2-Butanone (MEK)	100	
74-97-5	Bromochloromethane	20	
67-66-3	Chloroform (C)	18	
71-55-6	1,1,1-Trichloroethane	17	
56-23-5	Carbon Tetrachloride	16	
71-43-2	Benzene	18	
107-06-2	1,2-Dichloroethane	21	
79-01-6	Trichloroethene	18	
78-87-5	1,2-Dichloropropane (C)	19	
74-95-3	Dibromomethane	21	
75-27-4	Bromodichloromethane	20	
10061-01-5	cis-1,3-Dichloropropene	20	
108-10-1	4-Methyl-2-pentanone (MIBK)	110	
108-88-3	Toluene (C)	18	
10061-02-6	trans-1,3-Dichloropropene	21	
79-00-5	1,1,2-Trichloroethane	21	
127-18-4	Tetrachloroethene	17	

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E07A-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07A-LCS

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-03

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/07/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	110	
124-48-1	Dibromochloromethane	20	
106-93-4	1,2-Dibromoethane (EDB)	21	
108-90-7	Chlorobenzene (P)	18	
630-20-6	1,1,1,2-Tetrachloroethane	19	
100-41-4	Ethylbenzene (C)	18	
136777-61-2	m,p-Xylenes	36	
1330-20-7	Total Xylenes	55	
95-47-6	o-Xylene	19	
100-42-5	Styrene	19	
75-25-2	Bromoform (P)	21	
79-34-5	1,1,2,2-Tetrachloroethane (P	22	
96-18-4	1,2,3-Trichloropropane	22	
110-57-6	trans-1,4-Dichloro-2-butene	22	
541-73-1	1,3-Dichlorobenzene	19	
106-46-7	1,4-Dichlorobenzene	18	
95-50-1	1,2-Dichlorobenzene	20	
96-12-8	1,2-Dibromo-3-chloropropane	22	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E07C-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07C-MB

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-52

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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 (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	25	U
74-88-4	Iodomethane	5.0	U
75-15-0	Carbon Disulfide	5.0	U
75-09-2	Methylene Chloride	1.1	J
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	10	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	10	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U
108-88-3	Toluene (C)	0.70	J
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U

FORM I VOA

DCM X10 Action limit = 11 ug/Kg

Toluene X5 Action limit = 3.5 ug/Kg, MRL = 1.0 ug/Kg

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E07C-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07C-MB

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-52

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.0	U
1330-20-7	Total Xylenes	3.0	U
95-47-6	o-Xylene	1.0	U
100-42-5	Styrene	1.0	U
75-25-2	Bromoform (P)	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	20	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	10	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E07C-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07C-LCS

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-49

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	30	
74-87-3	Chloromethane (P)	26	
75-01-4	Vinyl Chloride (C)	29	
74-83-9	Bromomethane	29	
75-00-3	Chloroethane	28	
75-69-4	Trichlorofluoromethane	28	
75-35-4	1,1-Dichloroethene (C)	28	
67-64-1	Acetone	120	
74-88-4	Iodomethane	130	
75-15-0	Carbon Disulfide	130	
75-09-2	Methylene Chloride	26	B
156-60-5	trans-1,2-Dichloroethene	24	
1634-04-4	Methyl tert-Butyl Ether	24	
75-34-3	1,1-Dichloroethane (P)	24	
108-05-4	Vinyl Acetate	120	
156-59-2	cis-1,2-Dichloroethene	22	
78-93-3	2-Butanone (MEK)	98	
74-97-5	Bromochloromethane	23	
67-66-3	Chloroform (C)	23	
71-55-6	1,1,1-Trichloroethane	22	
56-23-5	Carbon Tetrachloride	23	
71-43-2	Benzene	22	
107-06-2	1,2-Dichloroethane	23	
79-01-6	Trichloroethene	22	
78-87-5	1,2-Dichloropropane (C)	22	
74-95-3	Dibromomethane	23	
75-27-4	Bromodichloromethane	24	
10061-01-5	cis-1,3-Dichloropropene	23	
108-10-1	4-Methyl-2-pentanone (MIBK)	110	
108-88-3	Toluene (C)	23	B
10061-02-6	trans-1,3-Dichloropropene	24	
79-00-5	1,1,2-Trichloroethane	22	
127-18-4	Tetrachloroethene	22	

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E07C-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07C-LCS

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-49

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	110	
124-48-1	Dibromochloromethane	23	
106-93-4	1,2-Dibromoethane (EDB)	22	
108-90-7	Chlorobenzene (P)	22	
630-20-6	1,1,1,2-Tetrachloroethane	23	
100-41-4	Ethylbenzene (C)	23	
136777-61-2	m,p-Xylenes	47	
1330-20-7	Total Xylenes	70	
95-47-6	o-Xylene	23	
100-42-5	Styrene	24	
75-25-2	Bromoform (P)	22	
79-34-5	1,1,2,2-Tetrachloroethane (P	23	
96-18-4	1,2,3-Trichloropropane	21	
110-57-6	trans-1,4-Dichloro-2-butene	22	
541-73-1	1,3-Dichlorobenzene	24	
106-46-7	1,4-Dichlorobenzene	22	
95-50-1	1,2-Dichlorobenzene	23	
96-12-8	1,2-Dibromo-3-chloropropane	21	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E07
C-MBLCSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07C-LCSD

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-50

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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	28	
74-87-3	Chloromethane (P)	24	
75-01-4	Vinyl Chloride (C)	25	
74-83-9	Bromomethane	24	
75-00-3	Chloroethane	23	
75-69-4	Trichlorofluoromethane	24	
75-35-4	1,1-Dichloroethene (C)	23	
67-64-1	Acetone	110	
74-88-4	Iodomethane	110	
75-15-0	Carbon Disulfide	120	
75-09-2	Methylene Chloride	22	B
156-60-5	trans-1,2-Dichloroethene	22	
1634-04-4	Methyl tert-Butyl Ether	22	
75-34-3	1,1-Dichloroethane (P)	23	
108-05-4	Vinyl Acetate	120	
156-59-2	cis-1,2-Dichloroethene	22	
78-93-3	2-Butanone (MEK)	110	
74-97-5	Bromochloromethane	22	
67-66-3	Chloroform (C)	22	
71-55-6	1,1,1-Trichloroethane	21	
56-23-5	Carbon Tetrachloride	22	
71-43-2	Benzene	22	
107-06-2	1,2-Dichloroethane	23	
79-01-6	Trichloroethene	22	
78-87-5	1,2-Dichloropropane (C)	22	
74-95-3	Dibromomethane	23	
75-27-4	Bromodichloromethane	24	
10061-01-5	cis-1,3-Dichloropropene	23	
108-10-1	4-Methyl-2-pentanone (MIBK)	110	
108-88-3	Toluene (C)	22	B
10061-02-6	trans-1,3-Dichloropropene	24	
79-00-5	1,1,2-Trichloroethane	22	
127-18-4	Tetrachloroethene	22	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E07
C-MBLCSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: MS522E07C-LCSD

Sample wt/vol: 5.000 (g/mL) G Lab File ID: 0507-50

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/08/02

GC Column: DB-624 ID: 0.18 (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
591-78-6	2-Hexanone	110	
124-48-1	Dibromochloromethane	22	
106-93-4	1,2-Dibromoethane (EDB)	22	
108-90-7	Chlorobenzene (P)	22	
630-20-6	1,1,1,2-Tetrachloroethane	22	
100-41-4	Ethylbenzene (C)	22	
136777-61-2	m,p-Xylenes	45	
1330-20-7	Total Xylenes	67	
95-47-6	o-Xylene	22	
100-42-5	Styrene	23	
75-25-2	Bromoform (P)	22	
79-34-5	1,1,2,2-Tetrachloroethane (P	22	
96-18-4	1,2,3-Trichloropropane	22	
110-57-6	trans-1,4-Dichloro-2-butene	22	
541-73-1	1,3-Dichlorobenzene	23	
106-46-7	1,4-Dichlorobenzene	22	
95-50-1	1,2-Dichlorobenzene	22	
96-12-8	1,2-Dibromo-3-chloropropane	22	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E09A-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: MS522E09A-MB

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-05

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/09/02

GC Column: DB-624 ID: 0.18 (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	5.0	U
74-87-3	Chloromethane (P)	1.0	U
75-01-4	Vinyl Chloride (C)	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene (C)	1.0	U
67-64-1	Acetone	50	U
74-88-4	Iodomethane	5.0	U
75-15-0	Carbon Disulfide	10	U
75-09-2	Methylene Chloride	5.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
1634-04-4	Methyl tert-Butyl Ether	1.0	U
110-54-3	Hexane	5.0	U
75-34-3	1,1-Dichloroethane (P)	1.0	U
108-05-4	Vinyl Acetate	5.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
78-93-3	2-Butanone (MEK)	25	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform (C)	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
108-21-4	Isopropyl Acetate	5.0	U
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane (C)	1.0	U
74-95-3	Dibromomethane	1.0	U
109-60-4	n-Propyl acetate	5.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	25	U
108-88-3	Toluene (C)	1.0	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E09A-MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: MS522E09A-MB

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-05

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/09/02

GC Column: DB-624 ID: 0.18 (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
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane (EDB)	1.0	U
108-90-7	Chlorobenzene (P)	1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U
100-41-4	Ethylbenzene (C)	1.0	U
136777-61-2	m,p-Xylenes	2.0	U
1330-20-7	Total Xylenes	3.0	U
95-47-6	o-Xylene	1.0	U
75-25-2	Bromoform (P)	1.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane (P	1.0	U
96-18-4	1,2,3-Trichloropropane	1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	10	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	2.0	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E09A-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: MS522E09A-LCS

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-03

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/09/02

GC Column: DB-624 ID: 0.18 (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	30	
74-87-3	Chloromethane (P)	30	
75-01-4	Vinyl Chloride (C)	29	
74-83-9	Bromomethane	29	
75-00-3	Chloroethane	28	
75-69-4	Trichlorofluoromethane	26	
75-35-4	1,1-Dichloroethene (C)	25	
67-64-1	Acetone	100	
74-88-4	Iodomethane	130	
75-15-0	Carbon Disulfide	140	
75-09-2	Methylene Chloride	21	
156-60-5	trans-1,2-Dichloroethene	24	
1634-04-4	Methyl tert-Butyl Ether	23	
110-54-3	Hexane	100	
75-34-3	1,1-Dichloroethane (P)	25	
108-05-4	Vinyl Acetate	110	
156-59-2	cis-1,2-Dichloroethene	24	
78-93-3	2-Butanone (MEK)	98	
74-97-5	Bromochloromethane	23	
67-66-3	Chloroform (C)	23	
71-55-6	1,1,1-Trichloroethane	22	
56-23-5	Carbon Tetrachloride	23	
71-43-2	Benzene	23	
107-06-2	1,2-Dichloroethane	21	
108-21-4	Isopropyl Acetate	98	
79-01-6	Trichloroethene	22	
78-87-5	1,2-Dichloropropane (C)	22	
74-95-3	Dibromomethane	21	
109-60-4	n-Propyl acetate	5.0	U
75-27-4	Bromodichloromethane	23	
10061-01-5	cis-1,3-Dichloropropene	22	
108-10-1	4-Methyl-2-pentanone (MIBK)	100	
108-88-3	Toluene (C)	22	

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MS522E09A-MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) WATER Lab Sample ID: MS522E09A-LCS

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 0509-03

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 05/09/02

GC Column: DB-624 ID: 0.18 (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
10061-02-6	trans-1,3-Dichloropropene	23	
79-00-5	1,1,2-Trichloroethane	22	
127-18-4	Tetrachloroethene	22	
591-78-6	2-Hexanone	94	
124-48-1	Dibromochloromethane	21	
106-93-4	1,2-Dibromoethane (EDB)	22	
108-90-7	Chlorobenzene (P)	22	
630-20-6	1,1,1,2-Tetrachloroethane	23	
100-41-4	Ethylbenzene (C)	23	
136777-61-2	m,p-Xylenes	48	
1330-20-7	Total Xylenes	71	
95-47-6	o-Xylene	23	
75-25-2	Bromoform (P)	20	
100-42-5	Styrene	23	
79-34-5	1,1,2,2-Tetrachloroethane (P	22	
96-18-4	1,2,3-Trichloropropane	21	
110-57-6	trans-1,4-Dichloro-2-butene	17	
541-73-1	1,3-Dichlorobenzene	24	
106-46-7	1,4-Dichlorobenzene	22	
95-50-1	1,2-Dichlorobenzene	22	
96-12-8	1,2-Dibromo-3-chloropropane	18	

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GC/MS Semivolatiles

CASE NARRATIVE
GC/MS Semivolatiles

CAS Lab Reference No./SDG#: J2201475

Client/Project: Exponent / IP Wilmington

I. RECEIPT

No exceptions were encountered unless noted on the Cooler Receipt and Preservation Form included with this data package.

II. HOLDING TIMES

A. Sample preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHOD

Preparation: SW846 3550B

Analysis: SW846 8270C

IV. PREPARATION

Sample preparation proceeded normally.

V. ANALYSIS

A. Calibration: All acceptance criteria were met.

B. Blanks: All acceptance criteria were met.

C. Surrogates: All acceptance criteria were met.

D. Spikes: Some of the recoveries in the MS/MSD which serves as batch QC are outside the lower limit. These recoveries in the associated LCS sample are acceptable, which indicates the analytical batch was in control. No further corrective action was taken.

E. LCS: All acceptance criteria were met.

F. Internal standards: All acceptance criteria were met.

G. Samples: Samples SO0026, SO0027 and SO0028 were re-extracted outside of holding time because of low surrogate recoveries. The re-extracted samples confirmed low surrogate recoveries as a result of matrix interference. No further corrective action was taken.

H. Other:

I certify that this data package is in compliance with the terms and conditions agreed to by Columbia Analytical Services, Inc. and by the client, both technically, and for completeness, except for the conditions detailed above. 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:

Signed: _____ Date: 6-3-02

Bob Dempsey
Organics Manager

Columbia Analytical Services
8540 Baycenter Road
Jacksonville, FL 32256
Phone: (904) 739-2277
Fax: (904) 739-2011

Columbia Analytical Services
An Employee-Owned Company

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8340 Baycenter Road
Jacksonville, FL 32256
Tel 904 739 2277
Fax 904 739 2011

Sample Data

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0026

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-001

Sample wt/vol: 30.330 (g/mL) G Lab File ID: 0531-16

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 17 decanted: (Y/N) N Date Extracted: 05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	200	U
111-44-4	Bis(2-Chloroethyl) Ether	200	U
95-57-8	2-Chlorophenol	200	U
541-73-1	1,3-Dichlorobenzene	200	U
106-46-7	1,4-Dichlorobenzene (C)	200	U
100-51-6	Benzyl Alcohol	200	U
95-50-1	1,2-Dichlorobenzene	200	U
108-60-1	Bis(2-chloroisopropyl) Ether	200	U
95-48-7	2-Methylphenol (o-Cresol)	200	U
98-86-2	Acetophenone	200	U
106-44-5	3 and 4-Methylphenol Coeluti	400	U
621-64-7	N-Nitrosodi-n-propylamine (P	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol (C)	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	bis(2-Chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol (C)	200	U
120-82-1	1,2,4-Trichlorobenzene	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene (C)	200	U
59-50-7	4-Chloro-3-Methylphenol (C)	200	U
91-57-6	2-Methylnaphthalene	200	U
90-12-0	1-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene (P	200	U
88-06-2	2,4,6-Trichlorophenol (C)	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	200	U
131-11-3	Dimethyl Phthalate	200	U
208-96-8	Acenaphthylene	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0026

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-001

Sample wt/vol: 30.330 (g/mL) G Lab File ID: 0531-16

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 17 decanted: (Y/N) N Date Extracted: 05/16/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__ (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	200	U
99-09-2	3-Nitroaniline	200	U
83-32-9	Acenaphthene (C)	200	U
51-28-5	2,4-Dinitrophenol (P)	790	U
132-64-9	Dibenzofuran	200	U
100-02-7	4-Nitrophenol (P)	790	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethyl Phthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl Phenyl Ether	200	U
100-01-6	4-Nitroaniline	200	U
534-52-1	4,6-Dinitro-2-methylphenol	790	U
86-30-6	N-Nitrosodiphenylamine (C) (1)	200	U
101-55-3	4-Bromophenyl Phenyl Ether	200	U
118-74-1	Hexachlorobenzene	200	U
87-86-5	Pentachlorophenol (C)	790	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butyl Phthalate	200	U
206-44-0	Fluoranthene (C)	200	U
129-00-0	Pyrene	200	U
85-68-7	Butyl Benzyl Phthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	790	U
56-55-3	Benz(a)anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	140	J
117-84-0	Di-n-octyl Phthalate (C)	200	U
205-99-2	Benzo(b)fluoranthene	200	U
207-08-9	Benzo(k)fluoranthene	200	U
50-32-8	Benzo(a)pyrene (C)	200	U
193-39-5	Indeno(1,2,3-cd)pyrene	200	U
53-70-3	Dibenz(a,h)anthracene	200	U

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0026

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-001

Sample wt/vol: 30.330 (g/mL) G Lab File ID: 0531-16

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 17 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2--------	Benzo(g,h,i)perylene_____	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

S00026RE

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-001RE

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-29

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 17 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	200	U
111-44-4	Bis(2-Chloroethyl) Ether	200	U
95-57-8	2-Chlorophenol	200	U
541-73-1	1,3-Dichlorobenzene	200	U
106-46-7	1,4-Dichlorobenzene (C)	200	U
100-51-6	Benzyl Alcohol	200	U
95-50-1	1,2-Dichlorobenzene	200	U
108-60-1	Bis(2-chloroisopropyl) Ether	200	U
95-48-7	2-Methylphenol (o-Cresol)	200	U
98-86-2	Acetophenone	200	U
106-44-5	3 and 4-Methylphenol Coeluti	390	U
621-64-7	N-Nitrosodi-n-propylamine (P	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol (C)	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	bis(2-Chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol (C)	200	U
120-82-1	1,2,4-Trichlorobenzene	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene (C)	200	U
59-50-7	4-Chloro-3-Methylphenol (C)	200	U
91-57-6	2-Methylnaphthalene	200	U
90-12-0	1-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene (P	200	U
88-06-2	2,4,6-Trichlorophenol (C)	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	200	U
131-11-3	Dimethyl Phthalate	200	U
208-96-8	Acenaphthylene	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0026RE

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-001RE

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-29

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 17 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__ (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	200	U
99-09-2	3-Nitroaniline	200	U
83-32-9	Acenaphthene (C)	200	U
51-28-5	2,4-Dinitrophenol (P)	790	U
132-64-9	Dibenzofuran	200	U
100-02-7	4-Nitrophenol (P)	790	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethyl Phthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl Phenyl Ether	200	U
100-01-6	4-Nitroaniline	200	U
534-52-1	4,6-Dinitro-2-methylphenol	790	U
86-30-6	N-Nitrosodiphenylamine (C) (1)	200	U
101-55-3	4-Bromophenyl Phenyl Ether	200	U
118-74-1	Hexachlorobenzene	200	U
87-86-5	Pentachlorophenol (C)	790	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butyl Phthalate	200	U
206-44-0	Fluoranthene (C)	200	U
129-00-0	Pyrene	200	U
85-68-7	Butyl Benzyl Phthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	790	U
56-55-3	Benz(a)anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	200	U
117-84-0	Di-n-octyl Phthalate (C)	200	U
205-99-2	Benzo(b)fluoranthene	200	U
207-08-9	Benzo(k)fluoranthene	200	U
50-32-8	Benzo(a)pyrene (C)	200	U
193-39-5	Indeno(1,2,3-cd)pyrene	200	U
53-70-3	Dibenz(a,h)anthracene	200	U

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0026RE

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-001RE

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-29

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 17 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2	Benzo(g,h,i)perylene	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0027

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-002

Sample wt/vol: 30.080 (g/mL) G Lab File ID: 0531-24

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 19 decanted: (Y/N) N Date Extracted: 05/16/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 06/01/02

Injection Volume: NA (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	200	U
111-44-4	Bis(2-Chloroethyl) Ether	200	U
95-57-8	2-Chlorophenol	200	U
541-73-1	1,3-Dichlorobenzene	200	U
106-46-7	1,4-Dichlorobenzene (C)	200	U
100-51-6	Benzyl Alcohol	200	U
95-50-1	1,2-Dichlorobenzene	200	U
108-60-1	Bis(2-chloroisopropyl) Ether	200	U
95-48-7	2-Methylphenol (o-Cresol)	200	U
98-86-2	Acetophenone	200	U
106-44-5	3 and 4-Methylphenol Coeluti	410	U
621-64-7	N-Nitrosodi-n-propylamine (P	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol (C)	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	bis(2-Chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol (C)	200	U
120-82-1	1,2,4-Trichlorobenzene	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene (C)	200	U
59-50-7	4-Chloro-3-Methylphenol (C)	200	U
91-57-6	2-Methylnaphthalene	200	U
90-12-0	1-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene (P	200	U
88-06-2	2,4,6-Trichlorophenol (C)	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	200	U
131-11-3	Dimethyl Phthalate	200	U
208-96-8	Acenaphthylene	200	U

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0027

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-002

Sample wt/vol: 30.080 (g/mL) G Lab File ID: 0531-24

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 19 decanted: (Y/N) N Date Extracted: 05/16/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	200	U
99-09-2	3-Nitroaniline	200	U
83-32-9	Acenaphthene (C)	200	U
51-28-5	2,4-Dinitrophenol (P)	820	U
132-64-9	Dibenzofuran	200	U
100-02-7	4-Nitrophenol (P)	820	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethyl Phthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl Phenyl Ether	200	U
100-01-6	4-Nitroaniline	200	U
534-52-1	4,6-Dinitro-2-methylphenol	820	U
86-30-6	N-Nitrosodiphenylamine (C) (1)	200	U
101-55-3	4-Bromophenyl Phenyl Ether	200	U
118-74-1	Hexachlorobenzene	200	U
87-86-5	Pentachlorophenol (C)	820	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butyl Phthalate	200	U
206-44-0	Fluoranthene (C)	200	U
129-00-0	Pyrene	200	U
85-68-7	Butyl Benzyl Phthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	820	U
56-55-3	Benz(a)anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	200	U
117-84-0	Di-n-octyl Phthalate (C)	200	U
205-99-2	Benzo(b)fluoranthene	200	U
207-08-9	Benzo(k)fluoranthene	200	U
50-32-8	Benzo(a)pyrene (C)	200	U
193-39-5	Indeno(1,2,3-cd)pyrene	200	U
53-70-3	Dibenz(a,h)anthracene	200	U

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0027

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-002

Sample wt/vol: 30.080 (g/mL) G Lab File ID: 0531-24

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 19 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2	--------Benzo(g,h,i)perylene_____	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0027RE

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-002RE

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-30

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 19 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	200	U
111-44-4	Bis(2-Chloroethyl) Ether	200	U
95-57-8	2-Chlorophenol	200	U
541-73-1	1,3-Dichlorobenzene	200	U
106-46-7	1,4-Dichlorobenzene (C)	200	U
100-51-6	Benzyl Alcohol	200	U
95-50-1	1,2-Dichlorobenzene	200	U
108-60-1	Bis(2-chloroisopropyl) Ether	200	U
95-48-7	2-Methylphenol (o-Cresol)	200	U
98-86-2	Acetophenone	200	U
106-44-5	3 and 4-Methylphenol Coeluti	400	U
621-64-7	N-Nitrosodi-n-propylamine (P	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol (C)	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	bis(2-Chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol (C)	200	U
120-82-1	1,2,4-Trichlorobenzene	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene (C)	200	U
59-50-7	4-Chloro-3-Methylphenol (C)	200	U
91-57-6	2-Methylnaphthalene	200	U
90-12-0	1-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene (P	200	U
88-06-2	2,4,6-Trichlorophenol (C)	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	200	U
131-11-3	Dimethyl Phthalate	200	U
208-96-8	Acenaphthylene	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0027RE

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-002RE

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-30

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 19 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 06/01/02

Injection Volume: NA (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	200	U
99-09-2	3-Nitroaniline	200	U
83-32-9	Acenaphthene (C)	200	U
51-28-5	2,4-Dinitrophenol (P)	810	U
132-64-9	Dibenzofuran	200	U
100-02-7	4-Nitrophenol (P)	810	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethyl Phthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl Phenyl Ether	200	U
100-01-6	4-Nitroaniline	200	U
534-52-1	4,6-Dinitro-2-methylphenol	810	U
86-30-6	N-Nitrosodiphenylamine (C) (1)	200	U
101-55-3	4-Bromophenyl Phenyl Ether	200	U
118-74-1	Hexachlorobenzene	200	U
87-86-5	Pentachlorophenol (C)	810	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butyl Phthalate	200	U
206-44-0	Fluoranthene (C)	200	U
129-00-0	Pyrene	200	U
85-68-7	Butyl Benzyl Phthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	810	U
56-55-3	Benz(a)anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	200	U
117-84-0	Di-n-octyl Phthalate (C)	200	U
205-99-2	Benzo(b)fluoranthene	200	U
207-08-9	Benzo(k)fluoranthene	200	U
50-32-8	Benzo(a)pyrene (C)	200	U
193-39-5	Indeno(1,2,3-cd)pyrene	200	U
53-70-3	Dibenz(a,h)anthracene	200	U

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0027RE

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-002RE

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-30

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 19 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2	Benzo(g,h,i)perylene	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0028

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-003

Sample wt/vol: 30.270 (g/mL) G Lab File ID: 0531-25

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 18 decanted: (Y/N) N Date Extracted: 05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: NA (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	200	U
111-44-4	Bis(2-Chloroethyl) Ether	200	U
95-57-8	2-Chlorophenol	200	U
541-73-1	1,3-Dichlorobenzene	200	U
106-46-7	1,4-Dichlorobenzene (C)	200	U
100-51-6	Benzyl Alcohol	200	U
95-50-1	1,2-Dichlorobenzene	200	U
108-60-1	Bis(2-chloroisopropyl) Ether	200	U
95-48-7	2-Methylphenol (o-Cresol)	200	U
98-86-2	Acetophenone	200	U
106-44-5	3 and 4-Methylphenol Coeluti	400	U
621-64-7	N-Nitrosodi-n-propylamine (P	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol (C)	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	bis(2-Chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol (C)	200	U
120-82-1	1,2,4-Trichlorobenzene	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene (C)	200	U
59-50-7	4-Chloro-3-Methylphenol (C)	200	U
91-57-6	2-Methylnaphthalene	200	U
90-12-0	1-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene (P	200	U
88-06-2	2,4,6-Trichlorophenol (C)	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	200	U
131-11-3	Dimethyl Phthalate	200	U
208-96-8	Acenaphthylene	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0028

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-003

Sample wt/vol: 30.270 (g/mL) G Lab File ID: 0531-25

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 18 decanted: (Y/N) N Date Extracted: 05/16/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	200	U
99-09-2	3-Nitroaniline	200	U
83-32-9	Acenaphthene (C)	200	U
51-28-5	2,4-Dinitrophenol (P)	800	U
132-64-9	Dibenzofuran	200	U
100-02-7	4-Nitrophenol (P)	800	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethyl Phthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl Phenyl Ether	200	U
100-01-6	4-Nitroaniline	200	U
534-52-1	4,6-Dinitro-2-methylphenol	800	U
86-30-6	N-Nitrosodiphenylamine (C) (1)	200	U
101-55-3	4-Bromophenyl Phenyl Ether	200	U
118-74-1	Hexachlorobenzene	200	U
87-86-5	Pentachlorophenol (C)	800	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butyl Phthalate	200	U
206-44-0	Fluoranthene (C)	200	U
129-00-0	Pyrene	200	U
85-68-7	Butyl Benzyl Phthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	800	U
56-55-3	Benz(a)anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	48	J
117-84-0	Di-n-octyl Phthalate (C)	200	U
205-99-2	Benzo(b)fluoranthene	200	U
207-08-9	Benzo(k)fluoranthene	200	U
50-32-8	Benzo(a)pyrene (C)	200	U
193-39-5	Indeno(1,2,3-cd)pyrene	200	U
53-70-3	Dibenz(a,h)anthracene	200	U

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0028

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-003

Sample wt/vol: 30.270 (g/mL) G Lab File ID: 0531-25

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 18 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2	Benzo(g,h,i)perylene	200	U

FORM I SV

FORM 2
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Level: (low/med) LOW

	CLIENT SAMPLE NO.	S1 (2FP) #	S2 #	S3 (NBZ) #	S4 (FBP) #	S5 (TBP) #	S6 #	S7 #	S8 #	TOT OUT
01	EX220184MB	77	80	77	82	87	84			0
02	EX220184MBLC	86	89	85	92	103	90			0
03	SO0029MS	77	80	75	78	88	79			0
04	SO0029MSD	81	84	80	78	95	81			0
05	SO0029	76	79	74	72	85	78			0
06	SO0026	41*	48*	34*	34*	72	77			4
07	EX220197MB	74	74	72	77	81	76			0
08	EX220197MBLC	77	79	78	84	89	77			0
09	BATCH QCMS	77	83	74	75	96	80			0
10	BATCH QCMSD	88	94	82	82	103	88			0
11	BATCH QC	60	71	45*	33*	80	70			2
12	SO0027	28*	42*	20*	21*	64	71			4
13	SO0028	39*	46*	32*	32*	57	74			4
14	SO0026RE	54	70	33*	20*	86	71			2
15	SO0027RE	47*	59	30*	21*	74	70			3
16	SO0028RE	34*	46*	18*	30*	61	64			4
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

			QC LIMITS
S1	(2FP)	= 2-Fluorophenol	(50-142)
S2		= Phenol-d6	(52-144)
S3	(NBZ)	= Nitrobenzene-d5	(51-140)
S4	(FBP)	= 2-Fluorobiphenyl	(40-142)
S5	(TBP)	= 2,4,6-Tribromophenol	(39-156)
S6		= p-Terphenyl-d14	(60-145)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

26RE Qual BN.
27RE Qual BN
28RE Qual A+BN

00026 Qual A+BN
27 Qual A+BN
28 Qual A+BN

FORM II SV

Note HT for re ext.

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0028RE

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-003RE

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-31

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 18 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	200	U
111-44-4	Bis(2-Chloroethyl) Ether	200	U
95-57-8	2-Chlorophenol	200	U
541-73-1	1,3-Dichlorobenzene	200	U
106-46-7	1,4-Dichlorobenzene (C)	200	U
100-51-6	Benzyl Alcohol	200	U
95-50-1	1,2-Dichlorobenzene	200	U
108-60-1	Bis(2-chloroisopropyl) Ether	200	U
95-48-7	2-Methylphenol (o-Cresol)	200	U
98-86-2	Acetophenone	200	U
106-44-5	3 and 4-Methylphenol Coeluti	400	U
621-64-7	N-Nitrosodi-n-propylamine (P	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol (C)	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	bis(2-Chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol (C)	200	U
120-82-1	1,2,4-Trichlorobenzene	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene (C)	200	U
59-50-7	4-Chloro-3-Methylphenol (C)	200	U
91-57-6	2-Methylnaphthalene	200	U
90-12-0	1-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene (P	200	U
88-06-2	2,4,6-Trichlorophenol (C)	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	200	U
131-11-3	Dimethyl Phthalate	200	U
208-96-8	Acenaphthylene	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0028RE

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-003RE

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-31

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 18 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 06/01/02

Injection Volume: NA (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	200	U
99-09-2	3-Nitroaniline	200	U
83-32-9	Acenaphthene (C)	200	U
51-28-5	2,4-Dinitrophenol (P)	800	U
132-64-9	Dibenzofuran	200	U
100-02-7	4-Nitrophenol (P)	800	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethyl Phthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl Phenyl Ether	200	U
100-01-6	4-Nitroaniline	200	U
534-52-1	4,6-Dinitro-2-methylphenol	800	U
86-30-6	N-Nitrosodiphenylamine (C) (1)	200	U
101-55-3	4-Bromophenyl Phenyl Ether	200	U
118-74-1	Hexachlorobenzene	200	U
87-86-5	Pentachlorophenol (C)	800	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butyl Phthalate	200	U
206-44-0	Fluoranthene (C)	200	U
129-00-0	Pyrene	200	U
85-68-7	Butyl Benzyl Phthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	800	U
56-55-3	Benz(a)anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	43	J
117-84-0	Di-n-octyl Phthalate (C)	200	U
205-99-2	Benzo(b)fluoranthene	200	U
207-08-9	Benzo(k)fluoranthene	200	U
50-32-8	Benzo(a)pyrene (C)	200	U
193-39-5	Indeno(1,2,3-cd)pyrene	200	U
53-70-3	Dibenz(a,h)anthracene	200	U

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0028RE

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-003RE

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-31

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 18 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2	--------Benzo(g,h,i)perylene_____	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0029

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004

Sample wt/vol: 30.270 (g/mL) G Lab File ID: 0531-15

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 20 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	200	U
111-44-4	Bis(2-Chloroethyl) Ether	200	U
95-57-8	2-Chlorophenol	200	U
541-73-1	1,3-Dichlorobenzene	200	U
106-46-7	1,4-Dichlorobenzene (C)	200	U
100-51-6	Benzyl Alcohol	200	U
95-50-1	1,2-Dichlorobenzene	200	U
108-60-1	Bis(2-chloroisopropyl) Ether	200	U
95-48-7	2-Methylphenol (o-Cresol)	200	U
98-86-2	Acetophenone	200	U
106-44-5	3 and 4-Methylphenol Coeluti	410	U
621-64-7	N-Nitrosodi-n-propylamine (P	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol (C)	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	bis(2-Chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol (C)	200	U
120-82-1	1,2,4-Trichlorobenzene	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene (C)	200	U
59-50-7	4-Chloro-3-Methylphenol (C)	200	U
91-57-6	2-Methylnaphthalene	200	U
90-12-0	1-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene (P	200	U
88-06-2	2,4,6-Trichlorophenol (C)	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	200	U
131-11-3	Dimethyl Phthalate	200	U
208-96-8	Acenaphthylene	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0029

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004

Sample wt/vol: 30.270 (g/mL) G Lab File ID: 0531-15

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 20 decanted: (Y/N) N Date Extracted: 05/16/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	200	U
99-09-2	3-Nitroaniline	200	U
83-32-9	Acenaphthene (C)	200	U
51-28-5	2,4-Dinitrophenol (P)	820	U
132-64-9	Dibenzofuran	200	U
100-02-7	4-Nitrophenol (P)	820	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethyl Phthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl Phenyl Ether	200	U
100-01-6	4-Nitroaniline	200	U
534-52-1	4,6-Dinitro-2-methylphenol	820	U
86-30-6	N-Nitrosodiphenylamine (C)(1)	200	U
101-55-3	4-Bromophenyl Phenyl Ether	200	U
118-74-1	Hexachlorobenzene	200	U
87-86-5	Pentachlorophenol (C)	820	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butyl Phthalate	200	U
206-44-0	Fluoranthene (C)	200	U
129-00-0	Pyrene	200	U
85-68-7	Butyl Benzyl Phthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	820	U
56-55-3	Benz(a)anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	200	U
117-84-0	Di-n-octyl Phthalate (C)	200	U
205-99-2	Benzo(b)fluoranthene	200	U
207-08-9	Benzo(k)fluoranthene	200	U
50-32-8	Benzo(a)pyrene (C)	200	U
193-39-5	Indeno(1,2,3-cd)pyrene	200	U
53-70-3	Dibenz(a,h)anthracene	200	U

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0029

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004

Sample wt/vol: 30.270 (g/mL) G Lab File ID: 0531-15

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 20 decanted: (Y/N) N Date Extracted: 05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2--------	Benzo(g,h,i)perylene	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0029MS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004MS

Sample wt/vol: 30.190 (g/mL) G Lab File ID: 0531-13

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 20 decanted: (Y/N) N Date Extracted: 05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	3200	
111-44-4	Bis(2-Chloroethyl) Ether	3000	
95-57-8	2-Chlorophenol	3000	
541-73-1	1,3-Dichlorobenzene	2900	
106-46-7	1,4-Dichlorobenzene (C)	2900	
100-51-6	Benzyl Alcohol	3200	
95-50-1	1,2-Dichlorobenzene	3000	
108-60-1	Bis(2-chloroisopropyl) Ether	3100	
95-48-7	2-Methylphenol (o-Cresol)	3100	
98-86-2	Acetophenone	200	U
106-44-5	3 and 4-Methylphenol Coeluti	5600	
621-64-7	N-Nitrosodi-n-propylamine (P	3100	
67-72-1	Hexachloroethane	2900	
98-95-3	Nitrobenzene	3000	
78-59-1	Isophorone	3200	
88-75-5	2-Nitrophenol (C)	3100	
105-67-9	2,4-Dimethylphenol	2900	
111-91-1	bis(2-Chloroethoxy)methane	3100	
120-83-2	2,4-Dichlorophenol (C)	3100	
120-82-1	1,2,4-Trichlorobenzene	3000	
91-20-3	Naphthalene	3000	
106-47-8	4-Chloroaniline	2100	
87-68-3	Hexachlorobutadiene (C)	3100	
59-50-7	4-Chloro-3-Methylphenol (C)	3100	
91-57-6	2-Methylnaphthalene	3000	
90-12-0	1-Methylnaphthalene	3100	
77-47-4	Hexachlorocyclopentadiene (P	3500	
88-06-2	2,4,6-Trichlorophenol (C)	3100	
95-95-4	2,4,5-Trichlorophenol	3100	
91-58-7	2-Chloronaphthalene	3100	
88-74-4	2-Nitroaniline	3000	
131-11-3	Dimethyl Phthalate	3000	
208-96-8	Acenaphthylene	3200	

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0029MS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004MS

Sample wt/vol: 30.190 (g/mL) G Lab File ID: 0531-13

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 20 decanted: (Y/N) N Date Extracted: 05/16/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	3300	
99-09-2	3-Nitroaniline	2300	
83-32-9	Acenaphthene (C)	3100	
51-28-5	2,4-Dinitrophenol (P)	3100	
132-64-9	Dibenzofuran	3100	
100-02-7	4-Nitrophenol (P)	3000	
121-14-2	2,4-Dinitrotoluene	3200	
84-66-2	Diethyl Phthalate	3000	
86-73-7	Fluorene	3200	
7005-72-3	4-Chlorophenyl Phenyl Ether	3200	
100-01-6	4-Nitroaniline	3000	
534-52-1	4,6-Dinitro-2-methylphenol	3300	
86-30-6	N-Nitrosodiphenylamine (C) (1)	3200	
101-55-3	4-Bromophenyl Phenyl Ether	3300	
118-74-1	Hexachlorobenzene	3100	
87-86-5	Pentachlorophenol (C)	3000	
85-01-8	Phenanthrene	3200	
120-12-7	Anthracene	3200	
86-74-8	Carbazole	3100	
84-74-2	Di-n-butyl Phthalate	3200	
206-44-0	Fluoranthene (C)	3200	
129-00-0	Pyrene	2800	
85-68-7	Butyl Benzyl Phthalate	3100	
91-94-1	3,3'-Dichlorobenzidine	2400	
56-55-3	Benz(a)anthracene	3200	
218-01-9	Chrysene	3200	
117-81-7	Bis(2-Ethylhexyl) Phthalate	3300	
117-84-0	Di-n-octyl Phthalate (C)	3500	
205-99-2	Benzo(b)fluoranthene	3400	
207-08-9	Benzo(k)fluoranthene	3100	
50-32-8	Benzo(a)pyrene (C)	3100	
193-39-5	Indeno(1,2,3-cd)pyrene	3300	
53-70-3	Dibenz(a,h)anthracene	3100	

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0029MS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004MS

Sample wt/vol: 30.190 (g/mL) G Lab File ID: 0531-13

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 20 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2--------	Benzo(g,h,i)perylene	3200	

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0029MSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004MSD

Sample wt/vol: 30.110 (g/mL) G Lab File ID: 0531-14

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 20 decanted: (Y/N) N Date Extracted: 05/16/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 05/31/02

Injection Volume: NA (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	3700	
111-44-4	Bis(2-Chloroethyl) Ether	3500	
95-57-8	2-Chlorophenol	3500	
541-73-1	1,3-Dichlorobenzene	3300	
106-46-7	1,4-Dichlorobenzene (C)	3300	
100-51-6	Benzyl Alcohol	3600	
95-50-1	1,2-Dichlorobenzene	3400	
108-60-1	Bis(2-chloroisopropyl) Ether	3600	
95-48-7	2-Methylphenol (o-Cresol)	3600	
98-86-2	Acetophenone	210	U
106-44-5	3 and 4-Methylphenol Coeluti	6300	
621-64-7	N-Nitrosodi-n-propylamine (P	3600	
67-72-1	Hexachloroethane	3300	
98-95-3	Nitrobenzene	3500	
78-59-1	Isophorone	3700	
88-75-5	2-Nitrophenol (C)	3700	
105-67-9	2,4-Dimethylphenol	3400	
111-91-1	bis(2-Chloroethoxy)methane	3700	
120-83-2	2,4-Dichlorophenol (C)	3600	
120-82-1	1,2,4-Trichlorobenzene	3500	
91-20-3	Naphthalene	3500	
106-47-8	4-Chloroaniline	2200	
87-68-3	Hexachlorobutadiene (C)	3600	
59-50-7	4-Chloro-3-Methylphenol (C)	3600	
91-57-6	2-Methylnaphthalene	3500	
90-12-0	1-Methylnaphthalene	3600	
77-47-4	Hexachlorocyclopentadiene (P	4000	
88-06-2	2,4,6-Trichlorophenol (C)	3600	
95-95-4	2,4,5-Trichlorophenol	3600	
91-58-7	2-Chloronaphthalene	3600	
88-74-4	2-Nitroaniline	3400	
131-11-3	Dimethyl Phthalate	3500	
208-96-8	Acenaphthylene	3600	

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0029MSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004MSD

Sample wt/vol: 30.110 (g/mL) G Lab File ID: 0531-14

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 20 decanted: (Y/N) N Date Extracted: 05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	3900	
99-09-2	3-Nitroaniline	2600	
83-32-9	Acenaphthene (C)	3600	
51-28-5	2,4-Dinitrophenol (P)	3600	
132-64-9	Dibenzofuran	3500	
100-02-7	4-Nitrophenol (P)	3500	
121-14-2	2,4-Dinitrotoluene	3700	
84-66-2	Diethyl Phthalate	3500	
86-73-7	Fluorene	3600	
7005-72-3	4-Chlorophenyl Phenyl Ether	3600	
100-01-6	4-Nitroaniline	3500	
534-52-1	4,6-Dinitro-2-methylphenol	4000	
86-30-6	N-Nitrosodiphenylamine (C) (1)	3700	
101-55-3	4-Bromophenyl Phenyl Ether	3800	
118-74-1	Hexachlorobenzene	3600	
87-86-5	Pentachlorophenol (C)	3500	
85-01-8	Phenanthrene	3600	
120-12-7	Anthracene	3600	
86-74-8	Carbazole	3600	
84-74-2	Di-n-butyl Phthalate	3700	
206-44-0	Fluoranthene (C)	3700	
129-00-0	Pyrene	3200	
85-68-7	Butyl Benzyl Phthalate	3600	
91-94-1	3,3'-Dichlorobenzidine	2700	
56-55-3	Benz(a)anthracene	3700	
218-01-9	Chrysene	3700	
117-81-7	Bis(2-Ethylhexyl) Phthalate	3800	
117-84-0	Di-n-octyl Phthalate (C)	4000	
205-99-2	Benzo(b)fluoranthene	3800	
207-08-9	Benzo(k)fluoranthene	3600	
50-32-8	Benzo(a)pyrene (C)	3600	
193-39-5	Indeno(1,2,3-cd)pyrene	3900	
53-70-3	Dibenz(a,h)anthracene	3800	

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SO0029MSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201475-004MSD

Sample wt/vol: 30.110 (g/mL) G Lab File ID: 0531-14

Level: (low/med) LOW Date Received: 05/04/02

% Moisture: 20 decanted: (Y/N) N Date Extracted: 05/16/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2--------	Benzo(g,h,i)perylene	3800	

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220184MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220184

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-11

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	170	U
111-44-4	Bis(2-Chloroethyl) Ether	170	U
95-57-8	2-Chlorophenol	170	U
541-73-1	1,3-Dichlorobenzene	170	U
106-46-7	1,4-Dichlorobenzene (C)	170	U
100-51-6	Benzyl Alcohol	170	U
95-50-1	1,2-Dichlorobenzene	170	U
108-60-1	Bis(2-chloroisopropyl) Ether	170	U
95-48-7	2-Methylphenol (o-Cresol)	170	U
98-86-2	Acetophenone	170	U
106-44-5	3 and 4-Methylphenol Coeluti	330	U
621-64-7	N-Nitrosodi-n-propylamine (P	170	U
67-72-1	Hexachloroethane	170	U
98-95-3	Nitrobenzene	170	U
78-59-1	Isophorone	170	U
88-75-5	2-Nitrophenol (C)	170	U
105-67-9	2,4-Dimethylphenol	170	U
111-91-1	bis(2-Chloroethoxy)methane	170	U
120-83-2	2,4-Dichlorophenol (C)	170	U
120-82-1	1,2,4-Trichlorobenzene	170	U
91-20-3	Naphthalene	170	U
106-47-8	4-Chloroaniline	170	U
87-68-3	Hexachlorobutadiene (C)	170	U
59-50-7	4-Chloro-3-Methylphenol (C)	170	U
91-57-6	2-Methylnaphthalene	170	U
90-12-0	1-Methylnaphthalene	170	U
77-47-4	Hexachlorocyclopentadiene (P	170	U
88-06-2	2,4,6-Trichlorophenol (C)	170	U
95-95-4	2,4,5-Trichlorophenol	170	U
91-58-7	2-Chloronaphthalene	170	U
88-74-4	2-Nitroaniline	170	U
131-11-3	Dimethyl Phthalate	170	U
208-96-8	Acenaphthylene	170	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220184MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220184

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-11

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted: 05/16/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	170	U
99-09-2	3-Nitroaniline	170	U
83-32-9	Acenaphthene (C)	170	U
51-28-5	2,4-Dinitrophenol (P)	670	U
132-64-9	Dibenzofuran	170	U
100-02-7	4-Nitrophenol (P)	670	U
121-14-2	2,4-Dinitrotoluene	170	U
84-66-2	Diethyl Phthalate	170	U
86-73-7	Fluorene	170	U
7005-72-3	4-Chlorophenyl Phenyl Ether	170	U
100-01-6	4-Nitroaniline	170	U
534-52-1	4,6-Dinitro-2-methylphenol	670	U
86-30-6	N-Nitrosodiphenylamine (C) (1)	170	U
101-55-3	4-Bromophenyl Phenyl Ether	170	U
118-74-1	Hexachlorobenzene	170	U
87-86-5	Pentachlorophenol (C)	670	U
85-01-8	Phenanthrene	170	U
120-12-7	Anthracene	170	U
86-74-8	Carbazole	170	U
84-74-2	Di-n-butyl Phthalate	170	U
206-44-0	Fluoranthene (C)	170	U
129-00-0	Pyrene	170	U
85-68-7	Butyl Benzyl Phthalate	170	U
91-94-1	3,3'-Dichlorobenzidine	670	U
56-55-3	Benz(a)anthracene	170	U
218-01-9	Chrysene	170	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	63	J
117-84-0	Di-n-octyl Phthalate (C)	170	U
205-99-2	Benzo(b)fluoranthene	170	U
207-08-9	Benzo(k)fluoranthene	170	U
50-32-8	Benzo(a)pyrene (C)	170	U
193-39-5	Indeno(1,2,3-cd)pyrene	170	U
53-70-3	Dibenz(a,h)anthracene	170	U

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220184MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220184

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-11

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted: 05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2--------	Benzo(g,h,i)perylene	170	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220184MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220184LCS

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-12

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted: 05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	2900	
111-44-4	Bis(2-Chloroethyl) Ether	2700	
95-57-8	2-Chlorophenol	2800	
541-73-1	1,3-Dichlorobenzene	2700	
106-46-7	1,4-Dichlorobenzene (C)	2700	
100-51-6	Benzyl Alcohol	2800	
95-50-1	1,2-Dichlorobenzene	2700	
108-60-1	Bis(2-chloroisopropyl) Ether	2800	
95-48-7	2-Methylphenol (o-Cresol)	2800	
98-86-2	Acetophenone	170	U
106-44-5	3 and 4-Methylphenol Coeluti	5000	
621-64-7	N-Nitrosodi-n-propylamine (P	2800	
67-72-1	Hexachloroethane	2700	
98-95-3	Nitrobenzene	2700	
78-59-1	Isophorone	2900	
88-75-5	2-Nitrophenol (C)	2900	
105-67-9	2,4-Dimethylphenol	2700	
111-91-1	bis(2-Chloroethoxy)methane	2900	
120-83-2	2,4-Dichlorophenol (C)	2800	
120-82-1	1,2,4-Trichlorobenzene	2800	
91-20-3	Naphthalene	2800	
106-47-8	4-Chloroaniline	2000	
87-68-3	Hexachlorobutadiene (C)	2900	
59-50-7	4-Chloro-3-Methylphenol (C)	2800	
91-57-6	2-Methylnaphthalene	2800	
90-12-0	1-Methylnaphthalene	2900	
77-47-4	Hexachlorocyclopentadiene (P	3300	
88-06-2	2,4,6-Trichlorophenol (C)	2800	
95-95-4	2,4,5-Trichlorophenol	2900	
91-58-7	2-Chloronaphthalene	2800	
88-74-4	2-Nitroaniline	2800	
131-11-3	Dimethyl Phthalate	2800	
208-96-8	Acenaphthylene	2900	

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220184MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220184LCS

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-12

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted: 05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	3000	
99-09-2	3-Nitroaniline	2200	
83-32-9	Acenaphthene (C)	2800	
51-28-5	2,4-Dinitrophenol (P)	3000	
132-64-9	Dibenzofuran	2800	
100-02-7	4-Nitrophenol (P)	2800	
121-14-2	2,4-Dinitrotoluene	3000	
84-66-2	Diethyl Phthalate	2800	
86-73-7	Fluorene	2900	
7005-72-3	4-Chlorophenyl Phenyl Ether	3000	
100-01-6	4-Nitroaniline	2800	
534-52-1	4,6-Dinitro-2-methylphenol	3200	
86-30-6	N-Nitrosodiphenylamine (C) (1)	3000	
101-55-3	4-Bromophenyl Phenyl Ether	3100	
118-74-1	Hexachlorobenzene	2700	
87-86-5	Pentachlorophenol (C)	2800	
85-01-8	Phenanthrene	3000	
120-12-7	Anthracene	2900	
86-74-8	Carbazole	3000	
84-74-2	Di-n-butyl Phthalate	3000	
206-44-0	Fluoranthene (C)	3000	
129-00-0	Pyrene	2600	
85-68-7	Butyl Benzyl Phthalate	2900	
91-94-1	3,3'-Dichlorobenzidine	2300	
56-55-3	Benz(a)anthracene	3000	
218-01-9	Chrysene	3000	
117-81-7	Bis(2-Ethylhexyl) Phthalate	3100	
117-84-0	Di-n-octyl Phthalate (C)	3300	
205-99-2	Benzo(b)fluoranthene	3100	
207-08-9	Benzo(k)fluoranthene	2900	
50-32-8	Benzo(a)pyrene (C)	2900	
193-39-5	Indeno(1,2,3-cd)pyrene	3100	
53-70-3	Dibenz(a,h)anthracene	2900	

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220184MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220184LCS

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-12

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:05/16/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 05/31/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2	Benzo(g,h,i)perylene	3000	

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220197MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220197

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-19

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__ (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	170	U
111-44-4	Bis(2-Chloroethyl) Ether	170	U
95-57-8	2-Chlorophenol	170	U
541-73-1	1,3-Dichlorobenzene	170	U
106-46-7	1,4-Dichlorobenzene (C)	170	U
100-51-6	Benzyl Alcohol	170	U
95-50-1	1,2-Dichlorobenzene	170	U
108-60-1	Bis(2-chloroisopropyl) Ether	170	U
95-48-7	2-Methylphenol (o-Cresol)	170	U
98-86-2	Acetophenone	170	U
106-44-5	3 and 4-Methylphenol Coeluti	330	U
621-64-7	N-Nitrosodi-n-propylamine (P	170	U
67-72-1	Hexachloroethane	170	U
98-95-3	Nitrobenzene	170	U
78-59-1	Isophorone	170	U
88-75-5	2-Nitrophenol (C)	170	U
105-67-9	2,4-Dimethylphenol	170	U
111-91-1	bis(2-Chloroethoxy)methane	170	U
120-83-2	2,4-Dichlorophenol (C)	170	U
120-82-1	1,2,4-Trichlorobenzene	170	U
91-20-3	Naphthalene	170	U
106-47-8	4-Chloroaniline	170	U
87-68-3	Hexachlorobutadiene (C)	170	U
59-50-7	4-Chloro-3-Methylphenol (C)	170	U
91-57-6	2-Methylnaphthalene	170	U
90-12-0	1-Methylnaphthalene	170	U
77-47-4	Hexachlorocyclopentadiene (P	170	U
88-06-2	2,4,6-Trichlorophenol (C)	170	U
95-95-4	2,4,5-Trichlorophenol	170	U
91-58-7	2-Chloronaphthalene	170	U
88-74-4	2-Nitroaniline	170	U
131-11-3	Dimethyl Phthalate	170	U
208-96-8	Acenaphthylene	170	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220197MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220197

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-19

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	170	U
99-09-2	3-Nitroaniline	170	U
83-32-9	Acenaphthene (C)	170	U
51-28-5	2,4-Dinitrophenol (P)	670	U
132-64-9	Dibenzofuran	170	U
100-02-7	4-Nitrophenol (P)	670	U
121-14-2	2,4-Dinitrotoluene	170	U
84-66-2	Diethyl Phthalate	170	U
86-73-7	Fluorene	170	U
7005-72-3	4-Chlorophenyl Phenyl Ether	170	U
100-01-6	4-Nitroaniline	170	U
534-52-1	4,6-Dinitro-2-methylphenol	670	U
86-30-6	N-Nitrosodiphenylamine (C) (1)	170	U
101-55-3	4-Bromophenyl Phenyl Ether	170	U
118-74-1	Hexachlorobenzene	170	U
87-86-5	Pentachlorophenol (C)	670	U
85-01-8	Phenanthrene	170	U
120-12-7	Anthracene	170	U
86-74-8	Carbazole	170	U
84-74-2	Di-n-butyl Phthalate	170	U
206-44-0	Fluoranthene (C)	170	U
129-00-0	Pyrene	170	U
85-68-7	Butyl Benzyl Phthalate	170	U
91-94-1	3,3'-Dichlorobenzidine	670	U
56-55-3	Benz(a)anthracene	170	U
218-01-9	Chrysene	170	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	170	U
117-84-0	Di-n-octyl Phthalate (C)	170	U
205-99-2	Benzo(b)fluoranthene	170	U
207-08-9	Benzo(k)fluoranthene	170	U
50-32-8	Benzo(a)pyrene (C)	170	U
193-39-5	Indeno(1,2,3-cd)pyrene	170	U
53-70-3	Dibenz(a,h)anthracene	170	U

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220197MB

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220197

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-19

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__ (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2	Benzo(g,h,i)perylene	170	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220197MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220197LCS

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-20

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	2600	
111-44-4	Bis(2-Chloroethyl) Ether	2400	
95-57-8	2-Chlorophenol	2500	
541-73-1	1,3-Dichlorobenzene	2400	
106-46-7	1,4-Dichlorobenzene (C)	2400	
100-51-6	Benzyl Alcohol	2600	
95-50-1	1,2-Dichlorobenzene	2400	
108-60-1	Bis(2-chloroisopropyl) Ether	2500	
95-48-7	2-Methylphenol (o-Cresol)	2600	
98-86-2	Acetophenone	170	U
106-44-5	3 and 4-Methylphenol Coeluti	4600	
621-64-7	N-Nitrosodi-n-propylamine (P	2600	
67-72-1	Hexachloroethane	2400	
98-95-3	Nitrobenzene	2400	
78-59-1	Isophorone	2600	
88-75-5	2-Nitrophenol (C)	2600	
105-67-9	2,4-Dimethylphenol	2300	
111-91-1	bis(2-Chloroethoxy)methane	2600	
120-83-2	2,4-Dichlorophenol (C)	2500	
120-82-1	1,2,4-Trichlorobenzene	2500	
91-20-3	Naphthalene	2500	
106-47-8	4-Chloroaniline	2000	
87-68-3	Hexachlorobutadiene (C)	2600	
59-50-7	4-Chloro-3-Methylphenol (C)	2500	
91-57-6	2-Methylnaphthalene	2500	
90-12-0	1-Methylnaphthalene	2600	
77-47-4	Hexachlorocyclopentadiene (P	2900	
88-06-2	2,4,6-Trichlorophenol (C)	2600	
95-95-4	2,4,5-Trichlorophenol	2600	
91-58-7	2-Chloronaphthalene	2600	
88-74-4	2-Nitroaniline	2500	
131-11-3	Dimethyl Phthalate	2500	
208-96-8	Acenaphthylene	2600	

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220197MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220197LCS

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-20

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	2700	
99-09-2	3-Nitroaniline	2100	
83-32-9	Acenaphthene (C)	2600	
51-28-5	2,4-Dinitrophenol (P)	2700	
132-64-9	Dibenzofuran	2500	
100-02-7	4-Nitrophenol (P)	2500	
121-14-2	2,4-Dinitrotoluene	2700	
84-66-2	Diethyl Phthalate	2500	
86-73-7	Fluorene	2600	
7005-72-3	4-Chlorophenyl Phenyl Ether	2600	
100-01-6	4-Nitroaniline	2500	
534-52-1	4,6-Dinitro-2-methylphenol	2800	
86-30-6	N-Nitrosodiphenylamine (C) (1)	2700	
101-55-3	4-Bromophenyl Phenyl Ether	2800	
118-74-1	Hexachlorobenzene	2100	
87-86-5	Pentachlorophenol (C)	2600	
85-01-8	Phenanthrene	2600	
120-12-7	Anthracene	2600	
86-74-8	Carbazole	2600	
84-74-2	Di-n-butyl Phthalate	2700	
206-44-0	Fluoranthene (C)	2700	
129-00-0	Pyrene	2300	
85-68-7	Butyl Benzyl Phthalate	2600	
91-94-1	3,3'-Dichlorobenzidine	2200	
56-55-3	Benz(a)anthracene	2700	
218-01-9	Chrysene	2700	
117-81-7	Bis(2-Ethylhexyl) Phthalate	2800	
117-84-0	Di-n-octyl Phthalate (C)	2900	
205-99-2	Benzo(b)fluoranthene	2600	
207-08-9	Benzo(k)fluoranthene	2800	
50-32-8	Benzo(a)pyrene (C)	2700	
193-39-5	Indeno(1,2,3-cd)pyrene	2700	
53-70-3	Dibenz(a,h)anthracene	2600	

(1) - Cannot be separated from Diphenylamine.

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EX220197MBLCS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: EX220197LCS

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-20

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__ (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2	Benzo(g,h,i)perylene	2600	

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BATCH QC

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021RE

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-23

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 19 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	200	U
111-44-4	Bis(2-Chloroethyl) Ether	200	U
95-57-8	2-Chlorophenol	200	U
541-73-1	1,3-Dichlorobenzene	200	U
106-46-7	1,4-Dichlorobenzene (C)	200	U
100-51-6	Benzyl Alcohol	200	U
95-50-1	1,2-Dichlorobenzene	200	U
108-60-1	Bis(2-chloroisopropyl) Ether	200	U
95-48-7	2-Methylphenol (o-Cresol)	200	U
98-86-2	Acetophenone	200	U
106-44-5	3 and 4-Methylphenol Coeluti	410	U
621-64-7	N-Nitrosodi-n-propylamine (P	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol (C)	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	bis(2-Chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol (C)	200	U
120-82-1	1,2,4-Trichlorobenzene	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene (C)	200	U
59-50-7	4-Chloro-3-Methylphenol (C)	200	U
91-57-6	2-Methylnaphthalene	200	U
90-12-0	1-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene (P	200	U
88-06-2	2,4,6-Trichlorophenol (C)	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	200	U
131-11-3	Dimethyl Phthalate	200	U
208-96-8	Acenaphthylene	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BATCH QC

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021RE

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-23

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 19 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	200	U
99-09-2	3-Nitroaniline	200	U
83-32-9	Acenaphthene (C)	200	U
51-28-5	2,4-Dinitrophenol (P)	810	U
132-64-9	Dibenzofuran	200	U
100-02-7	4-Nitrophenol (P)	810	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethyl Phthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl Phenyl Ether	200	U
100-01-6	4-Nitroaniline	200	U
534-52-1	4,6-Dinitro-2-methylphenol	810	U
86-30-6	N-Nitrosodiphenylamine (C) (1)	200	U
101-55-3	4-Bromophenyl Phenyl Ether	200	U
118-74-1	Hexachlorobenzene	200	U
87-86-5	Pentachlorophenol (C)	810	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butyl Phthalate	200	U
206-44-0	Fluoranthene (C)	200	U
129-00-0	Pyrene	200	U
85-68-7	Butyl Benzyl Phthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	810	U
56-55-3	Benz(a)anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-Ethylhexyl) Phthalate	200	U
117-84-0	Di-n-octyl Phthalate (C)	200	U
205-99-2	Benzo(b)fluoranthene	200	U
207-08-9	Benzo(k)fluoranthene	200	U
50-32-8	Benzo(a)pyrene (C)	200	U
193-39-5	Indeno(1,2,3-cd)pyrene	200	U
53-70-3	Dibenz(a,h)anthracene	200	U

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BATCH QC

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021RE

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-23

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 19 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2	--------Benzo(g,h,i)perylene_____	200	U

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BATCH QCMS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021REMS

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-21

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 19 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	3500	
111-44-4	Bis(2-Chloroethyl) Ether	2900	
95-57-8	2-Chlorophenol	3200	
541-73-1	1,3-Dichlorobenzene	1100	
106-46-7	1,4-Dichlorobenzene (C)	1200	
100-51-6	Benzyl Alcohol	3500	
95-50-1	1,2-Dichlorobenzene	1400	
108-60-1	Bis(2-chloroisopropyl) Ether	2800	
95-48-7	2-Methylphenol (o-Cresol)	3500	
98-86-2	Acetophenone	210	U
106-44-5	3 and 4-Methylphenol Coeluti	6200	
621-64-7	N-Nitrosodi-n-propylamine (P	3400	
67-72-1	Hexachloroethane	1100	
98-95-3	Nitrobenzene	2900	
78-59-1	Isophorone	3500	
88-75-5	2-Nitrophenol (C)	3400	
105-67-9	2,4-Dimethylphenol	3300	
111-91-1	bis(2-Chloroethoxy)methane	3400	
120-83-2	2,4-Dichlorophenol (C)	3400	
120-82-1	1,2,4-Trichlorobenzene	2000	
91-20-3	Naphthalene	2500	
106-47-8	4-Chloroaniline	3100	
87-68-3	Hexachlorobutadiene (C)	1600	
59-50-7	4-Chloro-3-Methylphenol (C)	3500	
91-57-6	2-Methylnaphthalene	2800	
90-12-0	1-Methylnaphthalene	3000	
77-47-4	Hexachlorocyclopentadiene (P	2500	
88-06-2	2,4,6-Trichlorophenol (C)	3500	
95-95-4	2,4,5-Trichlorophenol	3600	
91-58-7	2-Chloronaphthalene	3100	
88-74-4	2-Nitroaniline	3400	
131-11-3	Dimethyl Phthalate	3400	
208-96-8	Acenaphthylene	3400	

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BATCH QCMS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021REMS

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-21

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 19 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	3800	
99-09-2	3-Nitroaniline	3300	
83-32-9	Acenaphthene (C)	3300	
51-28-5	2,4-Dinitrophenol (P)	3000	
132-64-9	Dibenzofuran	3300	
100-02-7	4-Nitrophenol (P)	3400	
121-14-2	2,4-Dinitrotoluene	3600	
84-66-2	Diethyl Phthalate	3400	
86-73-7	Fluorene	3500	
7005-72-3	4-Chlorophenyl Phenyl Ether	3500	
100-01-6	4-Nitroaniline	3500	
534-52-1	4,6-Dinitro-2-methylphenol	3900	
86-30-6	N-Nitrosodiphenylamine (C) (1)	3600	
101-55-3	4-Bromophenyl Phenyl Ether	3600	
118-74-1	Hexachlorobenzene	3400	
87-86-5	Pentachlorophenol (C)	3500	
85-01-8	Phenanthrene	3500	
120-12-7	Anthracene	3600	
86-74-8	Carbazole	3500	
84-74-2	Di-n-butyl Phthalate	3600	
206-44-0	Fluoranthene (C)	3600	
129-00-0	Pyrene	3000	
85-68-7	Butyl Benzyl Phthalate	3400	
91-94-1	3,3'-Dichlorobenzidine	3100	
56-55-3	Benz(a)anthracene	3700	
218-01-9	Chrysene	3600	
117-81-7	Bis(2-Ethylhexyl) Phthalate	3800	
117-84-0	Di-n-octyl Phthalate (C)	4100	
205-99-2	Benzo(b)fluoranthene	3600	
207-08-9	Benzo(k)fluoranthene	3700	
50-32-8	Benzo(a)pyrene (C)	3600	
193-39-5	Indeno(1,2,3-cd)pyrene	3900	
53-70-3	Dibenz(a,h)anthracene	3700	

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BATCH QCMS

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021REMS

Sample wt/vol: 30.000 (g/mL) G Lab File ID: 0531-21

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 19 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2--------	Benzo(g,h,i)perylene	3700	

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BATCH QCMSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021REMSD

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-22

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 19 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol (C)	4200	
111-44-4	Bis(2-Chloroethyl) Ether	3200	
95-57-8	2-Chlorophenol	3700	
541-73-1	1,3-Dichlorobenzene	1100	
106-46-7	1,4-Dichlorobenzene (C)	1100	
100-51-6	Benzyl Alcohol	4200	
95-50-1	1,2-Dichlorobenzene	1300	
108-60-1	Bis(2-chloroisopropyl) Ether	2800	
95-48-7	2-Methylphenol (o-Cresol)	4000	
98-86-2	Acetophenone	200	U
106-44-5	3 and 4-Methylphenol Coeluti	7300	E
621-64-7	N-Nitrosodi-n-propylamine (P	3800	
67-72-1	Hexachloroethane	1100	
98-95-3	Nitrobenzene	3200	
78-59-1	Isophorone	4000	
88-75-5	2-Nitrophenol (C)	3900	
105-67-9	2,4-Dimethylphenol	3700	
111-91-1	bis(2-Chloroethoxy)methane	3900	
120-83-2	2,4-Dichlorophenol (C)	4000	
120-82-1	1,2,4-Trichlorobenzene	2000	
91-20-3	Naphthalene	2500	
106-47-8	4-Chloroaniline	2800	
87-68-3	Hexachlorobutadiene (C)	1700	
59-50-7	4-Chloro-3-Methylphenol (C)	4000	
91-57-6	2-Methylnaphthalene	3100	
90-12-0	1-Methylnaphthalene	3300	
77-47-4	Hexachlorocyclopentadiene (P	2700	
88-06-2	2,4,6-Trichlorophenol (C)	4200	
95-95-4	2,4,5-Trichlorophenol	4100	
91-58-7	2-Chloronaphthalene	3500	
88-74-4	2-Nitroaniline	3900	
131-11-3	Dimethyl Phthalate	3900	
208-96-8	Acenaphthylene	3800	

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BATCH QCMSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021REMSD

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-22

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 19 decanted: (Y/N) N Date Extracted: 05/28/02

Concentrated Extract Volume: 1.0 (ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
606-20-2	2,6-Dinitrotoluene	4300	
99-09-2	3-Nitroaniline	3300	
83-32-9	Acenaphthene (C)	3700	
51-28-5	2,4-Dinitrophenol (P)	3400	
132-64-9	Dibenzofuran	3700	
100-02-7	4-Nitrophenol (P)	3800	
121-14-2	2,4-Dinitrotoluene	4100	
84-66-2	Diethyl Phthalate	3800	
86-73-7	Fluorene	3900	
7005-72-3	4-Chlorophenyl Phenyl Ether	3900	
100-01-6	4-Nitroaniline	4000	
534-52-1	4,6-Dinitro-2-methylphenol	4400	
86-30-6	N-Nitrosodiphenylamine (C) (1)	4000	
101-55-3	4-Bromophenyl Phenyl Ether	4200	
118-74-1	Hexachlorobenzene	4200	
87-86-5	Pentachlorophenol (C)	3900	
85-01-8	Phenanthrene	3900	
120-12-7	Anthracene	4000	
86-74-8	Carbazole	3900	
84-74-2	Di-n-butyl Phthalate	4000	
206-44-0	Fluoranthene (C)	4000	
129-00-0	Pyrene	3600	
85-68-7	Butyl Benzyl Phthalate	3900	
91-94-1	3,3'-Dichlorobenzidine	3400	
56-55-3	Benz(a)anthracene	4200	
218-01-9	Chrysene	4100	
117-81-7	Bis(2-Ethylhexyl) Phthalate	4300	
117-84-0	Di-n-octyl Phthalate (C)	4700	
205-99-2	Benzo(b)fluoranthene	4200	
207-08-9	Benzo(k)fluoranthene	4100	
50-32-8	Benzo(a)pyrene (C)	4100	
193-39-5	Indeno(1,2,3-cd)pyrene	4600	
53-70-3	Dibenz(a,h)anthracene	4400	

(1) - Cannot be separated from Diphenylamine

FORM I SV

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

BATCH QCMSD

Lab Name: COLUMBIA ANALYTICAL SERVI Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: NA

Matrix: (soil/water) SOIL Lab Sample ID: J2201466-021REMSD

Sample wt/vol: 30.500 (g/mL) G Lab File ID: 0531-22

Level: (low/med) LOW Date Received: 05/03/02

% Moisture: 19 decanted: (Y/N) N Date Extracted:05/28/02

Concentrated Extract Volume: 1.0(ml) Date Analyzed: 06/01/02

Injection Volume: ___NA__(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
191-24-2	Benzo(g,h,i)perylene	4300	

FORM I SV

Columbia Analytical Services™
An Employee-Owned Company

Columbia Analytical Services
8540 Baymeadows Road
Jacksonville, FL 32256
Tel 904-739-2277
Fax 904-739-2011

Cations

CASE NARRATIVE
Inorganic Analysis

CAS Lab Reference No./SDG#: J2201475

Client/Project: Exponent / IP Wilmington / 8601269.003

I. RECEIPT

No exceptions were encountered unless noted on the Cooler Receipt and Preservation Form included with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHOD

Preparation: 3020 / 3050B

Analysis: 6020

IV. PREPARATION

Sample preparation proceeded normally.

V. ANALYSIS

A. Calibration: All acceptance criteria were met.

B. Blanks: The Continuing Calibration and Preparation Blanks have values greater than the MDL but less than the MRL and are flagged by "B" qualifiers on Form 3.

C. Spikes: All acceptance criteria were met.

D. Duplicates: All acceptance criteria were met.

E. Samples: The soil samples are flagged by "E" qualifiers because the serial dilution is outside of acceptance criteria. However, the post digestion spike is acceptable therefore no corrective action was taken.

I certify that this data package is in compliance with the terms and conditions agreed to by Columbia Analytical Services, Inc. and by the client, both technically, and for completeness, except for the conditions detailed above. 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:

Signed: Martha Montero Date: 5/30/02

Martha Montero
Operations Manager

TOTAL METALS
- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Contract: Exponent SDG No.: J2201475

Lab Code: JAX Case No.: 8601269.003 SAS No.:

SOW No.: 6020

Sample No.	Lab Sample ID.
BATCH QC	J2201428-001
BATCH QCS	J2201428-001S
BATCH QCSD	J2201428-001SD
SO0026	J2201475-001
SO0027	J2201475-002
SO0028	J2201475-003
SO0029	J2201475-004
SO0029S	J2201475-004S
SO0029SD	J2201475-004SD
GW0018	J2201475-006

Were ICP interelement corrections applied? Yes/No NA

Were ICP background corrections applied? Yes/No NA

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 floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Martha Montero Name: Martha Montero

Date: 5/30/02 Title: Operations Manager.

Columbia Analytical Services
An Employee-Owned Company

Columbia Analytical Services
8340 Baycenter Road
Jacksonville, FL 32256
Tel 904.739.2277
Fax 904.739.2011

Sample Data

TOTAL METALS
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BATCH QC

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201475

Matrix (soil/water): WATER Lab Sample ID: J2201428-001

Level (low/med): LOW Date Received:

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.507			MS
7440-47-3	Chromium	0.459	B		MS
7440-50-8	Copper	1.340	B		MS
7439-92-1	Lead	0.148	B		MS
7782-49-2	Selenium	1.20	U		MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

TOTAL METALS
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
GW0018

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201475

Matrix (soil/water): WATER Lab Sample ID: J2201475-006

Level (low/med): LOW Date Received: 05/04/2002

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.307	B		MS
7440-47-3	Chromium	0.237	B		MS
7440-50-8	Copper	4.460			MS
7439-92-1	Lead	0.096	B		MS
7782-49-2	Selenium	1.20	U		MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

TOTAL METALS
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
SO0026

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201475

Matrix (soil/water): SOIL Lab Sample ID: J2201475-001

Level (low/med): LOW Date Received: 05/04/2002

% Solids: 83.2

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	0.769			MS
7440-47-3	Chromium	14.9		E	MS
7440-50-8	Copper	2.450			MS
7439-92-1	Lead	6.240			MS
7782-49-2	Selenium	1.35	U		MS

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

TOTAL METALS

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

SO0027

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201475

Matrix (soil/water): SOIL Lab Sample ID: J2201475-002

Level (low/med): LOW Date Received: 05/04/2002

% Solids: 81.1

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	2.120			MS
7440-47-3	Chromium	5.620		E	MS
7440-50-8	Copper	0.567	B		MS
7439-92-1	Lead	3.310			MS
7782-49-2	Selenium	1.45	U		MS

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

TOTAL METALS
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
SO0028

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201475

Matrix (soil/water): SOIL Lab Sample ID: J2201475-003

Level (low/med): LOW Date Received: 05/04/2002

% Solids: 82.1

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	4.600			MS
7440-47-3	Chromium	22.5		E	MS
7440-50-8	Copper	3.440			MS
7439-92-1	Lead	7.820			MS
7782-49-2	Selenium	1.45	U		MS

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

TOTAL METALS
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
SO0029

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201475

Matrix (soil/water): SOIL Lab Sample ID: J2201475-004

Level (low/med): LOW Date Received: 05/04/2002

% Solids: 80.4

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

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.040			MS
7440-47-3	Chromium	7.040		E	MS
7440-50-8	Copper	1.070	B		MS
7439-92-1	Lead	4.000			MS
7782-49-2	Selenium	1.45	U		MS

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

TOTAL METALS
- 2a -
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201475

Initial Calibration Source: INORGANIC / ENVIRONMENTAL

Continuing Calibration Source: CPI / ULTRA / INORGANIC

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Arsenic	50	45.2	90	25	25.1	100	25.3	101	MS
Chromium	20	19.3	96	25	25.2	101	26.4	106	MS
Copper	25	24.4	98	25	25.8	103	26.6	106	MS
Lead	50	46.8	94	25	25.2	101	25.1	100	MS
Selenium	50	47.3	95	25	24.9	100	25.5	102	MS

TOTAL METALS
- 2a -
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201475

Initial Calibration Source:

Continuing Calibration Source: CPI / ULTRA / INORGANIC

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Arsenic				25	25.3	101			MS
Chromium				25	25.4	102			MS
Copper				25	25.9	104			MS
Lead				25	25.4	102			MS
Selenium				25	25.0	100			MS

TOTAL METALS
- 2a -
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201475

Initial Calibration Source: INORGANIC / ENVIRONMENTAL

Continuing Calibration Source: CPI / ULTRA / INORGANIC

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic	50	48.8	98	25	24.4	98	23.7	95	MS
Chromium	20	20.3	101	25	24.6	98	24.5	98	MS
Copper	25	24.6	98	25	24.0	96	23.8	95	MS
Lead	50	48.9	98	25	24.6	98	23.8	95	MS
Selenium	50	50.6	101	25	24.6	98	24.1	96	MS

TOTAL METALS
- 2a -
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201475

Initial Calibration Source:

Continuing Calibration Source: CPI / ULTRA / INORGANIC

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Arsenic				25	23.5	94			MS
Chromium				25	24.1	96			MS
Copper				25	23.0	92			MS
Lead				25	24.1	96			MS
Selenium				25	24.0	96			MS

TOTAL METALS

- 2b -

CRDL STANDARD FOR AA AND ICP

Contract: Exponent

Lab Code: JAX Case No.: 8601269.0 SAS No.: SDG No.: J2201475

AA CRDL Standard Source:

ICP CRDL Standard Source: CPI / ULTRA / INORGANIC

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
				Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Arsenic				0.50	0.39	78		
Chromium				2.0	2.08	104		
Copper				2.0	2.40	120		
Lead				1.0	0.97	97		
Selenium				2.0	1.95	98		

no control limits

TOTAL METALS

- 2b -

CRDL STANDARD FOR AA AND ICP

Contract: Exponent

Lab Code: JAX Case No.: 8601269.0 SAS No.: SDG No.: J2201475

AA CRDL Standard Source:

ICP CRDL Standard Source: CPI / ULTRA / INORGANIC

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
				Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Arsenic				0.50	0.45	90	0.560	112
Chromium				2.0	1.90	95	1.91	96
Copper				2.0	2.05	103	2.07	104
Lead				1.0	0.92	92	0.983	98
Selenium				2.0	1.94	97	1.90	95

TOTAL METALS
- 3 -
BLANKS

Contract: Exponent

Lab Code: JAX Case No.: 8601269.0 SAS No.: SDG NO.: J2201475

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
Arsenic	0.260	U	0.260	U	0.260	U	0.260	U	0.260	U	MS
Chromium	0.160	U	0.160	U	0.160	U	0.160	U	0.260	B	MS
Copper	0.088	U	0.088	U	0.09	U	0.088	U	0.819	B	MS
Lead	0.065	U	0.065	U	0.07	U	0.065	U	0.065	U	MS
Selenium	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U	MS

Action limits

Cr 0.260 x 5 = 1.3

Cu 0.819 x 5 = 4.1

TOTAL METALS
- 3 -
BLANKS

Contract: Exponent

Lab Code: JAX Case No.: 8601269.0 SAS No.: SDG NO.: J2201475

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
Arsenic	0.350	U	0.350	U	0.350	U	0.350	U	0.350	U	MS
Chromium	0.077	U	0.077	U	0.08	U	-0.080	B	0.392	B	MS
Copper	0.120	U	0.120	U	0.120	U	0.120	U	0.120	U	MS
Lead	0.063	U	0.063	U	0.06	U	0.063	U	0.063	U	MS
Selenium	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U	MS

Action limits

Cr = 0.392 x 5 = 1.96

TOTAL METALS

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Contract: Exponent

Lab Code: JAX Case No.: 8601269.0 SAS No.: SDG NO.: J2201475

ICP ID Number: VG ICPMS ICS Source: INORGANIC

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Arsenic		20	0.006	20.6	103			
Chromium		20	0.212	20.1	101			
Copper		20	0.218	19.9	100			
Lead			0.125	0.118				
Selenium			0.079	0.003				

TOTAL METALS

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Contract: Exponent

Lab Code: JAX Case No.: 8601269.0 SAS No.: SDG NO.: J2201475

ICP ID Number: VG ICPMS ICS Source: INORGANIC

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Arsenic		20	0.003	20.6	103			
Chromium		20	0.169	20.7	104			
Copper		20	0.110	19.1	96			
Lead			0.088	0.066				
Selenium			-0.040	-0.040				

TOTAL METALS

- 5a -

SPIKE SAMPLE RECOVERY

SAMPLE NO.

BATCH QCS

Contract: Exponent

Lab Code: JAX Case No.: 8601269.0 SAS No.: SDG NO.: J2201475

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic	75 - 125	60.8		0.507		50.0	121		MS
Chromium	75 - 125	55.2		0.459	B	50.0	109		MS
Copper	75 - 125	52.5		1.340	B	50.0	102		MS
Lead	75 - 125	49.9		0.148	B	50.0	100		MS
Selenium	75 - 125	52.6		1.200	U	50.0	105		MS

ments:

TOTAL METALS

- 5a -

SPIKE SAMPLE RECOVERY

SAMPLE NO.

BATCH QCSD

Contract: Exponent

Lab Code: JAX Case No.: 8601269.0 SAS No.: SDG NO.: J2201475

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic	75 - 125	59.7		0.507		50.0	118		MS
Chromium	75 - 125	54.3		0.459	B	50.0	108		MS
Copper	75 - 125	51.2		1.340	B	50.0	100		MS
Lead	75 - 125	49.2		0.148	B	50.0	98		MS
Selenium	75 - 125	51.5		1.200	U	50.0	103		MS

Comments:

TOTAL METALS

- 5a -

SPIKE SAMPLE RECOVERY

SAMPLE NO.

S00029S

Contract: Exponent

Lab Code: JAX Case No.: 8601269.0 SAS No.: SDG NO.: J2201475

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 80.4

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic	75 - 125	123		7.040		121	96		MS
Chromium	75 - 125	131		7.040		121	102		MS
Copper	75 - 125	117		1.070	B	121	96		MS
Lead	75 - 125	237		4.000		242	96		MS
Selenium	75 - 125	116		1.450	U	121	96		MS

Comments:

TOTAL METALS

- 5a -

SPIKE SAMPLE RECOVERY

SAMPLE NO.

SO0029SD

Contract: Exponent

Lab Code: JAX Case No.: 8601269.0 SAS No.: SDG NO.: J2201475

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 80.4

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic	75 - 125	128		7.040		121	100		MS
Chromium	75 - 125	133		7.040		121	104		MS
Copper	75 - 125	116		1.070	B	121	95		MS
Lead	75 - 125	240		4.000		242	98		MS
Selenium	75 - 125	119		1.450	U	121	98		MS

Comments:

TOTAL METALS
- 5b -
POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

BATCH QCAS

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201475

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic		22.4		0.507		20.0	109		MS
Chromium		20.4		0.459	B	20.0	100		MS
Copper		22.2		1.34	B	20.0	104		MS
Lead		18.9		0.148	B	20.0	94		MS
Selenium		19.2		1.20	U	20.0	96		MS

ments:

TOTAL METALS
- 5b -
POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

S00029AS

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201475

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic		25.2		5.83		20.0	97		MS
Chromium		25.2		5.83		20.0	97		MS
Copper		19.4		0.885	B	20.0	93		MS
Lead		22.5		3.31		20.0	96		MS
Selenium		19.0		1.20	U	20.0	95		MS

Comments:

TOTAL METALS
- 6 -
DUPLICATES

SAMPLE NO.

BATCH QCSD

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201475

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate:

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Arsenic		60.8		59.7		2		MS
Chromium		55.2		54.3		2		MS
Copper		52.5		51.2		3		MS
Lead		49.9		49.2		1		MS
Selenium		52.6		51.5		2		MS

TOTAL METALS
- 6 -
DUPLICATES

SAMPLE NO.

SO0029SD

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201475

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 80.4 % Solids for Duplicate: 80.4

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Arsenic		123		128		4		MS
Chromium		131		133		2		MS
Copper		117		116		1		MS
Lead		237		240		1		MS
Selenium		116		119		3		MS

TOTAL METALS
- 7 -
LABORATORY CONTROL SAMPLE

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201475

Solid LCS Source:

Aqueous LCS Source: CPI

Analyte	Aqueous ug/L True	Found	%R	Solid (mg/kg) True	Found	C	Limits	%R
Arsenic	50.0	54.7	109					
Chromium	50.0	51.0	102					
Copper	50.0	50.8	102					
Lead	50.0	52.3	105					
Selenium	50.0	48.4	97					

TOTAL METALS
- 7 -
LABORATORY CONTROL SAMPLE

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201475

Solid LCS Source: CPI

Aqueous LCS Source: CPI

Analyte	Aqueous mg/L True	Aqueous mg/L Found	Aqueous mg/L %R	Solid (mg/kg) True	Solid (mg/kg) Found	C	Limits		%R
Arsenic				100	102		80.0	120	102
Chromium				100	101		80.0	120	101
Copper				100	94.1		80.0	120	94
Lead				200	197		80.0	120	99
Selenium				100	99.0		80.0	120	99

TOTAL METALS
- 9 -
ICP SERIAL DILUTIONS

SAMPLE NO.

BATCH QCL

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201475

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Arsenic	0.507		1.30	U			MS
Chromium	0.459	B	1.04	B	127		MS
Copper	1.34	B	1.76	B	31		MS
Lead	0.148	B	0.395	B	168		MS
Selenium	1.20	U	6.00	U			MS

TOTAL METALS
- 9 -
ICP SERIAL DILUTIONS

SAMPLE NO.

S00029L

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201475

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Arsenic	5.83		6.03		3		MS
Chromium	5.83		6.78	B	16	E	MS
Copper	0.885	B	1.19	B	35		MS
Lead	3.31		3.36	B	1		MS
Selenium	1.20	U	6.00	U			MS

TOTAL METALS
-10-
METHOD DETECTION LIMITS

Contract: Exponent

Lab Code: JAX Case No.: 8601269.0 SAS No.: SDG NO.: J2201475

ICP ID Number: VG ICPMS Date: 8/10/01

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Mass	Back-ground	MRL (ug/L)	MDL (ug/L)	M
Arsenic	75		0.500	0.260	MS
Chromium	52		2.000	0.160	MS
Copper	65		2.000	0.088	MS
Lead	208		1.000	0.065	MS
Selenium	82		2.000	1.200	MS

Comments Water MDL mm 5/30/01

TOTAL METALS
-10-
METHOD DETECTION LIMITS

Contract: Exponent

Lab Code: JAX Case No.: 8601269.0 SAS No.: SDG NO.: J2201475

ICP ID Number: VG ICPMS Date: 4/4/01

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Mass	Back-ground	MRL (ug/L)	MDL (ug/L)	M
Arsenic	75		0.500	0.350	MS
Chromium	52		2.000	0.077	MS
Copper	65		2.000	0.120	MS
Lead	208		1.000	0.063	MS
Selenium	82		2.000	1.200	MS

Comments Soil mol mm 5/30/01

TOTAL METALS
- 12 -
ICP LINEAR RANGES

tract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201475

ICP ID Number: VG ICPMS Date: 4/20/02

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Arsenic	15.00	600.0	MS
Chromium	15.00	600.0	MS
Copper	15.00	600.0	MS
Lead	15.00	300.0	MS
Selenium	15.00	100.0	MS

Comments:

TOTAL METALS
- 13 -
PREPARATION LOG

Contract: Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG NO.: J2201475

Method MS

Sample No.	Preparation Date	Weight (grams)	Volume (mL)
BATCH QC	5/7/02		25
BATCH QCS	5/7/02		25
BATCH QCSD	5/7/02		25
GW0018	5/7/02		25
LCSW	5/7/02		25
PBW	5/7/02		25
LCSS	5/18/02	1.00	50
PBS	5/18/02	1.00	50
SO0026	5/18/02	1.07	50
SO0027	5/18/02	1.02	50
SO0028	5/18/02	1.01	50
SO0029	5/18/02	1.03	50
SO0029S	5/18/02	1.03	50
SO0029SD	5/18/02	1.03	50

TOTAL METALS
- 14 -
ANALYSIS RUN LOG

Contract Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG No.: J2201475

Instrument ID Number: VG ICPMS Method: MS

Start Date: 5/21/02 End Date: 5/21/02

Sample ID.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Calibration Blank	1.00	01:27				X					X		X		X						X						
Calibration Standard	1.00	01:33				X					X		X		X						X						
Calibration Standard	1.00	01:38				X					X		X		X						X						
ICV2	1.00	01:42				X					X		X		X						X						
ICB2	1.00	01:48				X					X		X		X						X						
CRDL1	1.00	01:53				X					X		X		X						X						
ICS-A1	1.00	01:59				X					X		X		X						X						
ICS-AB1	1.00	02:04				X					X		X		X						X						
CCV1	1.00	02:10				X					X		X		X						X						
CCB1	1.00	02:15				X					X		X		X						X						
PBS	20.00	02:21				X					X		X		X						X						
LCSS	50.00	02:26				X					X		X		X						X						
SO0029	20.00	02:32				X					X		X		X						X						
SO0029S	50.00	02:37				X					X		X		X						X						
SO0029SD	50.00	02:43				X					X		X		X						X						
SO0029L	100.00	02:48				X					X		X		X						X						
SO0029AS	20.00	02:54				X					X		X		X						X						
SO0026	20.00	02:59				X					X		X		X						X						
SO0027	20.00	03:05				X					X		X		X						X						
SO0028	20.00	03:10				X					X		X		X						X						
CCV2	1.00	03:16				X					X		X		X						X						
CCB2	1.00	03:21				X					X		X		X						X						
ZZZZZZ	20.00	03:27																									
ZZZZZZ	20.00	03:32																									
ZZZZZZ	20.00	03:38																									
ZZZZZZ	1.00	03:43																									
ZZZZZZ	1.00	03:49																									
ZZZZZZ	1.00	03:54																									
ZZZZZZ	1.00	04:00																									
CRDL2	1.00	04:05				X					X		X		X						X						
CCV3	1.00	04:11				X					X		X		X						X						
CCB3	1.00	04:16				X					X		X		X						X						

* - Denotes additional elements (other than the standard elements) are represented on another Form 14

TOTAL METALS
- 14 -
ANALYSIS RUN LOG

Contract Exponent

Lab Code: JAX Case No.: 8601269. SAS No.: SDG No.: J2201475

Instrument ID Number: VG ICPMS Method: MS

Start Date: 5/10/02 End Date: 5/10/02

Sample ID.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Calibration Blank	1.00	01:51				X					X		X		X						X						
Calibration Standard	1.00	01:56				X					X		X		X						X						
Calibration Standard	1.00	02:01				X					X		X		X						X						
ICV1	1.00	02:06				X					X		X		X						X						
ICB1	1.00	02:11				X					X		X		X						X						
CRDL1	1.00	02:16				X					X		X		X						X						
ICS-A1	1.00	02:22				X					X		X		X						X						
ICS-AB1	1.00	02:27				X					X		X		X						X						
CCV1	1.00	02:32				X					X		X		X						X						
CCB1	1.00	02:38				X					X		X		X						X						
PBW	1.00	02:43				X					X		X		X						X						
LCSW	1.00	02:48				X					X		X		X						X						
BATCH QC	1.00	02:54				X					X		X		X						X						
BATCH QCS	1.00	02:59				X					X		X		X						X						
BATCH QCSD	1.00	03:04				X					X		X		X						X						
BATCH QCL	5.00	03:10				X					X		X		X						X						
BATCH QCAS	1.00	03:15				X					X		X		X						X						
ZZZZZZ	1.00	03:20																									
ZZZZZZ	1.00	03:26																									
CCV2	1.00	03:31				X					X		X		X						X						
CCB2	1.00	03:36				X					X		X		X						X						
ZZZZZZ	5.00	03:42																									
ZZZZZZ	5.00	03:47																									
ZZZZZZ	5.00	03:52																									
ZZZZZZ	5.00	03:58																									
ZZZZZZ	5.00	04:03																									
GW0018	1.00	04:08				X					X		X		X						X						
ZZZZZZ	1.00	04:14																									
ZZZZZZ	1.00	04:19																									
CCV3	1.00	04:24				X					X		X		X						X						
CCB3	1.00	04:30				X					X		X		X						X						

* - Denotes additional elements (other than the standard elements) are represented on another Form 14

Columbia Analytical Services

An Employee-Owned Company

Columbia Analytical Services
5880 Lakeline Road
Jacksonville FL 32244
Tel 904-239-2616
Fax 904-519-2017

General Chemistry

CASE NARRATIVE
Inorganic Analysis

CAS Lab Reference No./SDG#: J2201475

Client/Project: Exponent / IP Wilmington / 8601269.003

I. RECEIPT

No exceptions were encountered unless noted on the Cooler Receipt and Preservation Form included with this data package.

II. HOLDING TIMES

A. Sample Preparation: All holding times were met.

B. Sample Analysis: All holding times were met.

III. METHOD

Preparation: NA

Analysis: SID,S3

IV. PREPARATION

Sample preparation proceeded normally.

V. ANALYSIS

A. Calibration: N/A

B. Blanks: N/A

C. Spikes: N/A

D. Duplicates: All acceptance criteria were met.

E. Samples: Analyses proceeded normally.

F. Other: NA.

I certify that this data package is in compliance with the terms and conditions agreed to by Columbia Analytical Services, Inc. and by the client, both technically, and for completeness, except for the conditions detailed above. 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:

Signed: Martha Montero Date: 6/4/a

Martha Montero
Operations Manager

Columbia Analytical Services
8540 Baycenter Road
Jacksonville, FL 32256
Phone: (904) 739-2277
Fax: (904) 739-2011

Columbia Analytical Services, Inc.
An Employee-Owned Company

Columbia Analytical Services
8540 Baycenter Road
Jacksonville, FL 32256
Tel 904-739-2277
Fax 904-739-2011

Sample Data

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Exponent	**Service Request:**	J2201475
Project:	IP Wilmington / 8601269.003	**Date Collected:**	5/2/2002
Sample Matrix:	Soil	**Date Received:**	5/4/2002

Inorganic Parameters

Sample Name: SO0027
Lab Code: J2201475-002
Test Notes:

Basis: Dry

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TOC	mg/L (ppm)	SID,S3	200	200	1	NA	5/14/2002	3200	

Columbia Analytical Services, Inc.
An Employee Owned Company

Columbia Analytical Services
8340 Baymeadows Road
Jacksonville, FL 32256
Tel 904 739 2277
Fax 904 739 2011

Chain of Custody Documentation

Columbia Analytical Services

JACKSONVILLE LABORATOR
CONDITION UPON RECEIPT FORI

Client: Exponent **Project name:** IP Wilmington

Date received: 5/4/02 .. 930 **Service request number:** J2201475

Received by: David Dickie **CUR completed by:** David Dickie

Cooler/Shipping Information:

Courier: ☐ CAS ☐ Client ☐ UPS ☐ Airborne ☒ FedEx ☐ Other (describe):

Type: ☒ Cooler ☐ Box ☐ Other (describe)

Cooler temperature: Identify the cooler and document the temperature blank or ice water measurement

Cooler ID	1				
Temp (°C)	3.4°C				
Temp taken from	☐ Temp blank ☒ Sample bottle	☐ Temp blank ☐ Sample bottle	☐ Temp blank ☐ Sample bottle	☐ Temp blank ☐ Sample bottle	☐ Temp blank ☐ Sample bottle
Temp measured with	☒ IR gun ☐ Thermometer (enter ID):	☐ IR gun ☐ Thermometer (enter ID):	☐ IR gun ☐ Thermometer (enter ID):	☐ IR gun ☐ Thermometer (enter ID):	☐ IR gun ☐ Thermometer (enter ID):

Other Information:

Any "NO" responses or discrepancies should be explained in the "Comments" section below or an NCM if so required. If an NCM was initiated, write the NCM number in the appropriate space.

CHECKLIST	YES	NO	NA	NCM
1. Were custody seals on shipping container(s) intact? If "No", NCM required.	✓			
2. Were custody papers properly included with samples?	✓			
3. Were custody papers properly filled out (ink, signed, match labels)?	✓			
4. Did all bottles arrive in good condition (unbroken)?	✓			
5. Were all bottle labels complete (sample #, date, signed, analysis, preservatives)?	✓			
6. Did the sample labels agree with the chain of custody?	✓			
7. Were correct bottles used for the tests indicated?	✓			
8. Were proper sample preservation techniques indicated on the label?	✓			
9. Were samples received within holding times? If "No," NCM required.	✓			
10. Were all VOA vials checked for the presence of air bubbles? If "No", NCM required.	✓			
11. Were there air bubbles present in the VOA vials? If "Yes", NCM required.		✓		
12. Were samples in direct contact with wet ice? If "No," check one: ☐ NO ICE ☐ BLUE ICE	✓			
13. Was the cooler temperature less than 6°C?	✓			
14. Were sample pHs checked and recorded by Sample control? Checks are on reverse side of form. *NOTE: VOA samples are checked by laboratory analysts.*	✓			
15. Were the sample containers provided by CAS?	✓			
16. Were samples accepted into the laboratory?	✓			

Comments:

Columbia Analytical Services

Jacksonville Laboratory
Condition Upon Receipt - Sample pH

SR #: J 2201475 Date: 5/9/02 Initials: MD

A check mark in any space under the appropriate column headings for the selected sample indicates that the pH was checked and met the required pH criterion listed in the column heading.

	Bottle Code																									
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
	40-mL	40-mL	125-mL	250-mL	500-mL	1-L	250-mL	1-L	2-oz	4-oz	8-oz	16-oz	5 g	100-mL	250-mL	500-mL	1-L	1-L	250-mL	500-mL	1-L	250-mL	250-mL	1.75-L	500-mL	Misc.
Container	G	G	P	P	P	P	G	G	G	G	G	G	ENC	P	P	P	P	G	P	P	P	G	P	P	P	Misc.
Pres.	HCl		HCl											Sodium Thiosulfate	H2SO4	H2SO4	H2SO4	H2SO4	HNO3	HNO3	HNO3	HNO3	NaOH	NaOH	ZnAcetate NaOH	
Req. pH	<2	N/A	<2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<2	<2	<2	<2	<2	<2	<2	<2	>12	>12	>9	N/A
Sample #	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-001											1		3													
-002											2		3													
-003											1		3													
-004											3		6													
-005	3																									
-006								2												1						
-007	3																									
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-038																										
-039																										
-040																										

444

For aqueous samples with multiple containers, only 1 bottle is checked for pH
NOTE: VOA pH checks are performed by the analytical area, not sample control

J2201475

CHAIN OF CUSTODY RECORD/SAMPLE ANALYSIS REQUEST FORM

445

Project: (Name and Number) 81P Wilmington 8601269.003

Exponent

Exponent Contact: Mike Martin Office: BO

Ship to: CAS
8540 Baymeadows Road
Jacksonville, FL 32256

Lab Contact/Phone: Craig Myers (904) 739-2277

Samplers: R. Koelsch, D. Hall

Environmental Group: Bellevue, WA (425) 643-9803; Boulder, CO (303) 444-7270; Lake Oswego, OR (503) 636-4338; Los Angeles, CA (310) 823-2035; Natick, MA (508) 652-8500

Sample No.	Tag No.	Date	Time	Matrix	VOCs 8260	SVOCs 8270	Metals As, Cr, Cu Pb, Se	Soil Moisture	TOC	VOCs Heavy (2-propyl Acetate)	Extra Container	Archive	Remarks
S00026	43807	5/2/02	1650	SL	X								Homogenize ALL
↓	43808	↓	↓	↓		X	X	X					glass jars thoroughly
S00027	43809		1655		X								
↓	43810		↓					X	X				
↓	43811		↓			X	X						
S00028	43812		1715		X								
↓	43813		↓			X	X	X					
S00029	43814		1725		X								
↓	43815		↓		X								MS/MSD
↓	43816		↓			X	X						
↓	43817		↓			X	X						MS/MSD
↓	43818	↓	↓	↓				X	X				
GW0017	43797	5/3/02	830	GW						X			
↓	43798	↓	↓	↓						X			
↓	43799		↓							X			
GW0018	43800		840			X							
↓	43819		↓			X							
↓	43820		↓				X						
GW0019	43821		NA							X			Trip Blank
↓	43822	↓	↓	↓						X			"

Matrix Code: GW - Groundwater SL - Soil SD - Sediment SW - Surface water
OTHER - Please identify codes

Priority: ☒ Normal ☐ Rush Rush time period

Shipped via: ☒ FedEx/UPS ☐ Courier Other

Condition of Samples Upon Receipt:

Custody Seal Intact: ☐ Yes ☐ No ☐ None

Relinquished by: [signature] (Signature) Date/Time: 5/3/02 1100 Received by: FedEx 8245 1934 3296 (Signature) Date/Time:

Relinquished by: (Signature) Date/Time: Received by: [signature] (Signature) Date/Time: 5/4/02 930

Distribution: White and Yellow Copies - Accompany Shipment; Pink Copy - Project File

06890

CHAIN OF CUSTODY RECORD/SAMPLE ANALYSIS REQUEST FORM

Exponent

446

Project: (Name and Number) IP Wilmington 8601269.003

Exponent Contact: Mike Martin Office: BO

Samplers: R Koelsch, D Hall

Ship to: CAS
8540 Baycenter Road
Jacksonville, FL 32256

Lab Contact/Phone: Craig Myers (904) 739-2077

Environmental Group
Bellevue, WA (425) 643-9803
Boulder, CO (303) 444-7270
Lake Oswego, OR (503) 636-4338
Los Angeles, CA (310) 823-2035
Natick, MA (508) 652-8500

Sample No.	Tag No.	Date	Time	Matrix	Analyses Requested						Extra Container	Archive	Remarks
										VOCs Hexane 2-propyl Acetate			
GW0019	43223	5/3/02	NA	GW						X			Trip Blank

Matrix Code: GW - Groundwater SL - Soil SD - Sediment SW - Surface water
OTHER - Please identify codes

Priority: ☒ Normal ☐ Rush Rush time period

Shipped via: ☐ FedEx/UPS ☐ Courier Other

Condition of Samples Upon Receipt:

Custody Seal Intact: ☐ Yes ☐ No ☐ None

Relinquished by: (Signature) Date/Time: 5/3/02 1100 Received by: FedEx 8245 1934 3296 (Signature) Date/Time:

Relinquished by: (Signature) Date/Time: Received by: (Signature) Date/Time: 5/4/02 930

Distribution: White and Yellow Copies - Accompany Shipment; Pink Copy - Project File

06889

Appendix E

Calculation of Site-Specific Soil Screening Levels

Calculation of Site-Specific Soil Screening Levels

As described in the North Carolina Department of Environment and Natural Resources (NCDENR) Hazardous Waste Section's (HWS's) *Guidelines for Determining Soil and Groundwater Clean-Up Levels at RCRA Hazardous Waste Sites* (DENR 2000), site-specific soil screening levels (SSLs) were calculated for constituents exceeding the HWS's SSLs, using fraction of organic carbon (f_{oc}) values determined for the former International Paper facility, Wilmington, North Carolina. Representative f_{oc} values were obtained for Solid Waste Management Units (SWMUs) 16, 17, and 21, from total organic carbon (TOC) data collected during the Resource Conservation and Recovery Act (RCRA) facility investigation (RFI). Table E-1 summarizes the results of the TOC samples collected from the RFI SWMUs. Representative f_{oc} values were then used in conjunction with the following transport model to calculate site-specific SSLs (DENR 2000):

$$C_{soil} = C_{gw}\left[k_s + \frac{(\theta_w + \theta_a H')}{P_b}\right]df$$

where:

C_{soil} = site-specific SSL (mg/kg)

C_{gw} = applicable groundwater target concentration (Table E-2) (North Carolina groundwater standard) (mg/L)

df = dilution factor (default value = 20)

k_s = soil-water partition coefficient (for organic constituents, $k_s = k_{oc}f_{oc}$; Table E-2) (L/kg)

k_{oc} = chemical-specific soil organic-carbon/water partition coefficient (Table E-2) (L/kg)

f_{oc} = SWMU-specific fraction of organic carbon in subsurface soils (Table E-2) (kg/kg)

θ_w = water-filled soil porosity (default value = 0.3) (L_{water}/L_{soil})

θ_a = air-filled soil porosity (default value = 0.13) (L_{air}/L_{soil})

P_b = dry bulk density (default value = 1.5) (kg/L)

H' = chemical-specific dimensionless Henry's Law constant (Table E-2) (atm-m^3/mole × 41).

The TOC value or values used for each site-specific SSL calculation are provided in Table E-2. When available, TOC results from a single borehole were used to calculate site-specific SSLs

for analytes that exceeded the HWS's SSLs in the same borehole. For example, the TOC result from borehole SB-16-4 was used to calculate the site-specific SSL for chloroform, which was detected at a concentration exceeding the HWS's SSL in the sample interval from 0.75 to 1.75 ft below ground surface (bgs) in borehole SB-16-4. For those boreholes in which an analyte exceeded the HWS's SSLs, and for which an associated TOC sample was not collected, an average TOC value was calculated from results obtained in the nearest available boreholes (see calculation for boreholes SB-16-3, SB-16-5, and SB-16-7).

Results of the site-specific SSL calculations are summarized in Table E-2. The HWS's SSLs, and constituents detected at concentrations exceeding the SSLs during the RFI, are shown for comparison.

Reference

DENR. 2000. Guidelines for determining soil and groundwater clean-up levels at RCRA hazardous waste sites. North Carolina Department of Environment and Natural Resources, Division of Waste Management, Hazardous Waste Section, Raleigh, NC.

Table E-1. Total organic carbon results and averages for SWMUs 16, 17, and 21

SWMU	Borehole	Depth (ft bgs)	Total Organic Carbon (mg/kg)
16	SB-16-1	8–9	200 *U*[a]
	SB-16-4	10–11	955[b]
	SB-16-6	4–5	3,600
	SB-16-8	4–5	3,400
17	SB-17-1	6–7	8,100 √
	SB-17-2	8–9	3,100
21	SB-21-1	4–5	3,610
	SB-21-2	2.5–3.5	3,200
	SB-21-3	1.75–2.75	940

Note: TOC – Total organic carbon. Multiply TOC by 1×10^{-6} to convert to fraction of organic carbon (f_{oc}).

U – Undetected; value represents reporting limit.

bgs – below ground surface

[a] One-half the reporting limit used.

[b] Average of duplicates.

Table E-2. Soil screening level calculations and results based on site-specific total organic carbon analyses

				Analytes Exceeding NC HWS Soil Screening Levels			
				Chloroform	Methyl Ethyl Ketone	Methylene Chloride	Toluene
			NC HWS Soil Screening Level (µg/kg):	1.01	692	22	7,270
SWMU 16							
			Chemical-specific Parameters:				
			C_{gw} (mg/L):	0.00019	0.17	0.005	1
			k_{oc} (L/kg):	52.5	3.5	10	140
			k_s (L/kg):	0.05	0.002	0.01 – 0.04	0.07
			H':	0.13899	0.001123	0.13079	0.27388
			Calculated Site-specific Soil Screening Level (µg/kg):	1.00	687	22 – 25	5,950
Borehole	Depth bgs (ft)	Associated TOC Sample	TOC (mg/kg)	Measured Soil Concentration (µg/kg):			
SB-16-3	0.75 - 1.75	Average SB-16-1, SB-16-4	528	--	--	--	17,000
	7 - 8			--	3,500	58	--
SB-16-4	0.75 - 1.75	SB-16-4	955	1.1 *J*	--	--	--
SB-16-5	1 - 2	Average SB-16-1, SB-16-4, SB-16-6, SB-16-8	2,014	--	--	57	--
	4 - 5			--	--	74	--
SB-16-6	1 - 2	SB-16-6	3,600	--	--	55	--
	4 - 5			--	--	63	--
SB-16-7	0.5 - 1.5	SB-16-8	3,400	--	--	36	--
	0.5 - 1.5 (dup)			--	--	35	--
	4.5 - 5.5			--	--	37	--
SB-16-8	1 - 2	SB-16-8	3,400	--	--	52	--
	4 - 5			--	--	49	--

Table E-2. (cont.)

				Analytes Exceeding NC HWS Soil Screening Levels			
				Chloroform	Methyl Ethyl Ketone	Methylene Chloride	Toluene
			NC HWS Soil Screening Level (µg/kg):	--	--	22	7,270
SWMU 17							
			Chemical-specific Parameters:				
			C_{gw} (mg/L):	--	--	--	1
			k_{oc} (L/kg):	--	--	--	140
			k_s (L/kg):	--	--	--	1.13
			H':	--	--	--	0.27388
			Calculated Site-specific Soil Screening Level (µg/kg):	--	--	--	27,150
Borehole	Depth bgs (ft)	Associated TOC Sample	TOC (mg/kg)	Measured Soil Concentration (µg/kg)			
SB-17-1	6 - 7	SB-17-1	8,100	--	--	--	22,000
SWMU 21							
			Chemical-specific Parameters:				
			C_{gw} (mg/L):	--	--	0.005	--
			k_{oc} (L/kg):	--	--	10	--
			k_s (L/kg):	--	--	0.01	--
			H':	--	--	0.13079	--
			Calculated Site-specific Soil Screening Level (µg/kg):	--	--	22	--
Borehole	Depth bgs (ft)	Associated TOC Sample	TOC (mg/kg)	Measured Soil Concentration (µg/kg)			
SB-21-3	0.75 - 1.75	SB-21-3	940	--	--	26	--

Notes: -- – not applicable
J – estimated
HWS – Hazardous Waste Section
bgs – below ground surface
C_{gw} – applicable groundwater target concentration (North Carolina groundwater standard)
k_{oc} – soil organic carbon-water partition coefficient
k_s – soil-water partition coefficient:
for organic constituents $k_s = k_{oc}f_{oc}$
f_{oc} – fraction of organic carbon in subsurface vadose soils
k_d – soil-water partition coefficient for inorganics
H' – dimensionless Henry's Law constant
TOC – total organic carbon

Appendix F

Human Health Risk Assessment Parameter Estimates and Calculations

Appendix F: Human Health Risk Assessment Parameter Estimates and Calculations

Exposure to arsenic in soils via incidental ingestion at SWMU 21 was evaluated under an onsite worker, future trench worker, and trespasser scenario for carcinogenic and noncarcinogenic risks using standard U.S. Environmental Protection Agency (EPA) equations and reasonable maximum exposure (RME) assumptions, with modifications based on SWMU-specific conditions and use (U.S. EPA 1989, 1991) (Table F-1). This appendix provides detailed information on the risk equations, specific exposure input parameters selected, and toxicity values used. A description of SWMU 21 is presented in Section 2.2 of the main text. A description of the three exposure scenarios being evaluated, and the concentration data used is presented in Section 5.1 of the main text.

For arsenic, the cancer risk associated with long-term exposure, and the non-cancer risk from long- or short-term exposure, were calculated.

The equation used to calculate risk via ingestion based on the cancer endpoint of toxicity is:

$$\text{Risk (cancer)} = \frac{C \times IR \times CF \times FS \times EF \times ED \times RBA \times CSF}{BW \times AT}$$

For the noncancer endpoint of toxicity, the hazard quotient equation for ingestion is as follows:

$$\text{Hazard Quotient (noncancer)} = \frac{C \times IR \times CF \times FS \times EF \times ED \times RBA \times (1/RfD)}{BW \times AT}$$

where:

C	=	Concentrations of arsenic in soil (mg/kg)
IR	=	Ingestion rate of soil (mg/day)
CF	=	Conversion of kg soil to mg soil (10^{-6})
FS	=	Fraction soil ingestion from site (unitless)
EF	=	Exposure frequency (days/year)
ED	=	Exposure duration (years)

RBA	=	Relative bioavailability adjustment (unitless)
BW	=	Body weight (kg)
AT	=	Averaging time (days)
CSF	=	Cancer slope factor $(mg/kg\text{-}day)^{-1}$
RfD	=	Reference dose (mg/kg-day).

Numerical inputs into the calculations are provided in Table F-1. Any site-specific modifications to the EPA default assumptions (U.S. EPA 1989, 1991, 1997) are described below. All inputs were selected to characterize a reasonable, but conservative (i.e., health protective) risk for the specific scenarios evaluated.

Exposure Frequency (EF)

SWMU 21 is not near an area of the site that is involved in day-to-day work, and would be visited infrequently. For the onsite worker, a high-end estimate of the number of times this area would be visited is once per week, excluding a typical 2 weeks per year for vacation time. Thus, an exposure frequency of 50 days per year was used in the calculation for arsenic exposure for the onsite worker (i.e., 1 day/week × 50 weeks/year). This ED of 50 days per year is a conservative estimate of the number of times an onsite worker might visit this area, and most likely overestimates actual exposures. The trench worker scenario is based on the possibility of utility installation or construction being conducted in the area at some time in the future. Because the area defined by SWMU 21 is small, it is anticipated that the time a worker might spend within the area would be relatively short. Therefore, an EF of 5 days/year was used. For the trespasser scenario, an ED of 12 day/year was selected as a conservative estimate. The site is completely fenced, poses no particular attractive nuisance, and has a guard on duty. This value assumes trespassing onto the site by the same individual 12 times per year and is likely to be an overestimate of actual exposures under this scenario.

Exposure Duration (ED)

For the onsite worker, a standard occupational ED of 25 years was used. For the future trench worker scenario, it is anticipated that a paving scenario would occur only once, and an ED of 1 year was assumed for the trench worker scenario. For the trespasser scenario, an age range of 13–18 years was assumed, yielding an ED of 5 years.

Ingestion Rate (IR)

For both the onsite worker and trespasser scenario, a soil ingestion rate of 50 mg/day was used based on EPA's guidance on adult soil ingestion rates (U.S. EPA 1997). A trench worker may be expected to have more intensive soil contact, and a higher associated ingestion rate. Therefore, an IR of 480 mg/day was used for the construction worker, based on the value for high-contact activity used in the risk assessment for the Anaconda Smelter NPL site (U.S. EPA 1995). This IR represents high-end exposures and is likely to over-predict exposures.

Fraction of Soil Ingested from Site (FS)

This parameter is included to account for the fact that not all of a person's total daily soil exposure would occur at the site. A significant portion of an onsite worker's or trespasser's total daily soil ingestion would be expected to be attributable to sources other than the site. For the onsite worker scenario, an FS of 50% was used in the calculations, because only half of the typical waking hours for an adult are spent at the site. This value is consistent with EPA's default assumption for outdoor soil ingestion for children (e.g., 49%; Stanek and Calabrese 1992), and a similar FS of 45% was used by EPA Region VIII for outdoor soil versus indoor dust ingestion in risk assessments of arsenic in soil when the concentrations of arsenic in soil and house dust differ (Walker and Griffin 1998). For the trespasser scenario, an FS of 50% was conservatively assumed, although the time spent at the site would be expected to be considerably less than 8 hrs/day.

For the future trench worker scenario, the site activities might involve digging a trench or other soil movement operations, which are high-intensity soil contact activities. Because of lack of specific data, an FS of 100% was conservatively assumed to provide a high-end estimate of exposure.

Relative Bioavailability Adjustment (RBA)

Because no site-specific information is available describing the bioavailability of arsenic from this site, and the source or type of soils is unknown, an RBA of 100% was assumed.

Toxicity Factors

For carcinogenic effects, the cancer slope factor of 1.5 $(mg/kg\text{-}day)^{-1}$ was selected for arsenic from EPA's Integrated Risk Information System (IRIS; U.S. EPA 2002). For noncancer effects, the specific reference dose (RfD) selected for arsenic was based on the duration of exposure. For the onsite worker exposure, with an assumed ED of 25 years, the chronic RfD of 0.0003 mg/kg-day was applied (U.S. EPA 2002). The trench worker and trespasser scenarios, however, assume a less-than-chronic exposure. EPA Region VIII has derived a subchronic RfD of 0.015 mg/kg-day, and "EPA believes that an exposure to 0.015 mg/kg-day will not cause adverse effects if the duration of exposure is less than 7 years" (U.S. EPA 2001). Because the expected ED for a trench worker at SWMU 21 is 1 year, and the expected ED for the trespasser is 5 years, the EPA's subchronic RfD of 0.015 mg/kg-day was used for these two exposures.

The results of the risk calculations are presented in Table F-1, and discussed in Section 5.1 of the main text.

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Table F-1. Calculation of potential risk from arsenic via soil ingestion at SWMU 21, former IP site, Wilmington, NC

Symbol	Definition	Units	Current/Future Onsite Worker	Future Trench Worker	Current/Future Trespasser
Exposure Parameters					
C	Arsenic concentration in soil	mg/kg	7.04	7.04	7.04
IR	Ingestion rate	mg/day	50	480	50
CF	Conversion factor	kg/mg	1E-06	1E-06	1E-06
FS	Fraction ingested from source	percent	50%	100%	50%
EF	Exposure frequency	day/yr	50	5	12
ED	Exposure duration	yr	25	1	5
RBA	Relative oral bioavailability, soil	percent	100%	100%	100%
BW	Body weight	kg	70	70	59
AT_c	Averaging time–carcinogenic	day	25,550	25,550	25,550
AT_{nc}	Averaging time–noncarcinogenic	day	9,125	365	1,825
Calculated Intakes					
	Cancer intake	mg/kg-day	1.2E-07	9.4E-09	7.0E-09
	Noncancer intake	mg/kg-day	3.4E-07	6.6E-07	9.8E-08
Toxicity Values					
CSF	Cancer slope factor	$(mg/kg\text{-}day)^{-1}$	1.5	1.5	1.5
RfD	Noncarcinogenic: Chronic RfD	mg/kg-day	0.0003	--	--
RfD_{sc}	Noncarcinogenic: Acute and Subchronic RfD	mg/kg-day	--	0.015	0.015
Calculated Risk Estimates					
	Cancer risk	unitless	2E-07	1E-08	1E-08
	Noncancer hazard quotient, chronic	unitless	0.001	--	--
	Noncancer hazard quotient, acute and subchronic	unitless	--	0.00004	0.000007

Note: See text for description of input parameter selection.