FINAL
SITE CHARACTERIZATION REPORT
REGION 8 DRY CLEANERS – GROUP 2
RUDDICK'S DRY CLEANERS SITE
ELMIRA, NEW YORK

SITE NO. 8-08-037

WORK ASSIGNMENT NO. D004434-5

Prepared for:

New York State Department of Environmental Conservation

Albany, New York

Prepared by:

MACTEC Engineering and Consulting, PC
Portland, Maine

MACTEC: 3612062059

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GLOSSARY OF ACRONYMS AND ABBREVIATIONS

1,1,1-TCA	1,1,1-trichloroethane
ASP	Analytical Services Protocol
ASTM	American Standards of Testing and Measurements
bgs	below ground surface
Chemtech	Chemtech Consulting Group, Inc.
DUSR	Data Usability Summary Report
EDR	Environmental Data Resources, Inc.
°F	degrees Fahrenheit
Lu Engineers	Joseph Lu Engineering
MACTEC	MACTEC Engineering and Consulting, P.C.
msl	mean sea level
NYCRR	Title 6 New York Codes, Rules, and Regulations
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PCE	tetrachloroethene
PID	photoionization detector
Report	Site Characterization Report

GLOSSARY OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

SC	Site Characterization
SCG	standards, criteria or guidelines
Site	Ruddick's Dry Cleaners Site
SVOC	semi volatile organic compounds
TCE	trichloroethene
TCL	Target Compound List
µg/L	micrograms per Liter
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound
WA	Work Assignment

1.0 INTRODUCTION

MACTEC Engineering and Consulting, PC (MACTEC), is submitting this Site Characterization Report (Report) to the New York State Department of Environmental Conservation (NYSDEC). This Report addresses the Site Characterization (SC) at the Ruddick's Dry Cleaners site (Site) in the City of Elmira, New York (Figure 1.1). This Report was prepared in response to Work Assignment (WA) No. D0003826-29 (NYSDEC, 2006), and in accordance with the requirements of the July 1997 Superfund Standby Contract No. D003826 between the NYSDEC and MACTEC. The field work and report were conducted under WA# D0004434-5 and the April 2005 Superfund Standby Contract No. D0004434-5 between the NYSDEC and MACTEC.

This Report is one of six site-specific SC reports for the Region 8 Dry Cleaners – Group 2 multiple Site Characterizations WA. The other five SC reports address the sites listed below:

- HTS Coin Operated Laundry and Dry Cleaners (Site No. 8-08-038)
- Universal Dry Cleaners (Site No. 8-08-040)
- Up to Date Cleaners (Site No. 8-26-019)
- Associated Textile Rental Services (Site No. 8-08-041 - replaces Schmidt Brothers)
- Rolling Plains (Site No. 8-28-138 – replaces Ace Cleaners)

The former Ruddick's Dry Cleaners site, Site No. 8-08-037, is currently listed as a potential hazardous waste site, or "P" site, by the NYSDEC, because insufficient information exists to determine whether wastes were disposed of at the site and whether, if present, those wastes pose a potential significant threat to public health or the environment (New York State [NYS], 2006).

The purpose of the SC is to provide information to be used by the NYSDEC to reclassify the site to one of the following categories:

Class 1 — Hazardous waste constitutes a significant threat to public health or the environment, as described in Title 6 New York Codes, Rules, and Regulations (NYCRR) Part 375 (NYS, 2006); and the significant threat to public health or the environment is causing, or presents an imminent danger of causing, either irreversible or irreparable damage to the environment

Class 2	Hazardous waste sites presenting a significant threat to public health or the environment; as defined in 6 NYCRR 375 (NYS, 2006).
Class 3	Hazardous waste sites at which contamination does not presently constitute a significant threat to public health or the environment.
Not Classified	Sites where hazardous waste disposal is not documented.

To complete its reclassification, the NYSDEC requires information to establish the following:

- The existence of documented hazardous waste disposal, as defined in NYCRR Part 371 (NYS, 1999a).
- The site's significance with respect to the threat it poses to public health and the environment as defined in 6 NYCRR Part 375 (NYSDEC, 2006).
- Identification of contaminant source.

MACTEC collected reclassification documentation and is presenting it to the NYSDEC so it can recommend follow up action for the Site (i.e., reclassify, delist, or perform additional investigation).

The WA was divided into three tasks. Task 1-Work Plan Development, included a search of state and county site records, and performance of a site inspection to develop information necessary for reclassification or delisting. Task 1 activities did not develop adequate data on which to base a delist or reclassification recommendation. Therefore, Task 2, Subsurface Investigation, was conducted. Task 3-Reporting, was the preparation of this Report. Resources used to prepare this Report include: (1) information provided in the WA, (2) appropriate guidelines in the NYSDEC Draft DER-10 Guidance (NYSDEC, 2002), (3) results of previous investigations, if applicable, and (4) results of the SC investigation.

This report is divided into five sections:

Section 1 – Is the introduction to the report.

Section 2- Describes the site background and physical setting, including a summary of previous investigations.

Section 3 - Presents the work conducted during the field investigations.

Section 4 - Presents results of the field investigation.

Section 5 - Presents an investigation summary.

2.0 SITE BACKGROUND AND PHYSICAL SETTING

On May 3, 2006, MACTEC personnel reviewed available records from the NYSDEC office in Albany, New York, and visited the Chemung County, New York offices. Information was also collected from the Site owner by the NYSDEC. As part of the review, MACTEC ordered a copy of an Environmental Data Resources, Inc. (EDR) report which provides a listing of federal and state governmental information pertaining to potential and documented environmental impacts, both at the Site and within the American Standards of Testing and Measurements (ASTM) recommended search radii. Complete lists of all recommended ASTM record searches for standard due diligence requirements are included in the EDR report, which is provided under separate cover. This information was reviewed to support a Site classification, and to help prepare the scope of work for the SC field investigations. The information collected from these sources is summarized below.

2.1 SITE LOCATION

The former Ruddick's Dry Cleaners is located at 384 Norton Street in a residential neighborhood in the City of Elmira, Chemung County, New York (Figure 1.1). The site property consists of approximately 0.21 acres. The Sullivan Street Public Supply Wells are located to the east of this site.

2.2 SITE HISTORY

Sanborn fire insurance maps reviewed from 1931 to 1995 indicate the presence of three buildings on the Site property during that time. The three buildings consisted of: a 2-story building on west side of the property that is labeled with an 'S', typically signifying a store; a small building in the south central portion of the property that may have been attached to the "store"; and, a 2-story building on the eastern portion of the Site property labeled with a 'D', typically signifying a dwelling. The small building in the south central portion of the property was labeled as a dry cleaner on the 1950 to 1994 Sanborn fire insurance maps. This small building is visible in the 1931 Sanborn map, and although its label is not readable, the Sanborn map identifies a gasoline tank in front (north side) of the building, indicating that this building may have originally served as a gas station. The Manning's City Directories reviewed from 1955 to 1990 also confirm the presence of

Ruddick's Dry Cleaning facility from at least 1955 to 1990. The "dwelling" on the eastern portion of the property is not present in the 1988 Sanborn map. Although the 1995 Sanborn map indicates that the entire Site property is vacant, the two-story multi-family home currently located on the west side of the property appears to be older than 10 years, and roughly matches the shape of the home shown on previous year's maps, so its omission from the 1995 map may be a misprint. There is no other building currently located on the Site property.

Based on the presence of water lines in the 1931 Sanborn maps, it is assumed that the former dry cleaner used public water.

2.3 PREVIOUS INVESTIGATIONS

It is not know if any previous site investigations have been completed for the Site property.

The site is of concern based on the presence of chlorinated solvents in the City of Elmira's Sullivan Street Supply Well. Although other sources of chlorinated solvents exit in the greater Horseheads/Elmira valley, it is not known if this Site is contributing to the contamination plume. Chlorinated solvents (primarily trichloroethene [TCE]) were first detected in the City of Elmira's Sullivan Street supply wells in the mid 1980's. Samples collected between 1981 and 1992 indicated concentrations of TCE in the Sullivan Street Wells ranging from 5.0 to 10.3 micrograms per Liter (µg/L), in relation to a NYS groundwater standard of 5 µg/L (New York State Department of Health [NYSDOH], 1994). These wells are located approximately 1100 feet east of the Site, on the west side Newtown Creek (Figure 1.1). There are two supply wells in close proximity to each other. These wells can each produce approximately 3 million gallons per day. The 18-inch diameter wells have casing set to approximately 60 feet below ground surface (bgs), with shutter screen down to 98 feet bgs. Although an air stripper was installed in the late 1990's, the wells are currently not used (LaDouce, 2005). They are turned on twice per year and sampled.

2.4 PHYSICAL SETTING

Topography

The Site is located in the Newtown Creek Valley, which runs north-south, joining the Chemung River Valley to the south, which runs east-west. The Site property is located at 859 feet above mean sea level (msl) and is relatively flat. The valley slopes slightly down to the south and east. Newtown Creek is located at an elevation of approximately 850 feet above msl and approximately 1700 feet east of the Site. Newtown Creek runs south, joining the Chemung River in 1.1 miles. The Chemung River is located at an elevation of approximately 835 feet above msl at the confluence with Newtown Creek. The topography to the west of the site is relatively flat for approximately 1.4 miles, and then rises to a ridge at 1600 feet above msl approximately 2.4 miles from the site. The topography east of Newtown Creek is flat for approximately 0.1 miles, and then rises sharply to a ridge at 1600 feet above msl approximately 1.0 mile from the site.

Climate

The climate of the area is characterized by moderately warm summers and cold winters. Mean monthly temperatures range from 24 degrees Fahrenheit (°F) in January to 70°F in July. Average annual precipitation is 35 inches. Average annual snowfall is 43 inches (National Climatic Data Center, 2004).

Surface Water Hydrology

Surface drainage from the site generally follows the topography, flowing toward low areas and then infiltrating into the ground. The Site property is located within the 100 year flood zone (EDR, 2006).

Groundwater Hydrology

The Newtown Creek and eventually the Chemung River are local groundwater discharge areas. Groundwater at the Site was encountered at approximately 12-15 feet bgs, and based on water level measurements collected, is interpreted to flow southeast towards the Newtown Creek.

Geology

Overburden soils at the site consisted of lacustrine silts, sands and gravels. Surficial geology is mapped as oxidized, non calcareous, fine sand to gravel (Muller, 1986). Based on regional geologic mapping (Rickard and Fisher, 1970) bedrock is expected to consist of shale and siltstones associated with the Upper Devonian West Falls Group; Specifically, the Beers Hill Shale; Grimes Siltstone; Dunn Hill, Millport, and Moreland Shales (Rickard and Fisher, 1970).

Site Walkover

On May 3, 2006 the MACTEC Site Lead, Chuck Staples, and the NYSDEC project manager, Matthew Dunham conducted a walkover of the Site area.

The site walkover consisted of viewing the Ruddick's Dry Cleaners property, and the surrounding neighborhood to assess possible contamination sources and the logistical concerns for the field program. MACTEC personnel documented the walkover with photographs (Appendix A).

Visible sources of contamination (e.g., leaking drums) were not observed, however, detailed inspections of potential sources were not conducted during the site walkover.

2.5 FILE REVIEW

MACTEC reviewed files from various state and local agency offices to develop information to support a reclassification or delisting, and to help prepare the scope of work for the SC field investigations. The EDR report was also reviewed for relevant site information.

2.6 SUMMARY OF DATA RECORDS SEARCH AND ASSESSMENT FINDINGS

Under federal and state regulations a solid waste may be regulated as a hazardous waste if it is a material included in one of the United States Environmental Protection Agency's (USEPA) or the NYSDEC's lists of hazardous wastes. If a material is regulated because of its inclusion on a federal or state list, it is commonly referred to as a "listed hazardous waste." A waste may also be

regulated under the Resource Conservation and Recovery Act as a "characteristic hazardous waste" if it exhibits one of the characteristics of toxicity, corrosivity, reactivity, or flammability.

Results of sampling and analysis of the Sullivan Street Supply Wells indicated the presence of chlorinated solvents (TCE) in groundwater. Spent chlorinated solvents not originating from household sources, including TCE are included on both the USEPA's and the NYSDEC's lists of hazardous wastes. Under 6 NYCRR Part 371.4(a) (1), these spent solvents constitute hazardous waste from non-specified sources. Disposal of these chlorinated solvents has been confirmed by available analytical results from the Sullivan Street Wells, but the source area has not been identified.

As defined by 6 NYCRR Part 375, significant threat can be established by documenting a contravention of environmental standards. Surface water, soil and groundwater are the only media for which NYS has promulgated standards. Under NYS Water Quality Regulations (6 NYCRR Part 701) the state has set numeric standards that are the maximum concentration of compounds in groundwater and surface water that protect public health and/or the environment (NYS, 1999b). In addition, standards for soils have been promulgated under the revised 6 NYCRR 375 Regulations (NYS, 2006).

Analytical data from the Site was not available for review during Task 1, and therefore it was not known if the Site was the source of the TCE contamination or if the Site posed a significant threat. As a result, the SC field investigations were conducted to:

- collect the data necessary to verify the likelihood of uncontrolled waste disposal,
- determine if potential contamination was located on the Site and was migrating offsite, and
- provide sufficient information to allow the NYSDEC to re-classify the site.

3.0 SCOPE OF WORK

To reclassify the Site, the NYSDEC requires data documenting hazardous waste disposal as set forth in 6 NYCRR Part 371, and the potential significant threat to human health and the environment as defined by 6 NYCRR Part 375. Because data necessary to determine if the chlorinated compounds detected in the Sullivan Street Wells originated from the Site or if potential contamination present in Site media are migrating off-site and pose a potential significant threat to human health or the environment were not available in federal and state files reviewed during Task 1, additional field investigations were performed as described below. Task 2 activities included the Field Investigation. The objective of Task 2 activities was to determine whether the volatile organic compounds (VOCs) detected in the city supply well originated from the Site, or whether potential onsite VOC contamination is migrating offsite. Task 3 was the preparation and distribution of this Report.

3.1 TASK 2 - FIELD INVESTIGATIONS

Field investigations included:

1) Geoprobe Soil and Groundwater Sampling
2) Microwell Installation
3) Well Development
4) Synoptic Groundwater Measurement Round

The subsurface soil borings, groundwater sample collection, groundwater monitoring well installation and well development activities were conducted from September 25 through September 29, 2006.

The synoptic groundwater measurement round was conducted on November 2, 2006. A Site land survey was completed by Joseph Lu Engineering (Lu Engineers) on December 14, 2006.

3.1.1 General Field Activities

The following subsections describe the activities conducted during the field investigation, including mobilization, health and safety, and decontamination.

3.1.1.1 Mobilization

Upon receiving the NYSDEC authorization to begin fieldwork, MACTEC and its subcontractors mobilized to the Site and began the field exploration program. Field investigations were conducted from September 25 to September 29, 2006.

A field team orientation meeting was held on-site with MACTEC personnel to familiarize field workers with Site history, health and safety requirements, equipment calibration procedures, and other field procedures.

3.1.1.2 Health and Safety

Field investigation activities were conducted at Level D personal protection. Based on photoionization detector (PID) readings, no upgrades to personal protection were warranted.

3.1.1.3 Decontamination

Sampling methods and equipment for this field program were chosen to minimize investigation derived wastes and minimize possibility of cross contamination. Disposable sampling equipment was used as much as practical to minimize decontamination time and water disposal. Non disposable sampling equipment was decontaminated before and after the collection of each sample.

Non disposable sampling equipment was decontaminated by scrubbing the sample collection equipment with potable water and Liquinox, rinsing with potable water, rinsing with deionized water, and then allowing the equipment to air dry. Decontamination fluids did not exhibit visual or olfactory evidence of contamination and were released on-site to the ground surface in the area of decontamination, allowing the liquid to infiltrate into the soil and not run off-site.

3.1.1.4 Investigation Derived Wastes

The field investigation did not result in the generation of wastes that were considered hazardous (i.e., no visual or olfactory signs of contamination, and no PID readings above 5 parts per million were detected). Therefore drill cuttings and purge water resulting from the investigation were placed on the ground surface in the area of exploration and personal protective equipment and disposable sampling equipment were double bagged and disposed of as non-hazardous refuse.

3.2 GEOPROBE® BORINGS AND SAMPLING

Field investigation activities included the completion of Geoprobe® borings, the collection and analysis of groundwater, soil, and soil vapor samples, and the installation of microwells. Geoprobe sampling was conducted over a five day period from September 25 to September 29, 2006. The purpose of the activities was to provide groundwater data for comparison to NYS Class GA Groundwater Quality Standards set forth under 6 NYCRR Parts 700-705 (NYS, 1999b), and to assist the NYSDEC in evaluating significant threat to public health and the environment as defined by 6 NYCRR Part 375 (NYS, 2006). Soil sample analyses were used to assess whether hazardous waste constituents are present in Site soils, and, if possible, confirm a source of chlorinated solvents. Soil vapor sampling results were used to evaluate whether VOCs present in soil and/or groundwater are migrating towards occupied buildings via vapor migration.

MACTEC used a Geoprobe® 66DT rubber-mounted track rig sampling device to collect groundwater soil, and soil vapor samples to identify potential chlorinated solvents. The Geoprobe® pushed and/or hammered rods and probe tips into the subsurface for sample collection. A total of 21 borings were completed during this investigation, including three soil vapor borings and four microwells. A total of 38 groundwater samples, five soil samples and three soil vapor samples were collected. The boring at GW-18 could not be advanced due to the inability to clear all utilities in the borings vicinity. Sample locations are shown on Figures 3.1 and 3.2 (GS locations correspond to GW locations).

MACTEC worked closely with the NYSDEC, the Ruddick's Cleaners site owner, neighboring property owners, and utility companies while obtaining access to these exploration locations. These locations were chosen to determine groundwater conditions up-gradient and down-gradient of,

as well as at the former dry cleaner building location. Boring locations were also chosen to determine if the Site is the source, or a contributing source of TCE contamination detected in the Sullivan Street Wells.

Soil Sampling. Soil samples were collected using a four-foot long 2 inch diameter core sampler with an acrylic liner for the collection of discrete subsurface soil samples. Soil samples were collected continuously from the ground surface to the groundwater table. PID headspace readings were used to screen soil samples for the presence of VOCs as each soil sample was removed from the sample collection tube. One soil boring (GS-4) was selected for continuous soil sampling to 22 feet bgs, to better characterize site soils. Samples were described using the Unified Soil Classification System. The sample description and classification, VOC headspace reading, and boring observations were recorded on the Field Data Record, included in Appendix B. Based on the PID readings and physical evidence such as color or odor, five unsaturated soil samples were submitted to the laboratory for analysis. Samples exhibiting the highest PID readings and physical evidence of contamination were selected for analysis. Soil samples were shipped to Chemtech Consulting Group, Inc. (Chemtech) for analyses of target compound list (TCL) VOCs using USEPA OLM04.3 methods as described in the NYSDEC Analytical Services Protocol (ASP) of June 2000, including calculation of % moisture. Off-site laboratory analysis included Category B deliverables.

Groundwater Sampling. Groundwater samples were collected using a 2-inch diameter stainless steel mill slot sampling device that was exposed to the aquifer, after being pushed to the desired depth interval. A peristaltic pump or check valve (depending on sample depth) was used for the collection of discrete groundwater samples. One tubing volume of water was purged and one set of field parameters including temperature, conductivity, pH, and turbidity were collected before sampling. VOC samples were collected at a low purge rate (approximately 100 milliliters per minute) to minimize potential volatilization.

To assess vertical extent of contamination, MACTEC attempted to collect groundwater samples from two locations in each boring, the water table and 10 feet into the water table (10 feet below the first sample). Each boring was advanced to at least 10 feet into the water table, which was encountered from 10 feet bgs to 12 feet bgs. For two of the borings (GW-1 and GW-9) a third

sample from 20 feet below the water table was also collected. No sample could be collected from GW-18 due to utilities not being cleared.

Groundwater samples were shipped to Chemtech for analyses of TCL VOCs using USEPA OLM04.3 Methods as described in the NYSDEC ASP of June 2000. Off-site laboratory analysis included Category B deliverables.

Microwell Installation. To determine groundwater flow direction at the Site, four Geoprobe® borings were fitted with one-inch diameter microwells (GW-4, GW-5, GW-6 and GW-7). Microwell locations are shown on Figure 3.1. Groundwater was encountered between 10 feet bgs and 12 feet bgs. The one-inch diameter microwells were installed after groundwater samples were collected from each boring. The microwells were installed as piezometers and used primarily for water level measurements. Microwells were constructed with schedule 40 polyvinyl chloride, with 10 foot lengths of 0.01-inch machine slotted well screens. From these piezometers, water table elevations were determined and a potentiometric map of the Site was created. The wells were constructed with a # 0 sand pack to two feet above the screen, a minimum of two feet of bentonite seal placed above the sand pack, native soil as backfill and sealed at the ground surface with cement or blacktop patch. The wells were completed with a locking cap and a six inch flush mount hex key cover. The wells were developed for twenty minutes with a peristaltic pump to clean the screen and determine if the wells were conductive with groundwater. Well construction diagrams are included in Appendix B

Soil Vapor Sampling. Based on proximity to nearby residences and/or businesses, and discussions with the NYSDEC, three soil vapor samples were collected (GV-1, GV-2, GV-3) and used to evaluate the potential vapor migration of contaminants from the groundwater (Figure 3.1). The Geoprobe® rods were pushed to between 9 and 10 feet bgs, anticipated to be below the rain infiltration line, but above the water table fringe zone. Soil vapor was collected just above the water table to give an indication of the possible vapor migration from potentially contaminated groundwater.

Soil vapor samples were collected from the Geoprobe® points using the Geoprobe® PRT system. To sample with the Geoprobe® PRT system, a specialized point was attached to the end of the Geoprobe® rods. The PRT point was exposed to the soil by allowing a disposable point to drop off

the bottom of the rods while pulling the rods up 0.5 feet. The PRT point allows ¼-inch tubing to be threaded directly to the bottom of the rods, for a small discrete sample point. The tubing was run to the surface and connected directly to the sample collection device. The outside of the rods were sealed at the ground surface with pre-hydrated bentonite. Approximately two liters of soil vapor, plus the volume of the tubing, was purged using 580B OVM PID pump before collecting samples. During the soil vapor purge, vapors were screened using a PID. In addition, helium leak tests were conducted on a subset of the Region 8 Dry Cleaners Group 2 Sites soil vapor samples to ensure samples were representative of sub-surface conditions and not outdoor ambient air. Helium tests were conducted by encapsulating the sample point with a bucket sealed to the ground surface with bentonite. The encapsulated area was filled with helium. The soil vapor sample port was tested for helium breakthrough with a portable monitoring device both before and after collection of the soil vapor sample. No sample had greater than 10 percent of the tracer gas breakthrough. The soil vapor samples were collected with one-liter SUMMA®-type canisters with flow valves (set to approximately 20 minutes per sample). Flow into the canisters was less than 0.1 liters per minute, as requested by the NYSDOH. Samples were sent to Chemtech for VOC analysis by USEPA Method TO-15.

3.3 SUB-SLAB SOIL VAPOR SAMPLING.

One sub-slab soil vapor sample was scoped to be collected from the residential building located on the Site property. Upon further discussions with the NYSDEC Project Manager it was determined that no sample would be collected.

3.4 WATER LEVEL SURVEY

Water levels measurements were conducted November 2, 2006. The round consisted of measuring water levels at the four new microwells, as well as two water levels from adjacent surface water repositories (shown on Figure 1.1). Well caps were opened and the wells were allowed to equilibrate to atmospheric pressure. The depths of the wells as well as the depth to water were measured using a conductivity probe from the top of well risers. Groundwater table elevations were calculated from the well riser elevations (subsection 3.5). Well information and groundwater measurements are presented in Table 3.1.

3.5 SITE SURVEY

After completion of field sampling activities Lu Engineers surveyed the Site, and its' surrounding area including the microwell locations and the two water level locations from adjacent surface water repositories (Eldridge Lake and Weyer Pond shown of Figure 1.1). A base map of the Site was created indicating locations of microwells and all other media sampling locations. Horizontal locations were tied to the NYS Plane Coordinate System using North American Datum of 1983. The Site plan provided horizontal locations of all relevant Site features, which included surrounding homes and businesses at a scale of 1 inch to 50 feet. Relevant features included, but were not limited to all structures, buildings, roads, fences, new monitoring wells, marked underground utilities, fire plugs, and power poles.

Vertical elevations of the four new microwells were tied to msl, North Atlantic Vertical Datum of 1988, and measured to an accuracy of 0.01 feet. Horizontal well measurements are accurate to 0.1 ft. The base map was used to accurately locate all Geoprobe® sample points, microwells, and all other media sampling locations. Temporary sample points were located using a Trimble global positioning system and coordinate data is included in Table 3.2. Sample points are included on Figures 3.1 and 3.2, and the Lu Engineers survey map is included in Appendix C.

4.0 DATA ASSESSMENT

This section presents results of the laboratory analyses for soil, groundwater, and air samples collected during Task 2, as well as results of the water level survey.

4.1 ANALYTICAL RESULTS

Soil and groundwater analytical results were compared to appropriate standards, criteria or guidelines (SCGs). There are no exterior soil vapor standards or guidance values, but if detected concentrations exceeded the NYSDOH sub-slab soil vapor guidance values recommended for mitigation, these concentrations were noted as potential concerns. Reported concentrations of individual analytes indicating contravention of standards or guidelines are summarized in the following sections, and noted on Tables 4.1 through 4.4.

A Data Usability Summary Report (DUSR) was completed in accordance with the NYSDEC's Guidance for the Development of DUSRs (NYSDEC, 1997). This report and complete analytical results, including tentatively identified compounds (TICs), are presented in Appendix D. TICs were not evaluated as part of the DUSR.

Based on laboratory or data usability review, some of the data was qualified with a J, B, and/or D. Compounds were qualified J if the concentration listed was an estimated value, which was less than the specified minimum reporting limit but greater than instrument detection limit. Compounds qualified J were analyzed for and determined to be present in the sample, and the mass spectrum of the compound met the identification criteria of the method. The reporting limits for most target VOCs using the OLM04.3 Methods, including the target chlorinated solvents compounds were 10 µg/L. This is above most of the NYS Class GA groundwater standards; however, the actual instrument detection limit was below the NYS Class GA groundwater standards. A list of Chemtech's instrument reporting limits for the OLM04.3 Method is included in Appendix D.

Compounds qualified B indicated that the compound was found in the trip blank, or laboratory blank, and in the sample. It indicates possible sample contamination and warns the data user to use caution when applying the results of this analyte.

Compounds qualified D indicated that the compound was reported from an analytical run that required a dilution due to concentrations greater than the highest calibration standard.

Analytical results were compared to the SCGs described below.

Soil Samples. Analytical results were compared to NYS Soil SCGs. Soil SCGs are based on the NYSDEC's Soil Cleanup Objectives (SCOs) from 1) 6 NYCRR Subpart 375-6 - Remedial Program Soil Cleanup Objectives for Unrestricted Use, and, if not listed in (1), then 2) "Technical and Administrative Guidance Memorandum 4046 (NYSDEC, 1994); Determination of SCOs and Cleanup Levels".

Groundwater Samples. Analytical results were compared to: (1) the NYS Class GA Groundwater Quality Standards from 6 NYCRR Parts 700-706 (NYS, 1999b) or, where applicable, (2) the NYS Class GA Groundwater Quality Guidance Values from the Division of Water Technical and Operational Guidance Series 1.1.1 "Ambient Water Quality Standards and Guidance Values" (NYSDEC, 1998).

Soil Vapor Samples. There are currently no SCGs for concentrations of compounds in soil vapor. Soil vapor samples were collected to determine whether this environmental medium is contaminated, characterize the nature and extent of contamination, and identify possible sources of the contamination.

4.1.1 Soil Sample Results

A summary of target VOCs detected in soil samples is presented in Table 4.1.

VOCs were not detected in soil samples above the NYSDEC Soil Clean-up Objectives.

Trace concentrations (<10 µg/kg) of tetrachloroethene (PCE) were detected at four of the five sample locations ranging from 0.63 µg/kg (GS-4) to 5.6 µg/kg (GS-1). These detections were all below the NYSDEC SCO of 1300 µg/kg.

Trace concentrations (less than 15 µg/L) of acetone and methylene chloride were detected at sample location GS-3 and trace concentrations(less than 10 µg/L) of 2-butanone, ethyl benzene, methylene chloride, o-xylene, toluene, and m/p xylene were detected in sample GS-5. All detections were less then NYSDEC Soil Clean-up objectives (see Table 4.1).

4.1.2 Groundwater Sample Results

A summary of target VOCs and semi volatile organic compounds (SVOCs) detected in groundwater samples collected is presented in Table 4.2 and 4.3, respectively, and maximum detections of PCE and TCE per boring are presented on Figure 4.1.

TCE was detected at three of the eighteen sample locations with detections ranging from 2.9 J µg/L (GW-5) to 19 µg/L (GW-14). TCE concentrations in groundwater exceeded the NYS Class GA groundwater standard of 5 µg/L at one location GW-14 (see Table 4.2).

PCE was detected at ten of the eighteen groundwater sample locations with detections ranging from 1.2 J µg/L (GW-1) to 16 µg/L (GW-5). PCE concentrations detected at six of the eighteen sample locations exceeded the NYS Class GA groundwater standard for PCE of 5 µg/L (see Table 4.2).

Cis-1,2-dichloroethene was detected at eight of the eighteen sample locations with detections ranging from 1.8 J µg/L (GW-8) to 6.3 J µg/L (GW-5). Cis-1,2-dichloroethene concentrations detected at sample locations GW-4 and GW-5 exceeded the NYS Class GA groundwater standard of 5 µg/L (see Table 4.2).

Trace concentrations (<5 µg/L) of methylene chloride were detected at four of the eighteen sampling locations. In addition, trace concentrations (<5 µg/L) of toluene and acetic acid were reported at location GW-15 and trace detections (<5 µg/L) of trans-1,2-dichloroethene were reported at locations GW-4 and GW-9. All detections for methylene chloride, toluene, acetic acid, and trans-1,2-dichloroethene were less than their associated NYS Class GA groundwater standard of 5 µg/L (see Table 4.2).

Trace concentrations (<5 µg/L) of the SVOC compounds butylbenzyphthalate and di-n-octylphthalate were detected at sample locations GW-9 and GW-15. These detections were well below the NYS Class GA groundwater standards of 50 µg/L for each compound (see Table 4.3).

Several VOC and SVOC TICs were also reported in the groundwater samples collected. TICs are reported in Appendix D (see Table 1.5).

4.1.3 Soil Vapor Sample Results

A summary of target VOCs detected in soil vapor samples is presented in Table 4.4.

The only VOCs for which the NYSDOH has promulgated guidance values for soil vapor are TCE, PCE, and 1,1,1-trichloroethane (1,1,1-TCA) (NYSDOH, 2006). These guidance values are only applicable when evaluating sub-slab soil vapor samples in relation to indoor air concentrations, and not exterior soil vapor samples.

Trace concentrations (<10 µg/m^3) of TCE, PCE, and/or 1,1,1-TCA were reported at all three sample locations. These concentrations are not indicative of source area concentrations. In addition, there were slightly elevated concentrations (>100 µg/m^3) of acetone, cyclohexane, heptane, hexane, and propylene at one or more of the sample locations (see Table 4.4).

4.2 POTENTIOMETRIC SURFACE MAP

The microwell survey and depth to water measurements were used to calculate groundwater table elevations (presented on Figure 4.2). Microwell survey and water elevation data are presented in Table 3.1. Depth to water across the survey area varied from approximately 11 feet bgs to 13 feet bgs. Groundwater elevations varied from 847.35 feet above msl, to 847.23 feet above msl. The groundwater table gradient appears to be flat, varying by only 0.12 feet in elevation over 125 feet of distance, or 0.001 ft/ft (GW-6 to GW-4). Interpreted groundwater flow, based on site groundwater elevations, as well as groundwater elevations measured at the other Region 8 Dry Cleaner's - Group II sites in the Elmira Valley, is to the south/southeast, towards the Newtown Creek.

5.0 INVESTIGATION FINDINGS

A review of physical and chemical data collected during the SC resulted in the following findings:

1) The Site is located in a residential neighborhood that is serviced by public water. Low concentrations of TCE (<10.3 µg/L) have been detected in the City of Elmira's Sullivan Street public supply well, located approximately 0.2 miles east of the Site. Groundwater measurements collected at the Site and in the greater Elmira Valley indicate that groundwater flow is generally to the south south-east and not towards this supply well.
2) No chlorinated solvents were detected above the NYSDEC Soil Cleanup objectives in the five soil samples collected. Three of the samples were collected from around the reported location of the former Dry Cleaners building footprint.
3) TCE, a NYS listed hazardous waste, was detected approximately 800 feet up-gradient of the Site at location GW-14 at a concentration of 19 µg/L in comparison to the NYS standard of 5 µg/L. Low concentrations of TCE (<5 µg/L) were detected in groundwater at the site, and groundwater samples collected down-gradient of the Site at GW-9 and GW-10 showed no detections of TCE, indicating that the Site is not likely a contributing source to the TCE detected in the city supply wells.
4) PCE, a common dry cleaning solvent and a NYS listed hazardous waste, was detected in groundwater samples collected from 10 of 18 sample locations; concentrations detected exceeded NYS groundwater standard of 5 µg/L at PCE at 6 of the 18 locations. PCE was not detected in groundwater samples collected from presumably up-gradient sample locations GW-14, GW-13, and GW-12. PCE was detected at the highest concentrations in groundwater samples collected from locations GW-5 (16 µg/L) and GW-4 (14 µg/L), located at the southern edge of the site property; GW-4 is located adjacent to the reported former Dry Cleaners building. Trace concentrations (<10 µg/kg) of PCE was detected on-site at four of the five sampled locations; however, concentrations were below NYSDEC soil cleanup objectives. This data, combined with lower concentrations of PCE detected in downgradient groundwater samples indicate that the Site is likely the source of PCE detected in groundwater.
5) Trace concentrations (less than 10 $\mu g/m^3$) of PCE and TCE were detected in the three Geoprobe soil vapor samples. 1,1,1 TCA was detected in only one Geoprobe soil vapor sample, GV-1.

Data Gaps. Based on the SC, the following data gaps still exist:

1. Based on anticipated groundwater flow direction and concentrations detected, the source of PCE contamination detected in groundwater appears to be in the vicinity of the Site, but a source area has not been located.
2. The downgradient extent of PCE contamination above NYS Class GA water standard of 5 has not been defined.

6.0 REFERENCES

Environmental Data Resources, Inc (EDR), 2006. EDR Radius Map with GeoCheck for Ruddicks Dry Cleaners, 384 Norton Street, Elmira, New York. May 18, 2006.

LaDouce, 2005. Telephone conversation between MACTEC and Mark LaDouce of the Elmira Water Board. September 9, 2005.

Muller, et al., 1986. Surficial Geologic Map of New York, Finger Lakes Sheet, New York State Museum Geologic Survey, Map and Chart Series #40. 1986.

National Climactic Data Center (NCDC), 2004. Comparative Climactic Data for the United States, 1971 to 2000. February, 2004.

New York State (NYS), 1999a. New York Codes, Rules, and Regulations, Title 6, Part 371 Identification and Listing of Hazardous Wastes. Amended November 1999.

New York State (NYS), 1999b. New York Codes, Rules, and Regulations, Title 6, Part 700-705 Water Quality Regulations Surface Water and Groundwater Classifications and Standards. Amended August 1999.

New York State (NYS), 2006. New York Codes, Rules, and Regulations, Title 6, Part 375 Inactive Hazardous Waste Disposal Sites Remedial Program. Reissued October 2006.

New York State Department of Environmental Conservation (NYSDEC), 2006. Work Assignment #D003826-29 Region 8 Dry Cleaners – Group 2 - letter dated March 28, 2006.

New York State Department of Environmental Conservation (NYSDEC), 2002. Draft DER-10, Technical Guidance for Site Investigation and Remediation. December 2002.

New York State Department of Environmental Conservation (NYSDEC), 2000. *"Analytical Services Protocols"*; 6/00 Edition; June 2000.

New York State Department of Environmental Conservation (NYSDEC), 1998. Division of Water Technical and Operational Guidance Series 1.1.1: "Quality Standards and guidance Values and Groundwater Effluent Limitations"; June, 1998.

New York State Department of Environmental Conservation (NYSDEC), 1997. "Guidance for the Development of Data Usability Reports"; Division of Environmental Remediation; September 1997.

New York State Department of Environmental Conservation (NYSDEC), 1994. Revised Technical and Administrative Guidance Memorandum HWR 94-4046: Determination of Soil Cleanup Objectives and Cleanup Levels. January 1994.

New York State Department of Health (NYSDOH), 2006. *"Guidance for Evaluating Soil Vapor Intrusion in the State of New York"*. October 2006.

New York State Department of Health (NYSDOH), 1994. Public Health Assessment, Facet Enterprises. Prepared by NYSDOH. March 16, 1994.

Rickard and Fisher, 1970. Geologic Map of New York, Finger Lakes Sheet, New York State Map and Chart Series 15. by L.V. Richard and D.W. Fisher. March, 1970.

TABLES

Table 3.1: Monitoring Well Information and Water Level Data

Location ID	Elevation Ground	Elevation (TOC)	Elevation (TOR)	Well Depth (ft BTOR)	Depth to Water (ft BTOR) (11/02/2006)	Groundwater Elevation (11/02/2006)
WL-1	853.69	N/A	853.69	N/A	2.30	851.39
WL-2	852.90	N/A	852.90	N/A	4.23	848.67
GW-4	860.28	860.28	860.06	18.70	12.83	847.23
GW-5	859.66	859.66	859.38	17.80	12.16	847.22
GW-6	858.86	858.86	858.55	20.02	11.20	847.35
GW-7	858.23	858.23	858.00	20.05	10.71	847.29

Notes:
Wells surveyed by Joseph Lu Engineers on December 14, 2006. Elevations tide to mean sea level using North Atlantic Vertical Datum of 1988.
Water level measurements collected by MACTEC Engineering.
N/A - Not Applicable
TOC = top of casing; TOR = top of riser (or measurement point for lake levels).
ft BTOR = feet below top of riser.

Table 3.2: Survey Data

Location Identification	Location Description	X-Coordinate	Y-Coordinate
GV-01	Soil Vapor Point	759473.5	769102.9
GV-02	Soil Vapor Point	759440.3	769113.2
GV-03	Soil Vapor Point	759508.3	769047.0
GW-1/GS-1	Geoprobe Groundwater/Soil	759454.5	769106.0
GW-2/GS-2	Geoprobe Groundwater/Soil	759472.0	769101.8
GW-3/GS-3	Geoprobe Groundwater/Soil	759505.9	769149.8
GW-4/GS-4	Microwell and Geoprobe Groundwater and Soil Point	759446.8	769092.0
GW-5/GS-5	Microwell and Geoprobe Groundwater and Soil Point	759542.7	769127.8
GW-6	Microwell and Geoprobe Groundwater Point	759532.8	769184.8
GW-7	Microwell and Geoprobe Groundwater Point	759427.8	769145.7
GW-8	Geoprobe Groundwater Point	759457.1	769037.5
GW-9	Geoprobe Groundwater Point	759513.6	769047.5
GW-10	Geoprobe Groundwater Point	759587.9	769042.7
GW-11	Geoprobe Groundwater Point	759598.5	769195.2
GW-12	Geoprobe Groundwater Point	759511.1	769310.2
GW-13	Geoprobe Groundwater Point	759456.5	769523.0
GW-14	Geoprobe Groundwater Point	759331.0	769999.7
GW-15	Geoprobe Groundwater Point	759336.8	769154.7
GW-16	Geoprobe Groundwater Point	759108.3	769063.7
GW-17	Geoprobe Groundwater Point	758423.0	768788.9
GW-19	Geoprobe Groundwater Point	759992.6	769286.8

Notes:
1) Horizontal coordinates are in feet and based on the New York State Plane Coordinates System, Central Zone. They are based on the NAD 1983 coordinate datum.
2) Microwell Locations GW-4 to GW-7 were surveyed by Joseph Lu Engineers, a liscenced land surveyor with an accuracy of 0.1 feet.
3) The remainder of the locations were surveyed using a Trimble global positioning system with an accuracy of 1-meter.

Table 4.1: Soil SampleVOC Results

	Location	GS-1/GW-1		GS-2/GW-2		GS-3/GW-3		GS-4/GW-4		GS-4/GW-4		GS-5/GW-5	
	Sample Date	9/27/2006		9/27/2006		9/28/2006		9/27/2006		9/27/2006		9/26/2006	
	Sample ID	RCGS00100901XX		RCGS00200801XX		RCGS00300701XX		RCGS00400401XX		RCGS00400401XD		RCGS00500201XX	
	Sample Depth (ft bgs)	9-11		8-10		7-9		4-6		4-6		2-4	
	QC Code	FS		FS		FS		FS		FD		FS	
Parameter	**Criteria**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
2-Butanone	120	53	UJ	52	UJ	54	U	54	UJ	54	UJ	**5.2**	**J**
Acetone	50	53	UJ	52	UJ	**12**	**J**	54	UJ	54	UJ	55	U
Ethyl benzene	1000	11	U	10	U	11	U	11	U	11	U	**2.2**	**J**
Methylene chloride	50	11	U	10	U	**1**	**J**	11	U	11	U	**0.99**	**J**
o-Xylene	260	11	U	10	U	11	U	11	U	11	U	**4**	**J**
Tetrachloroethene	1300	**5.6**	**J**	**3.2**	**J**	11	U	**1.1**	**J**	**0.63**	**J**	**3.5**	**J**
Toluene	700	11	U	10	U	11	U	11	U	11	U	**0.61**	**J**
Xylene, m/p	260	11	U	10	U	11	U	11	U	11	U	**8.3**	**J**
Percent Solids (%)	NA	**94**		**95**		**93**		**92**		**92**		**90**	

Notes:
Only Detected Compounds shown.
Samples analyzed for VOCs by USEPA Method OLM04.3.
Percent Solids analyzed by EPA Merhod 160.3
Results in microgram per kilogram (µg/kg)
ft bgs = feet below ground surface
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration greater than the Reporting Limit
J = Estimated value

Criteria = Values from Subpart 375-6.8(a) Unrestricted Use Soil Cleanup, "Remedial Program Soil Clean-up Objectives" (NYSDEC, 2006)

Table 4.2: Groundwater Sample VOC Results

Location		GW-1		GW-1		GW-1		GW-2		GW-2	
Sample Date		9/27/2006		9/27/2006		9/27/2006		9/27/2006		9/27/2006	
Sample ID		RCGW00101701XX		RCGW00102701XX		RCGW00103501XX		RCGW00201301XX		RCGW00201301XD	
Sample Depth (ft bgs)		17		27		35		13		13	
QC Code		FS		FS		FS		FS		FD	
Parameter	**Criteria**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Acetic acid, methyl ester	NA	10	U	10	U	10	U	10	U	10	U
Cis-1,2-Dichloroethene	5	10	U	**1.8**	**J**	10	U	10	U	10	U
Methylene chloride	5	10	U	10	U	**2**	**J**	10	U	10	U
Tetrachloroethene	5	**6.4**	**J**	**3.8**	**J**	**1.2**	**J**	**8.2**	**J**	**9.6**	**J**
Toluene	5	10	U	10	U	10	U	10	U	10	U
trans-1,2-Dichloroethene	5	10	U	10	U	10	U	10	U	10	U
Trichloroethene	5	10	U	10	U	10	U	10	U	10	U

Notes:
Only Detected Compounds shown.
Samples analyzed for VOCs by USEPA Method OLM04.3.
Results in microgram per liter (µg/L)
ft bgs = feet below ground surface
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration greater than the Reporting Limit.
J = Estimated value
Criteria = Values from Technical and
Operational Guidance Series (TOGS) 1.1.1,
Ambient Water Quality Standards and Guidance
Values and Groundwater Effluent Limitations
(NYSDEC, 1998)
All criteria are New York State Groundwater Standards.
NA = Not Available
Highlighted results exceed associated criteria

Table 4.2: Groundwater Sample VOC Results

Location		GW-2		GW-3		GW-3		GW-4		GW-4	
Sample Date		9/27/2006		9/28/2006		9/28/2006		9/27/2006		9/27/2006	
Sample ID		RCGW00202301XX		RCGW00301301XX		RCGW00302301XX		RCGW00401301XX		RCGW00402301XX	
Sample Depth (ft bgs)		23		13		23		13		23	
QC Code		FS		FS		FS		FS		FS	
Parameter	**Criteria**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Acetic acid, methyl ester	NA	10	U	10	U	10	U	10	U	10	U
Cis-1,2-Dichloroethene	5	**2.8**	**J**	10	U	**1.4**	**J**	10	U	**5.7**	**J**
Methylene chloride	5	10	U	10	U	10	U	**4.2**	**J**	**2.4**	**J**
Tetrachloroethene	5	**3.4**	**J**	**4**	**J**	**4.1**	**J**	**14**		**7.4**	**J**
Toluene	5	10	U	10	U	10	U	10	U	10	U
trans-1,2-Dichloroethene	5	10	U	10	U	10	U	10	U	**2.1**	**J**
Trichloroethene	5	10	U	10	U	10	U	10	U	10	U

Notes:
Only Detected Compounds shown.
Samples analyzed for VOCs by USEPA Method OLM04.3.
Results in microgram per liter (µg/L)
ft bgs = feet below ground surface
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration greater than the Reporting L
J = Estimated value
Criteria = Values from Technical and
Operational Guidance Series (TOGS) 1.1.1,
Ambient Water Quality Standards and Guidance
Values and Groundwater Effluent Limitations
(NYSDEC, 1998)
All criteria are New York State Groundwater Standards.
NA = Not Available
Highlighted results exceed associated criteria

Table 4.2: Groundwater Sample VOC Results

Location		GW-5		GW-5		GW-6		GW-6		GW-7	
Sample Date		9/26/2006		9/26/2006		9/26/2006		9/26/2006		9/26/2006	
Sample ID		RCGW00501301XX		RCGW00502301XX		RCGW00601301XX		RCGW00602301XX		RCGW00701301XX	
Sample Depth (ft bgs)		13		23		13		23		13	
QC Code		FS		FS		FS		FS		FS	
Parameter	**Criteria**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Acetic acid, methyl ester	NA	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
Cis-1,2-Dichloroethene	5	10	U	**6.3**	**J**	10	U	10	U	10	U
Methylene chloride	5	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	5	**7.6**	**J**	**16**		10	U	**4**	**J**	**6.4**	**J**
Toluene	5	10	U	10	U	10	U	10	U	10	U
trans-1,2-Dichloroethene	5	10	U	10	U	10	U	10	U	10	U
Trichloroethene	5	10	U	**2.9**	**J**	10	U	10	U	10	U

Notes:
Only Detected Compounds shown.
Samples analyzed for VOCs by USEPA Method OLM04.3.
Results in microgram per liter (µg/L)
ft bgs = feet below ground surface
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration greater than the Reporting L
J = Estimated value
Criteria = Values from Technical and
Operational Guidance Series (TOGS) 1.1.1,
Ambient Water Quality Standards and Guidance
Values and Groundwater Effluent Limitations
(NYSDEC, 1998)
All criteria are New York State Groundwater Standards.
NA = Not Available
Highlighted results exceed associated criteria

Table 4.2: Groundwater Sample VOC Results

Location		GW-7		GW-8		GW-8		GW-9		GW-9	
Sample Date		9/26/2006		9/28/2006		9/28/2006		9/29/2006		9/29/2006	
Sample ID		RCGW00702301XX		RCGW00801301XX		RCGW00802301XX		RCGW00901701XX		RCGW00902701XX	
Sample Depth (ft bgs)		23		13		23		17		27	
QC Code		FS		FS		FS		FS		FS	
Parameter	**Criteria**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Acetic acid, methyl ester	NA	10	UJ	10	U	10	U	10	U	10	U
Cis-1,2-Dichloroethene	5	10	U	10	U	**1.8**	**J**	10	U	**3.2**	**J**
Methylene chloride	5	10	U	10	U	10	U	**2.1**	**J**	10	U
Tetrachloroethene	5	10	U	**4.6**	**J**	**7.5**	**J**	**1.9**	**J**	10	U
Toluene	5	10	U	10	U	10	U	10	U	10	U
trans-1,2-Dichloroethene	5	10	U	10	U	**1.6**	**J**	10	U	**2.2**	**J**
Trichloroethene	5	10	U	10	U	10	U	10	U	10	U

Notes:
Only Detected Compounds shown.
Samples analyzed for VOCs by USEPA Method OLM04.3.
Results in microgram per liter (µg/L)
ft bgs = feet below ground surface
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration greater than the Reporting L
J = Estimated value
Criteria = Values from Technical and
Operational Guidance Series (TOGS) 1.1.1,
Ambient Water Quality Standards and Guidance
Values and Groundwater Effluent Limitations
(NYSDEC, 1998)
All criteria are New York State Groundwater Standards.
NA = Not Available
Highlighted results exceed associated criteria

Table 4.2: Groundwater Sample VOC Results

Location		GW-9		GW-10		GW-10		GW-11		GW-11	
Sample Date		9/29/2006		9/29/2006		9/29/2006		9/28/2006		9/28/2006	
Sample ID		RCGW00903701XX		RCGW01001701XX		RCGW01002701XX		RCGW01101501XX		RCGW01102501XX	
Sample Depth (ft bgs)		37		17		27		15		25	
QC Code		FS		FS		FS		FS		FS	
Parameter	**Criteria**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Acetic acid, methyl ester	NA	10	U	10	U	10	U	10	U	10	U
Cis-1,2-Dichloroethene	5	**2.3**	**J**	10	U	10	U	10	U	**3.5**	**J**
Methylene chloride	5	10	U	**3.2**	**J**	**2.6**	**J**	10	U	10	U
Tetrachloroethene	5	10	U	10	U	10	U	10	U	**4.9**	**J**
Toluene	5	10	U	10	U	10	U	10	U	10	U
trans-1,2-Dichloroethene	5	**1.5**	**J**	10	U	10	U	10	U	10	U
Trichloroethene	5	10	U	10	U	10	U	10	U	**3.4**	**J**

Notes:
Only Detected Compounds shown.
Samples analyzed for VOCs by USEPA Method OLM04.3.
Results in microgram per liter (µg/L)
ft bgs = feet below ground surface
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration greater than the Reporting L
J = Estimated value
Criteria = Values from Technical and
Operational Guidance Series (TOGS) 1.1.1,
Ambient Water Quality Standards and Guidance
Values and Groundwater Effluent Limitations
(NYSDEC, 1998)
All criteria are New York State Groundwater Standards.
NA = Not Available
Highlighted results exceed associated criteria

Table 4.2: Groundwater Sample VOC Results

Location		GW-12		GW-12		GW-13		GW-13		GW-14	
Sample Date		9/28/2006		9/28/2006		9/26/2006		9/26/2006		9/28/2006	
Sample ID		RCGW01201301XX		RCGW01202301XX		RCGW01301101XX		RCGW01302101XX		RCGW01401701XX	
Sample Depth (ft bgs)		13		23		11		21		17	
QC Code		FS		FS		FS		FS		FS	
Parameter	**Criteria**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Acetic acid, methyl ester	NA	10	U	10	U	10	U	10	U	10	U
Cis-1,2-Dichloroethene	5	10	U	10	U	10	U	10	U	10	U
Methylene chloride	5	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	5	10	U	10	U	10	U	10	U	10	U
Toluene	5	10	U	10	U	10	U	10	U	10	U
trans-1,2-Dichloroethene	5	10	U	10	U	10	U	10	U	10	U
Trichloroethene	5	10	U	10	U	10	U	10	U	**6.4**	**J**

Notes:
Only Detected Compounds shown.
Samples analyzed for VOCs by USEPA Method OLM04.3.
Results in microgram per liter (µg/L)
ft bgs = feet below ground surface
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration greater than the Reporting L
J = Estimated value
Criteria = Values from Technical and
Operational Guidance Series (TOGS) 1.1.1,
Ambient Water Quality Standards and Guidance
Values and Groundwater Effluent Limitations
(NYSDEC, 1998)
All criteria are New York State Groundwater Standards.
NA = Not Available
Highlighted results exceed associated criteria

Table 4.2: Groundwater Sample VOC Results

Location		GW-14		GW-15		GW-15		GW-15		GW-16	
Sample Date		9/28/2006		9/28/2006		9/28/2006		9/28/2006		9/28/2006	
Sample ID		RCGW01402701XX		RCGW01501301XX		RCGW01501301XD		RCGW01502301XX		RCGW01600901XX	
Sample Depth (ft bgs)		27		13		13		23		9	
QC Code		FS		FS		FD		FS		FS	
Parameter	**Criteria**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Acetic acid, methyl ester	NA	10	U	10	U	**71**		10	U	10	U
Cis-1,2-Dichloroethene	5	10	U	10	U	10	U	10	U	10	U
Methylene chloride	5	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	5	10	U	10	U	10	U	10	U	10	U
Toluene	5	10	U	10	U	**1.4**	**J**	10	U	10	U
trans-1,2-Dichloroethene	5	10	U	10	U	10	U	10	U	10	U
Trichloroethene	5	**19**		10	U	10	U	10	U	10	U

Notes:
Only Detected Compounds shown.
Samples analyzed for VOCs by USEPA Method OLM04.3.
Results in microgram per liter (µg/L)
ft bgs = feet below ground surface
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration greater than the Reporting L
J = Estimated value
Criteria = Values from Technical and
Operational Guidance Series (TOGS) 1.1.1,
Ambient Water Quality Standards and Guidance
Values and Groundwater Effluent Limitations
(NYSDEC, 1998)
All criteria are New York State Groundwater Standards.
NA = Not Available
Highlighted results exceed associated criteria

Table 4.2: Groundwater Sample VOC Results

	Location	GW-16		GW-17		GW-17		GW-19		GW-19	
	Sample Date	9/28/2006		9/28/2006		9/28/2006		9/28/2006		9/28/2006	
	Sample ID	RCGW01601901XX		RCGW01700901XX		RCGW01701901XX		RCGW01900901XX		RCGW01901XX	
	Sample Depth (ft bgs)	19		9		19		9		19	
	QC Code	FS		FS		FS		FS		FS	
Parameter	**Criteria**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Acetic acid, methyl ester	NA	10	U	10	U	10	U	10	U	10	U
Cis-1,2-Dichloroethene	5	10	U	10	U	10	U	10	U	10	U
Methylene chloride	5	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	5	10	U	10	U	10	U	10	U	10	U
Toluene	5	10	U	10	U	10	U	10	U	10	U
trans-1,2-Dichloroethene	5	10	U	10	U	10	U	10	U	10	U
Trichloroethene	5	10	U	10	U	10	U	10	U	10	U

Notes:
Only Detected Compounds shown.
Samples analyzed for VOCs by USEPA Method OLM04.3.
Results in microgram per liter (µg/L)
ft bgs = feet below ground surface
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration greater than the Reporting L
J = Estimated value
Criteria = Values from Technical and
Operational Guidance Series (TOGS) 1.1.1,
Ambient Water Quality Standards and Guidance
Values and Groundwater Effluent Limitations
(NYSDEC, 1998)
All criteria are New York State Groundwater Standards.
NA = Not Available
Highlighted results exceed associated criteria

Table 4.3: Groundwater Sample SVOC Results

	Location	GW-1		GW-9		GW-15		GW-15	
	Sample Date	9/27/2006		9/29/2006		9/28/2006		9/28/2006	
	Sample ID	RCGW00101701XX		RCGW00901701XX		RCGW01501301XX		RCGW01501301XD	
	Sample Depth (ft bgs)	17		17		13		13	
	QC Code	FS		FS		FS		FD	
Parameter	**Criteria**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Butylbenzylphthalate	50	10	U	**4.5**	**J**	10	U	10	U
Di-n-octylphthalate	50	10	U	**1.1**	**J**	**1.4**	**J**	10	UJ

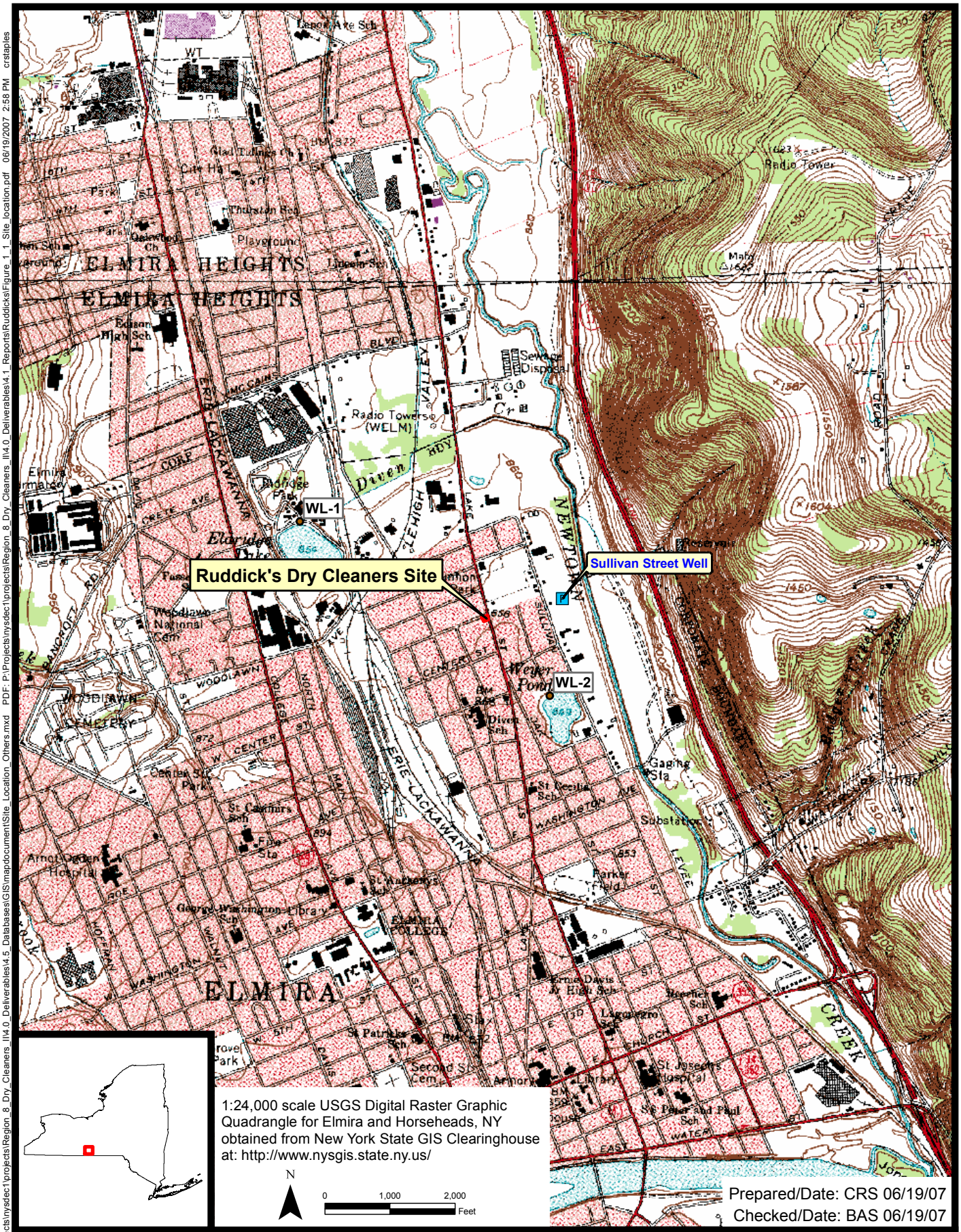
Notes:
Only Detected Compounds shown.
Samples analyzed for SVOCs by USEPA Method OLM04.3.
Results in microgram per liter (µg/L)
ft bgs = feet below ground surface
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration greater than the Reporting Limit.
J = Estimated value
Criteria = Values from Technical and Operational Guidance Series (TOGS) 1.1.1, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (NYSDEC, 1998)
All Criteria listed are New York State Guidance Values.

Table 4.4: Exterior Soil Vapor Results

Location	GV-01		GV-01		GV-02		GV-03	
Sample Date	9/29/2006		9/29/2006		9/29/2006		9/29/2006	
Sample ID	RCGV00101001XX		RCGV00101001XD		RCGV00201001XX		RCGV00301001XX	
QC Code	FS		FD		FS		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
1,1,1-Trichloroethane	3.32	U	**3.05**		2.18	U	2.12	U
1,1,2,2-Tetrachloroethane	0.69	U	0.69	U	1.37	U	**0.76**	
1,1,2-Trichloro-1,2,2-Trifluoroethane	**1.07**		**1.15**		1.53	U	**1.07**	
1,2,4-Trichlorobenzene	**1.26**		**1.48**		1.48	U	**1.48**	
1,2,4-Trimethylbenzene	**4.96**		**5.1**		**11.2**		**4.96**	
1,2-Dichlorobenzene	**0.78**		**0.84**		1.2	U	**0.9**	
1,2-Dichloroethane	0.4	U	**0.53**		0.81	U	0.4	U
1,3,5-Trimethylbenzene	**1.72**		**1.72**		**4.52**		**1.67**	
1,3-Dichlorobenzene	**0.96**		**0.9**		1.2	U	**0.84**	
1,4-Dichlorobenzene	**0.72**		**0.78**		1.2	U	**0.84**	
2-Butanone	**6.71**		**5.48**		1.18	U	**4.15**	
2-Propanol	**2.82**		**3.44**		0.98	U	**4.74**	
4-Ethyltoluene	**1.87**		**1.77**		**4.32**		**1.72**	
Acetone	0.47	U	0.47	U	**152**	**J**	**79.3**	**D**
Allyl chloride	0.63	U	**15.5**		1.26	U	0.63	U
Benzene	**10.2**		**11.1**		**46.2**		**3.16**	
Carbon disulfide	**4.23**		**4.82**		**7.9**		**1.03**	
Carbon tetrachloride	**0.88**		**0.88**		1.26	U	**0.94**	
Chlorobenzene	**0.46**	**J**	**0.51**		0.92	U	**0.46**	**J**
Chloromethane	**0.76**		**0.92**		**2.17**		**0.92**	
Cyclohexane	**22.5**		**26.4**		**180**	**D**	**3.25**	
Dichlorodifluoromethane	**2.47**		**3.17**		**3.27**		**2.47**	
Ethyl acetate	0.36	U	**42.5**		0.72	U	0.36	U
Ethyl benzene	**3.29**		**2.69**		**7.46**		**2.73**	
Heptane	**26.7**		**30.4**		**198**	**D**	**2.99**	
Hexane	**141**	**D**	**159**	**D**	**645**	**D**	**10.9**	
Methylene chloride	**1.6**	**J**	**1.36**	**J**	**6.19**		**1.67**	**J**
o-Xylene	**4.73**		**3.86**		**4.16**		**3.64**	
Propylene	**365**	**D**	**439**	**D**	1.72	U	**56.6**	**D**
Styrene	**0.6**		**0.64**		0.85	U	**0.64**	
Tetrachloroethene	**3.87**		**4.21**		**6.79**		**2.1**	
Toluene	**11.5**		**11.1**		**28**		**10.2**	
Trichloroethene	**0.96**		**0.91**		**1.61**		**0.75**	
Trichlorofluoromethane	**1.85**		**2.07**		2.24	U	**2.19**	
Vinyl acetate	0.35	U	**19.9**		0.7	U	0.35	U
Xylene, m/p	**11.7**		**8.8**		**44.1**		**9.58**	

Notes:
Only Detected Compounds shown.
Samples analyzed for VOCs by USEPA Method TO-15.
Results in microgram per cubic meter (µg/m3)
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration greater than the reporting limit
J = Estimated value
D = Result is reported from a diluted analytical run

FIGURES



NYSDEC
Ruddick's Dry Cleaners
Elmira, New York

MACTEC

Site Location
Project 3612-06-2059
Figure 1.1

Document: P:\Projects\nysdec1\projects\Region_8_Dry_Cleaners_III4.0_Deliverables\4.5_Databases\GIS\mapdocument\Site_Location_Others.mxd PDF: P:\Projects\nysdec1\projects\Region_8_Dry_Cleaners_III4.0_Deliverables\4.1_Reports\Ruddicks\Figure_1_1_Site_location.pdf 06/19/2007 2:58 PM crstaples

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N

0 15 30 Feet

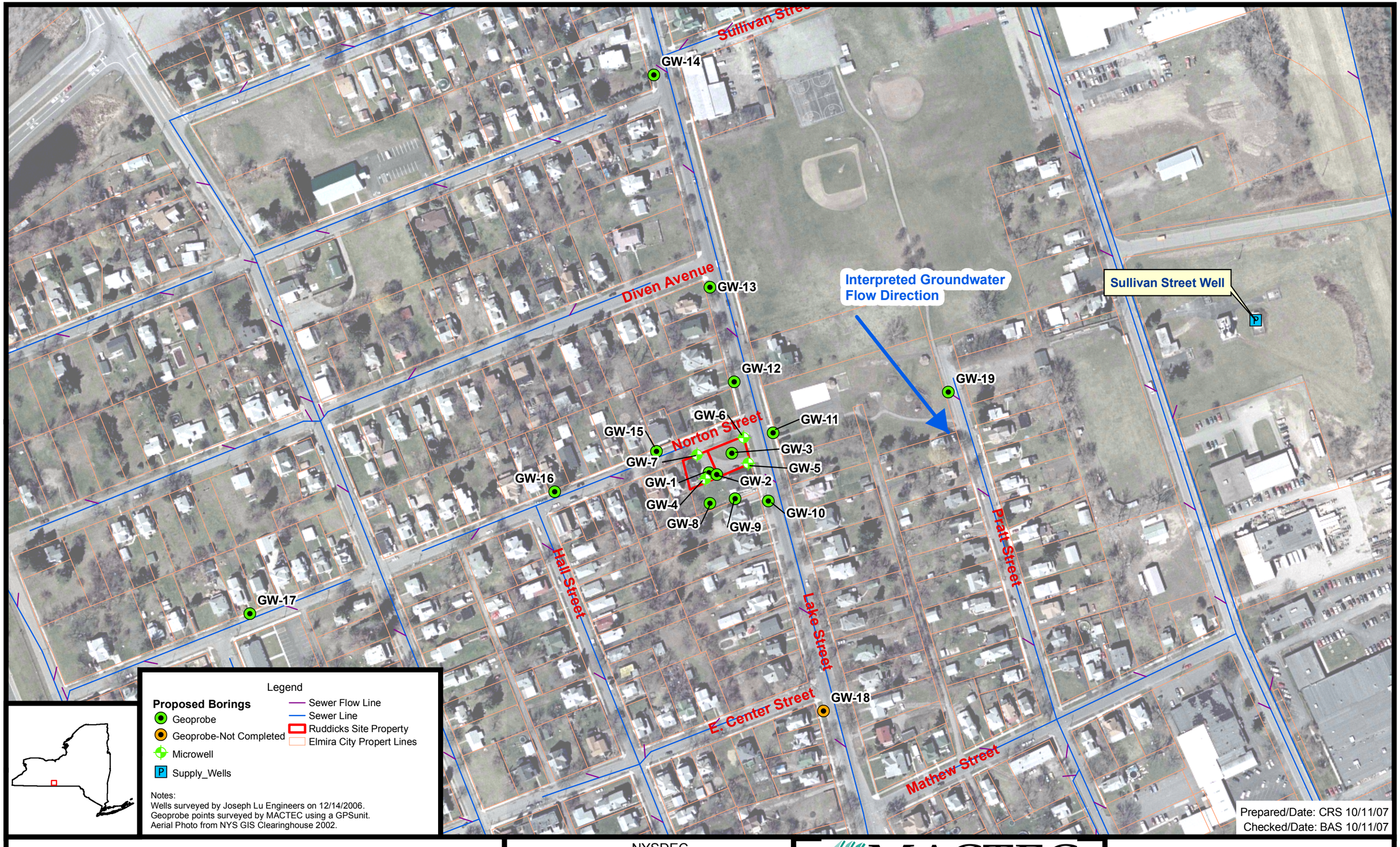
NYSDEC
Ruddick's Dry Cleaners Site
Elmira, NY

MACTEC

Site Map and Sampling Locations

Project 3612-06-2059 Figure 3.1

Document: P:\Projects\nysdec1\projects\Region_8_Dry_Cleaners_II\4.0_Deliverables\4.5_Databases\GIS\mapdocument\Ruddick.mxd PDF: P:\Projects\nysdec1\projects\Region_8_Dry_Cleaners_II\4.0_Deliverables\4.1_Reports\Ruddicks\Final E doc deliverable\Figure_3_2_Area_locations.pdf 10/11/2007 11:06 AM crstaples

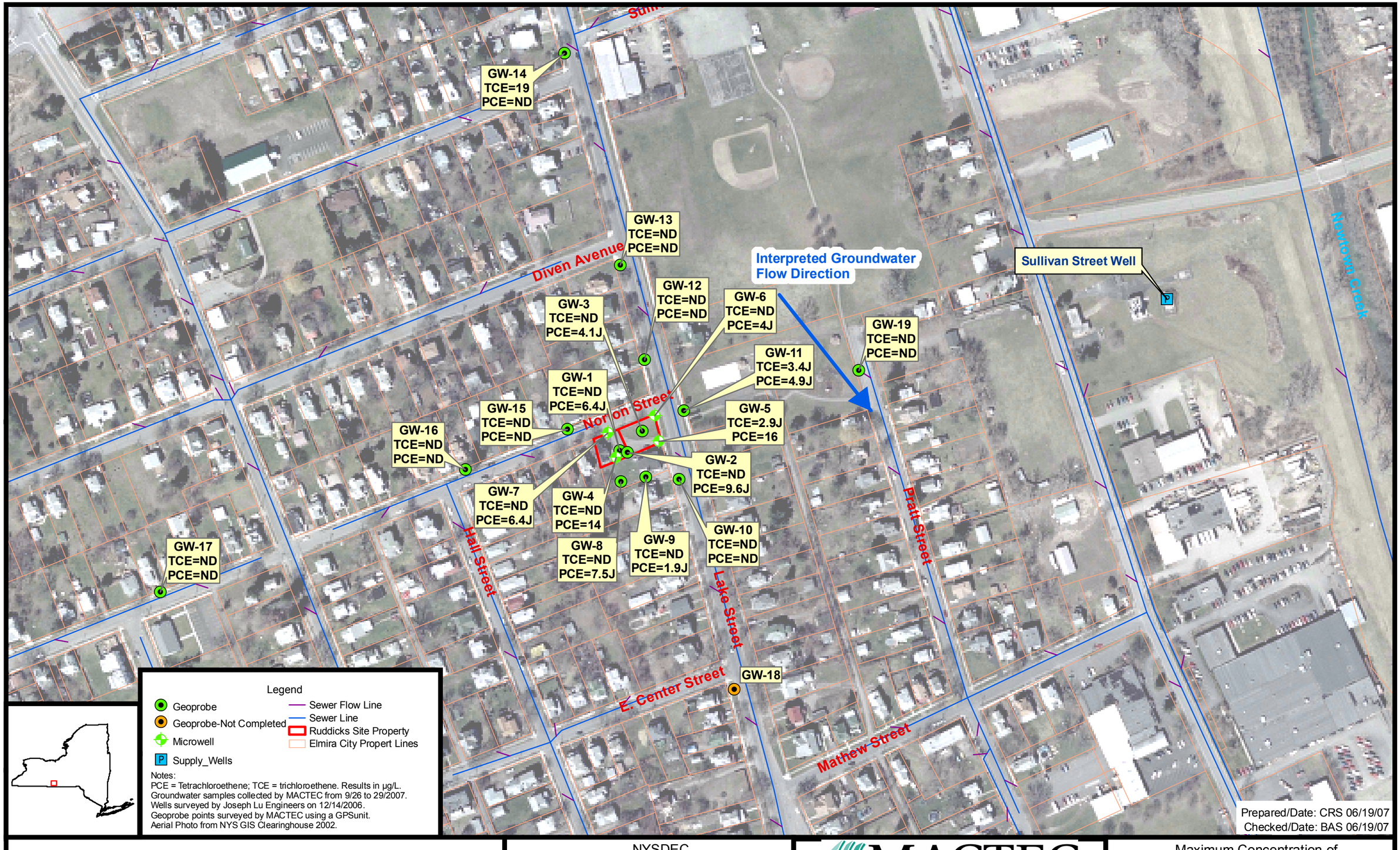


NYSDEC
Ruddick's Dry Cleaners Site
Elmira, NY

MACTEC

Area Sampling Locations

Project 3612-06-2059 Figure 3.2



Legend

- Geoprobe
- Geoprobe-Not Completed
- Microwell
- Supply_Wells
- Sewer Flow Line
- Sewer Line
- Ruddicks Site Property
- Elmira City Propert Lines

Notes:
PCE = Tetrachloroethene; TCE = trichloroethene. Results in µg/L.
Groundwater samples collected by MACTEC from 9/26 to 29/2007.
Wells surveyed by Joseph Lu Engineers on 12/14/2006.
Geoprobe points surveyed by MACTEC using a GPSunit.
Aerial Photo from NYS GIS Clearinghouse 2002.

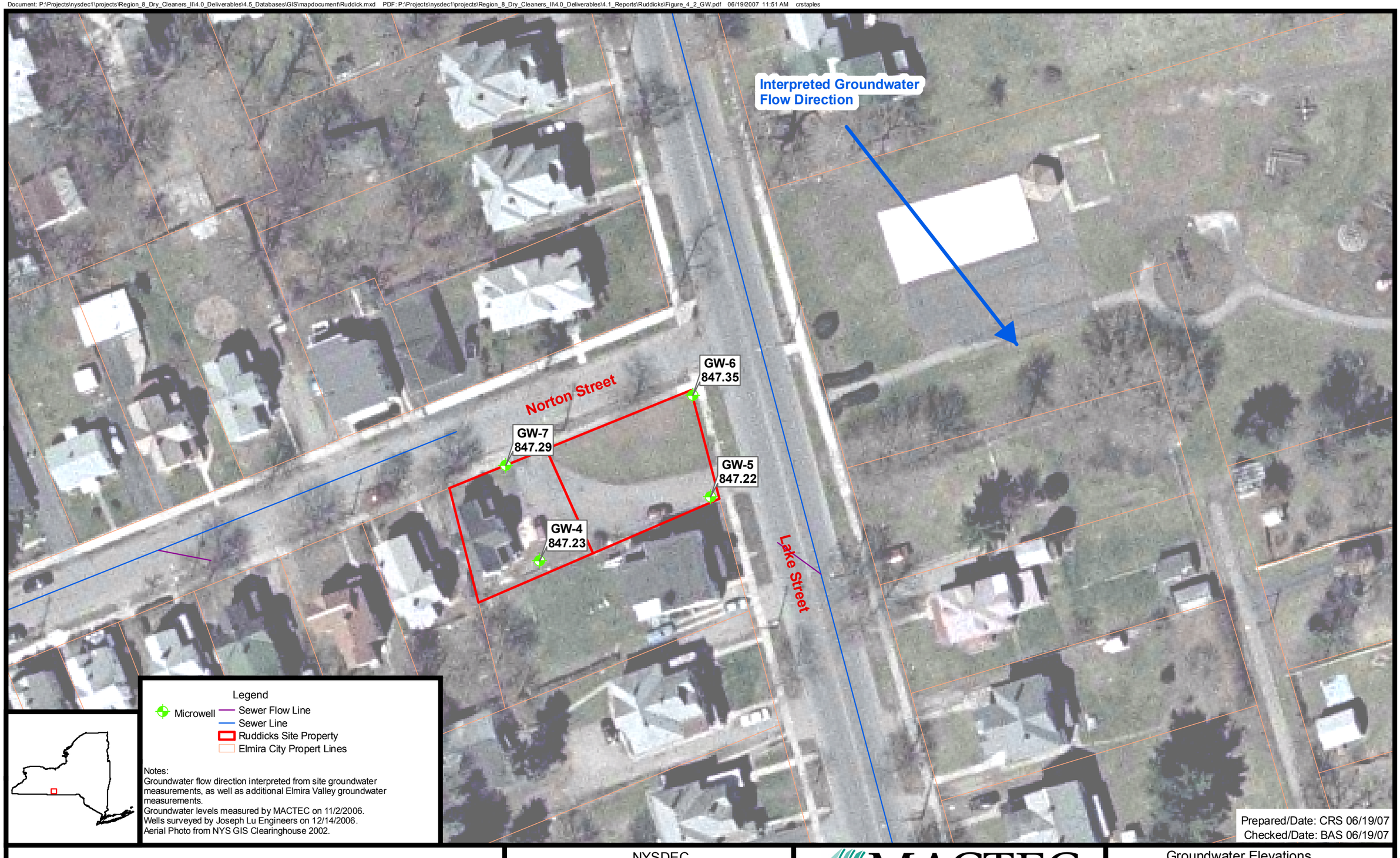
N
0 100 200 Feet

Prepared/Date: CRS 06/19/07
Checked/Date: BAS 06/19/07

NYSDEC
Ruddick's Dry Cleaners Site
Elmira, NY

MACTEC

Maximum Concentration of
PCE and TCE in Groundwater
Project 3612-06-2059 Figure 4.1



N
0 25 50
Feet

NYSDEC
Ruddick's Dry Cleaners Site
Elmira, NY

MACTEC

Groundwater Elevations

Project 3612-06-2059 Figure 4.2

APPENDIX A

SITE PHOTOGRAPHS

RUDDICKS SITE PHOTOGRAPHS

Ruddicks Site Property – View looking Northeast.

View of Site (looking North) from adjacent property.

RUDDICKS SITE PHOTOGRAPHS

Geoprobe setup.

Sampling at GW-13.

RUDDICKS SITE PHOTOGRAPHS

Groundwater sampling at GW-13.

Conducting Helium Breakthrough Test GV-3.

RUDDICKS SITE PHOTOGRAPHS

Duplicate Soil Vapor Sampling at GV-1.

Microwell surface completion.

APPENDIX B

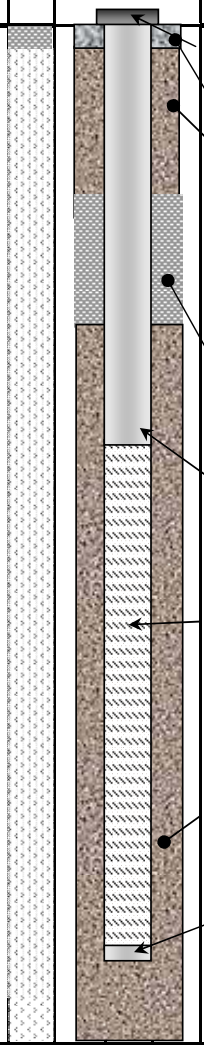
FIELD DATA FORMS

Microwell Completion Diagram

Well No: PZ-004

Project No.: 3612062059/01.2	**Project:** Region 8 Group 2 - Ruddicks	**Checked By:** LONGLEY	
Client Name: NYSDEC	**Logged By:** SHAW	**Protection Level:** D	**Ground Elevation:**
Drilling Contractor: GEOLOGIC	**Drilling Method:** DIRECT PUSH		**Driller's Name:** LIAM CUMMINS
Bit Type/Size: GEOPROBE ROD - 1 1/2"	**Soil Drilled:** 22'	**Rig Type:** 66DT Track Rig	**Start Date:** 9/27/2006 / **Finish Date:** 9/27/2006
Bedrock Interval N/A		**P.I.D. (eV): NA**	**Casing Size** N/A / **Auger Size:** 2"

Depth (feet) | Oxidation and Fractures | Graphic Log | Well Diagram | Well Construction Notes



Notes:

Well Construction Notes: (all depths in feet from ground surface)

Depth to Water Levels:

11/02/2006: 12.83 (TOR)

TD = 22'

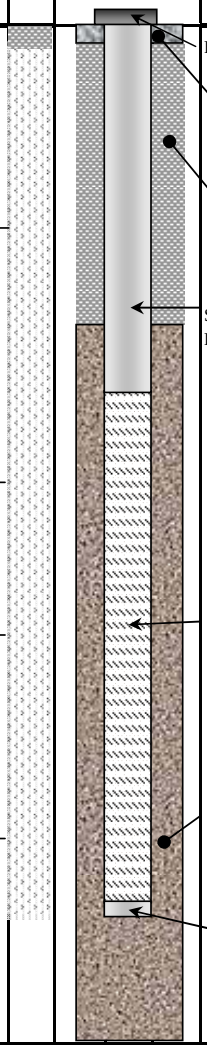
MACTEC

Microwell Completion Diagram

Well No: PZ-005

Project No.: 3612052036/01.2	**Project:** Region 8 Group 2 - Ruddicks	**Checked By:** LONGLEY	
Client Name: NYSDEC	**Logged By:** SHAW	**Protection Level:** D	**Ground Elevation:**
Drilling Contractor: GEOLOGIC	**Drilling Method:** DIRECT PUSH		**Driller's Name:** LIAM CUMMINS
Bit Type/Size: GEOPROBE ROD - 1 1/2"	**Soil Drilled:** 24'	**Rig Type:** 66DT Track Rig	**Start Date:** 9/26/2006	**Finish Date:** 9/26/2006
Bedrock Interval N/A		**P.I.D. (eV): NA**	**Casing Size** N/A	**Auger Size:** 2"

Depth (feet) | Graphic Log | Well Diagram | Well Construction Notes



Flush casing

Cement: 0 - 0.2

Bentonite seal: 0.2 - 5.5

Schedule 40 PVC casing

#10 slot PVC screen w/end cap: 7.6 - 17.6

Silica sand filter pack: 5.5-17.8

Sump: 17.6 - 17.8

Notes:

Depth to Water Levels:

11/02/2006: 12.16' (TOR)

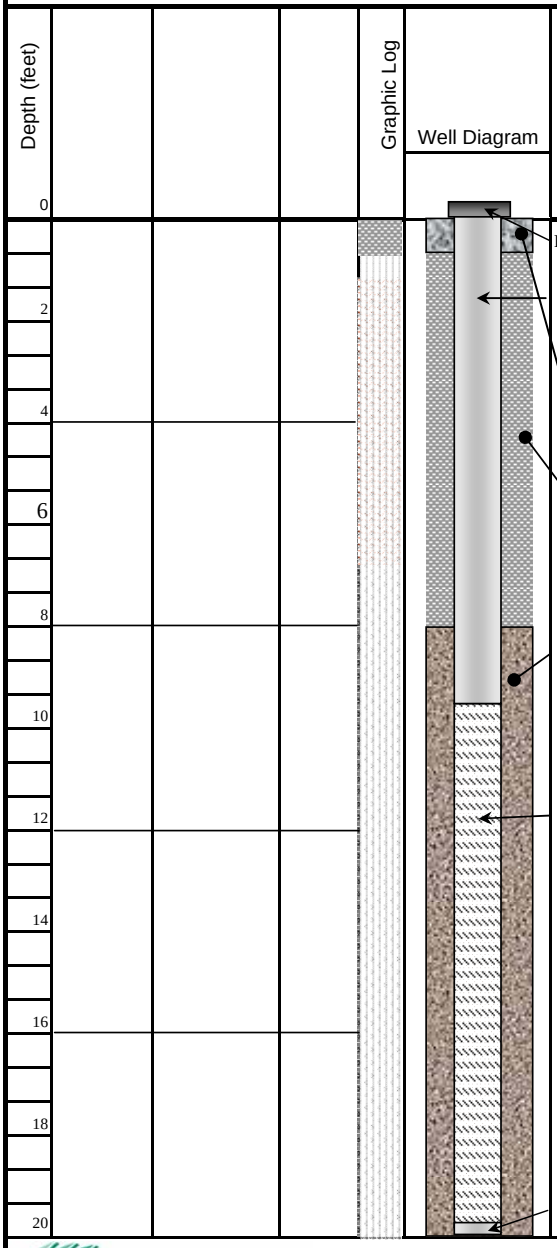
noted water at 12.5 at time of installation

TD = 24'

Microwell Completion Diagram

Well No: PZ-006

Project No.: 3612062059/01.2	**Project:** Region 8 Group 2 - Ruddicks	**Checked By:** LONGLEY	
Client Name: NYSDEC	**Logged By:** SHAW	**Protection Level:** D	**Ground Elevation:**
Drilling Contractor: GEOLOGIC	**Drilling Method:** DIRECT PUSH	**Driller's Name:** LIAM CUMMINS	
Bit Type/Size: GEOPROBE ROD - 1 1/2"	**Soil Drilled:** 24'	**Rig Type:** 66 DT Track Rig	**Start Date:** 9/26/2006 / **Finish Date:** 9/26/2006
Bedrock Interval N/A		**P.I.D. (eV): NA**	**Casing Size** N/A / **Auger Size:** 2"



Notes:

Depth to Water Levels:

11/02/2006: 11.20' (TOR)

noted water at 11.62' at time of installation

TD = 24.0'

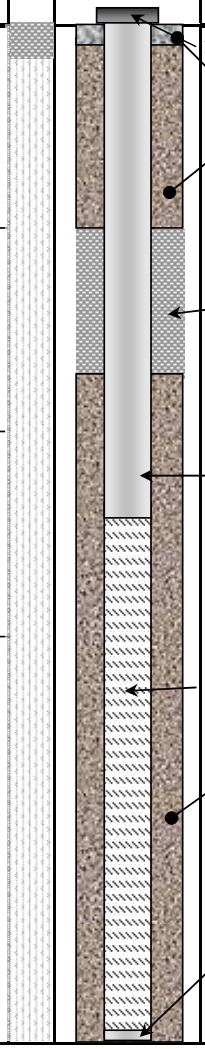
MACTEC

Microwell Completion Diagram

Well No: PZ-007

Project No.: 3612062059/01.2	**Project:** Region 8 Group 2 - Ruddicks	**Checked By:** LONGLEY	
Client Name: NYSDEC	**Logged By:** SHAW	**Protection Level:** D	**Ground Elevation:**
Drilling Contractor: GEOLOGIC	**Drilling Method:** DIRECT PUSH		**Driller's Name:** LIAM CUMMINS
Bit Type/Size: GEOPROBE ROD - 1 1/2"	**Soil Drilled:** 12'	**Rig Type:** 66DT Track Rig	**Start Date:** 9/27/2006	**Finish Date:** 9/27/2006
Bedrock Interval N/A		**P.I.D. (eV): NA**	**Casing Size** N/A	**Auger Size:** 2"

Depth (feet) | Graphic Log | Well Diagram | Well Construction Notes



Flush casing

Cement: 0 - 0.5

Backfill from boring: 0.5 - 4

Bentonite seal: 4 -7

Schedule 40 PVC casing

#10 slot PVC screen w/end cap, 9.9 - 19.9

Silica 00N sand pack: 7 - 22

Sump: 19.90 - 20.05

Notes:

Depth to Water Levels:

11/02/2006: 10.71' (TOR)

noted water at 11.02 at time of installation

BOW: 20.05' bgs
TDS = 34'

MACTEC

Test Boring Log

Field	Entry
Project	REGION 8 D.C. GROUP II – RUDDICKS DRYCLEANERS
Boring/Well No.	GS/BS001
Project No.	3612062046 59/01 2
Client	NYSDEC
Site	RUDDICKS
Sheet No.	1 of 1
Logged By	Brandon Shaw
Ground Elevation	
Start Date	09/27/2006
Finish Date	09/27/2006
Drilling Contractor	GEOLOGIC
Driller's Name	Liam Cummins
Rig Type	6610 DT
Drilling Method	DIRECT PUSH
Protection Level	D
P.I.D. (eV)	/
Casing Size	1 1/2"
Auger Size	2"
Soil Drilled	17'
Rock Drilled	—
Total Depth	36'
Depth to Groundwater/Date	~15.5
Piez / Well / Boring	Boring ☑

Sample	Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space		Lab Tests
S1	0–4	3.2/4.0					0–1.8' DK Brown silty loam w/ fine gravel, grass, roots – Fill. 1.8–3.5 Lt Brownish orange silty sand & gravel; Black slag @ 3.2'. 3.5 to 4' Lt orange Brown WG clean m-coarse sand, damp NP; some fines-silt, m Dense. Composite Soil Sample 1.8 to 4 (MS/MSD) here.	Fill; SM GM	<0.1				
S2	4–8	4.0/5.0					4–6.1 Brown silty sand & gravel damp, NP, M dense. 6.1–8.9 DK Brown, silty sand & gravel, trace clay. Dense, moist, NP. 8.9–9 olive/Brown, silty sandy clay, MP/HP, trace fine gravel, wet	SM GM; SM GC	<0.1; 700ppb; 20ppb		Composite from 6.1 to 8.9.		
S3	8–12	3.8/4.0					9–10.1 Silty fine sand & gravel dry, NP, Dense. 10.1–10.8 clean M coarse sand & fine gravel, V. angular to sub rounded. 10.8–11 – rock floor, dry. 11–13 Silty sand & gravel damp/moist, NP, M dense	SM GM; SP; SM GM	<0.1				
S4	13–17	3.1/4.0					13 to 15.6 Same as 11 to 13. 15.6 to 15.9 Lt Brown sandy silt & gravel, saturated. 15.9 to 17. Lt Brown silty gravel clean not much sediment sat. V. loose	SM GM; GM					

17

FIGURE 4-6
TYPICAL TEST BORING LOG
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services, Inc.

9404014D(z) L33

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: REGION 8 D.C. - GROUP II - RUDDICKS
Project Number: 3612062024 [illegible]
Sample Location ID: RCGW0010170XX

Site: RUDDICK DRY CLEANERS
Date: 09/27/2006
Time: Start: 1625 End: 1650
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth ____ Ft. ___ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing

Well Riser Stick-up ____ Ft. (from ground)

Protective ____ Ft. Casing/Well Difference

Protective ____ Ft. Casing

Depth to Water ____ Ft.

Well Material: ___ PVC ___ SS

Well Locked?: ___ Yes ___ No

Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch

Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Geoprobe Direct Push

Height of Water Column ____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__in.) = ____ Gal/Vol. ____ Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless steel Screen	SP15 MM [illegible]

Decontamination Fluids Used:

(✓ All That Apply at Location)
- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- ✓ Deionized Water
- ✓ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

PID: Ambient Air <0.1 ppm Well Mouth ___ ppm

Purge Data Collected ___ In-line ✓ In Container

Sample Observations: ___ Turbid ___ Clear ✓ Cloudy ___ Colored ___ Odor

Purge Data	@ ~0.7 Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	16.6				
pH, units	7.3				
Specific Conductivity (~~µmhos/cm~~ ms/cm)	0.897				
Turbidity (NTUS)	200				
Oxidation - Reduction, +/- mv	—				
Dissolved Oxygen, ~~ppm~~ mg/L	5.5				

Sample Collection Requirements
(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ID/Lot Nos.
✓ VOCs	✓	4°C	2x40 ml	@ 1645
✓ SVOCs	N	4°C	2x1 liter AG	
✓ Metals		HNO_3,4°C	1x1 liter P	
Cyanide		NaOH,4°C	1x500mLP	
Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4,4°C	2x1 liter AG	
TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen Interval: 18 to 16'

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: REGION 8 D.C. - GROUP II - RUDDICKS
Project Number: 36120620 46
Sample Location ID: RCGW0010270 1XX

Site: RUDDICK DRY CLEANERS
Date: 09/27/2006
Time: Start: 1608 End: 1625
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth ______ Ft. ___ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing

Well Riser Stick-up ______ Ft. (from ground)

Protective ______ Ft. Casing/Well Difference

Protective ______ Ft. Casing

Depth to Water ______ Ft.

Well Material: ___ PVC ___ SS

Well Locked?: ___ Yes ___ No

Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch

Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column ______ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__in.) = ______ Gal/Vol. ______ Total Gal Purged

Geoprobe Direct Push

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other ______		

Equipment Documentation

Purging/Sampling Equipment Used:

Purging (✓ If Used For)	Sampling	Equipment	Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
✓	✓	Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless steel screen	5 SPS mills/ft

Decontamination Fluids Used:

(✓ All That Apply at Location)
- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- ✓ Deionized Water
- ✓ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

PID: Ambient Air <0.1 ppm Well Mouth — ppm

Purge Data Collected ___ In-line ✓ In Container

Sample Observations: ___ Turbid ___ Colored ___ Clear ✓ Cloudy ✓ Odor Strong odor

Purge Data	@ ~0.5 Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	15.2				
pH, units	7.2				
Specific Conductivity (~~µmhos/cm~~ CmS/cm)	0.95				
Turbidity (NTUS)	250				
Oxidation - Reduction, +/- mv	—				
Dissolved Oxygen, ~~ppm~~ (mg/L)	3.4				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle /Lot Nos.
✓ VOCs	✓	4°C	2x40 ml	
SVOCs		4°C	2x1 liter AG	
Metals		HNO_3,4°C	1x1 liter P	
Cyanide		NaOH,4°C	1x500mLP	@ 1624
Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4,4°C	2x1 liter AG	
TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen Interval: 28' to 26'
purge water has strong odor

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

9404014D L22

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: REGION 8 D.C. - GROUP II - RUDDICKS
Site: RUDDICK DRY CLEANERS
Project Number: 3612062046 59 01.1
Date: 09/27/2006
Time: Start: 1539 End: 1606
Sample Location ID: RCGW00103501XX
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth ____ Ft. ___ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up ____ Ft. (from ground)
Protective ____ Ft. Casing/Well Difference
Protective ____ Ft. Casing

Depth to Water ____ Ft.
Well Material: ___ PVC ___ SS
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Geoprobe Direct Push

Height of Water Column ____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = ____ Gal/Vol. ____ Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other ____		

Equipment Documentation

Purging/Sampling Equipment Used:

Purging	Sampling	Equipment	Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless steel screen	[illegible]

Decontamination Fluids Used:

(✓ All That Apply at Location)
- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- ✓ Deionized Water
- ✓ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

PID: Ambient Air 0.1 ppm Well Mouth ___ ppm
Purge Data Collected ___ In-line ✓ In Container
Sample Observations: ✓ Turbid ___ Clear ___ Cloudy ___ Colored ✓ Odor Slight ✓ Sand

Purge Data	@ ~0.5 Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	16.5				
pH, units	7.5				
Specific Conductivity (~~µmhos/cm~~ mS)	0.910				
Turbidity (NTUS)	>1000				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ~~ppm~~ (mg/L)	3.0				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	
SVOCs		4°C	2x1 liter AG	
Metals		HNO_3, 4°C	1x1 liter P	
Cyanide		NaOH, 4°C	1x500mLP	@ 1605
Nitrate/Sulfate		H_2SO_4, 4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4, 4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4, 4°C	2x1 liter AG	
TOC		H_2SO_4, 4°C	1x1 liter P	

Notes: Screen Interval: 36 to 34.
- Slight Sheen (Cinnamon?)
on purge water

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

Test Boring Log

Project	Boring/Well No.	Project No.
REGION 8 D.C. GROUP II ~ RUDDICKS DRYCLEANERS	GS/BS002	3612062046 59/01.2

Client	Site	Sheet No.	of
NYSDEC	RUDDICKS	1	1

Logged By	Ground Elevation	Start Date	Finish Date
Brandon Shaw		09/27/2006	09/27/2006

Drilling Contractor	Driller's Name	Rig Type
GEOLOGIC	Liam Cummins	6610 DT

Drilling Method	Protection Level	P.I.D. (eV)	Casing Size	Auger Size
DIRECT PUSH	D	/	1 1/2"	2"

Soil Drilled	Rock Drilled	Total Depth	Depth to Groundwater/Date	Piez	Well	Boring
13'	—	24'		☐	☐	☑

	Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space		Lab Tests
S1	0–4	2.0/4.0					0-4 DK Brwn silty fine sandy loam, organic-fill damp, Sl/NP, Dense, roots	Fill		<0.1			
S2	4–8	2.0/5.0					4-6.5 Same as 0-4 6.5-8.5 Lt Brwn silt & gravel w/ some fine sand, dry, NP, Dense, 8.5-9 fine gravel w/ some silt clay, damp, loose/m dense	Fill GM SM CL GC	Composite RLCS002008012X @1707	<0.1			
S3	9–12	3.7/4.0					9-10.1 Brown silty loam, pieces of Bricks 10.1 to 13 Lt Brwn silty gravel w/ some sand, (Sat @ ~13') dry, Dense, trace cobbles.	Fill GC		<0.1			
S4	13–16	/											

FIGURE 4-6
TYPICAL TEST BORING LOG
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

ABB Environmental Services, Inc.

9404014D(z) L33

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: REGION 8 D.C. - GROUP II - RUDDICKS
Project Number: 361206204659/01.2
Sample Location ID: RCGW0020130/XX
Site: RUDDICK DRY CLEANERS
Date: 09/27/2006
Time: Start 1730 End: 1745
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth ______ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up ______ Ft. (from ground)
Protective ______ Ft. Casing/Well Difference
Protective ______ Ft. Casing

Depth to Water ______ Ft.
Well Material: ___ PVC ___ SS ___ Geoprobe
Well Locked?: ___ Yes ___ No
Direct Push
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column ______ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__in.) = ______ Gal/Vol. ______ Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other ______		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling	Equipment	Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless steel screen	Mill Slot

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

PID: Ambient Air <0.1 ppm Well Mouth — ppm
Purge Data Collected: ___ In-line ✓ In Container
Sample Observations: ___ Turbid ___ Colored ___ Clear ___ Odor ✓ Cloudy

Purge Data	@ ~0.5 Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	15.9				
pH, units	7.4				
Specific Conductivity (~~umhos~~/cm) mS	0.908				
Turbidity (NTUS)	158				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ~~ppm~~ mg/L	4.6				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle /Lot Nos.
✓ VOCs	✓	4°C	2x40 ml	
SVOCs		4°C	2x1 liter AG	
Metals		HNO_3,4°C	1x1 liter P	
Cyanide		NaOH,4°C	1x500mLP	@ 1735
Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4,4°C	2x1 liter AG	
TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen Interval: 12 to 14

Dup collected here

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: REGION 8 D.C. - GROUP II - RUDDICKS
Site: RUDDICKS DRY CLEANERS
Project Number: 36120620468971/01.2
Date: 09/27/2006
Time: Start: 1706 End: 1730
Sample Location ID: RCGW0020730182
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth ______ Ft. ___ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up ______ Ft. (from ground)
Protective ______ Ft. Casing/Well Difference
Protective ______ Ft. Casing

Depth to Water ______ Ft.
Well Material: ___ PVC ___ SS
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column ______ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = [______ Gal/Vol. ______ Total Gal Purged]

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other		

Geoprobe Direct Push

Equipment Documentation

Purging/Sampling Equipment Used:

Purging (✓ If Used For)	Sampling		Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
✓	✓	Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless Steel Screen	Mill Slot

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

PID: Ambient Air <0.1 ppm Well Mouth — ppm
Purge Data Collected ___ In-line ✓ In Container
Sample Observations: ___ Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ ~0.5 Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	14.6				
pH, units	7.3				
Specific Conductivity (µmhos/cm) (mS)	0.921				
Turbidity (NTUS)	1,000				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm (mg/L)	2.70				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs		4°C	2x40 ml	
SVOCs		4°C	2x1 liter AG	
Metals		HNO_3,4°C	1x1 liter P	
Cyanide		NaOH,4°C	1x500mLP	
Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4,4°C	2x1 liter AG	
TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen Interval: 24' to 27'
purge water orange/Brown

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

ABB Environmental Services

Test Boring Log

Project REGION 8 D.C. GROUP II - RUDDICKS DRYCLEANERS	Boring/Well No. GS/BS003	Project No. 3612062046559/1/2
Client NYSDEC	Site RUDDICKS	Sheet No. 1 of 1
Logged By Brandon Shaw	Ground Elevation	Start Date 09/28/2006 · Finish Date 09/28/2006
Drilling Contractor GEOLOGIC	Driller's Name Wm Cumming	Rig Type 6610
Drilling Method DIRECT PUSH	Protection Level D · P.I.D. (eV) —	Casing Size 1 1/2" · Auger Size 2"
Soil Drilled 12' · Rock Drilled —	Total Depth 24'	Depth to Groundwater/Date ~11.9 · Piez ☐ Well ☐ Boring ☑

Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space		Lab Tests
0–4 (S1)	2.4 / 4.0					0-0.9 Dk Brown silty loam moist, NP, Dense, - Fill, roots 0.9-1.8 Same as above, but w/ fine gravel 1.8-2.3 orange Brown silty sand & gravel, moist, damp 2.3-3.8 Sandstone layers, very little soil 3.8-4 Lt Brown silty gravel, dry	Fill Fill SM GM ML GM		<0.1			
4–8 (S2)	2.1 / 4.8					4-6.8 Brown silty sand & gravel damp/moist, M Dense 6.8-8 Lt Brown sandy silt & fine gravel, wet, NP, loose	SM GM ML GC	RCGW003007(?)1XX @0740	<0.1			
8–12 (S3)	3.0 / 4.0					8-10.7 Silty sand & gravel fines to coarse gravel, Dense dry, NP 10.7-11.7 fine gravel w/ some silty clay / sand/silt, wet/saturated, SP/NP, loose 11.7-11.9 Sandstone & clay/clay 11.9-12 saturated silty sand & gravel	SM GM GM CL ML SM GM		<0.1			
12–16 (S4)	/											

(5)

FIGURE 4-6
TYPICAL TEST BORING LOG
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services, Inc.

9404014D(z) L33

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: REGION 8 D.C. - GROUP II - RUDDICKS
Project Number: 3612062024/659/01.2
Sample Location ID: RCGW003013 01XX

Site: RUDDICKS DRY CLEANERS
Date: 09/28/2006
Time: Start: 0800 End: 0810
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth ____ Ft. ____ Measured ____ Historical
____ Top of Well ____ Top of Protective Casing
Well Riser Stick-up ____ Ft. (from ground)
Protective Casing/Well Difference ____ Ft.
Protective Casing ____ Ft.

Depth to Water ____ Ft.
Well Material: ____ PVC ____ SS
Well Locked?: ____ Yes ____ No
Well Dia. ____ 2 inch ____ 4 inch ____ 6 inch
Water Level Equip. Used: ____ Elect. Cond. Probe ____ Float Activated ____ Press. Transducer

Geoprobe Direct Push

Height of Water Column ____ Ft. X ____ .16 Gal/Ft. (2 in.) ____ .65 Gal/Ft. (4 in.) ____ 1.5 Gal/Ft. (6 in.) ____ Gal/Ft. (__ in.) = ____ Gal/Vol. ____ Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

Purging	Sampling		Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless Steel Screen	Mill Slit

Decontamination Fluids Used:

(✓ All That Apply at Location)
- ____ Methanol (100%)
- ____ 25% Methanol/75% ASTM Type II water
- ✓ Deionized Water
- ✓ Liquinox Solution
- ____ Hexane
- ____ HNO_3/D.I. Water Solution
- ____ Potable Water
- ____ None

Field Analysis Data

PID: Ambient Air <0.1 ppm Well Mouth / ppm
Purge Data Collected: ____ In-line ✓ In Container
Sample Observations: ____ Turbid ____ Colored ____ Clear ____ Odor ✓ Cloudy

Purge Data	@ ~0.5 Gal.	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.
Temperature, Deg. C	16.7				
pH, units	7.0				
Specific Conductivity (~~µmhos/cm~~ mS/cm)	0.915				
Turbidity (NTUS)	850				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ~~ppm~~ mg/L	3.2				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle /Lot Nos.
✓ VOCs		4°C	2x40 ml	@ 0805
SVOCs		4°C	2x1 liter AG	
Metals		HNO_3,4°C	1x1 liter P	
Cyanide		NaOH,4°C	1x500mLP	
Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4,4°C	2x1 liter AG	
TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen: 12 - 14'

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: REGION 8 D.C. - GROUP II - RUDDICKS
Project Number: 361206204659/01.2
Sample Location ID: RCGW00307301XL
Site: RUDDICKS DRY CLEANERS
Date: 09/28/2006
Time: Start: 0744 End: 0759
Signature of Sampler:

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Depth to Water _____ Ft.
Well Material: ___ PVC ___ SS ___
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch ___ _____
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ _____

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = _____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Prot. Casing Secure Yes / No; Concrete Collar Intact Yes / No; Other _____ Yes / No

Geoprobe Direct push

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
✓		Peristaltic Pump	
		Submersible Pump	
✓	✓	Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
✓	✓	Press/Vac Filter	

Stainless Steel Screen

Decontamination Fluids Used: (✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
___ _____
___ _____

Field Analysis Data

PID: Ambient Air 0.1 ppm Well Mouth ___ ppm
Purge Data Collected ✓ In-line ✓ In Container
Sample Observations: ✓ Turbid ✓ Colored ___ Clear ___ Odor ___ Cloudy

Purge Data @ ~0.7 Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C 14.7					
pH, units 6.9					
Specific Conductivity (µmhos/cm) 0.421 (ms/)					
Turbidity (NTUS) >1000					
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm 1.38 (mg/L)					

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	0755
___ SVOCs		4°C	2x1 liter AG	
___ Metals		HNO_3, 4°C	1x1 liter P	
___ Cyanide		NaOH, 4°C	1x500mLP	
___ Nitrate/Sulfate		H_2SO_4, 4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4, 4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4, 4°C	2x1 liter AG	
___ TOC		H_2SO_4, 4°C	1x1 liter P	

Notes: Screen: 24-22

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

9404014D L22

Test Boring Log

Project: REGION 8 D.C. GROUP II - RUDDICKS DRY CLEANERS	Boring/Well No.: GS/BS004	Project No.: 361206.0046.59/01.2
Client: NYSDEC	Site: RUDDICKS	Sheet No.: 1 of 1
Logged By: Brandan Shaw	Ground Elevation:	Start Date: 09/27/2006
		Finish Date: 09/27/2006
Drilling Contractor: GEOLOGIC	Driller's Name: Liam Cummins	Rig Type: 6610 DT
Drilling Method: DIRECT PUSH	Protection Level: D	P.I.D. (eV): /
		Casing Size: 1 1/2"
		Auger Size: 2"
Soil Drilled: 22'	Rock Drilled: /	Total Depth: 22'
		Depth to Groundwater/Date: ~14' 09/27/06
		Piez ☑ Well ☐ Boring ☐

Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm): PI Meter Field Scan	PI Meter Head Space	Lab Tests
1	S1 2.2/4.0					0-1 Brown Loam/silt, dry, no grass roots - Fill	Fill		<0.1		
2						1-1.4 Black gravel, slag, - Fill	Fill				
3						1.4-1.8 Brown silty clay & gravel dry, v. stiff, MP	VLGC				
4						1.8-4 Lt orange Brown, Clean coarse Sand, damp, M Dense,	SP				
						* Composite 1.8-4 & Collect Soil Sample & Dup @ 4'	↓		↓		
5	S2 4.0/4.0					* could not remove fm the macrocore no Sample collected; inside looked v. tight & full of Coarse gravel	↑ NA ↓		N/A		
7											
8											
9	S3 3.1/4.0					8-12 V. Dense, Sand-silt-gravel mix, Sandstone pieces, fill like characteristics, dry clay lense @ ~11.8' & 10.1'	GM SM w/ML CH		<0.1		
11											
12											
13	S4 2.2/2.0					12-13.6 Olive Brown silty sand & gravel, damp, SP, 13.6-14, Brown silty sand & gravel Saturated, Slight odor	SM GM		<0.1		
14	4.0						SM GM				
15	S5					14-17.8 Reddish orange brown V. loose, Sat, Sandy silt & gravel (fine to coarse gravel) 17.8 - Some V. Soft clay			<0.1		
16						* Fem Screen on water.			↓		
18	S6 3.8/4.0					18-18.6 Same as 14-17.8, 18.6-20.0 Olive/Lt Brown silty Sand & coarse Gravel, sat. 20-21.8 Clean m coarse Sand, some fines, sat 21.8-22 Heave, coarse gravel w/ some Sand & silt			<0.1 ↓		

FIGURE 4-6
TYPICAL TEST BORING LOG
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services, Inc.

9404914D(z) L33

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Region 8 D.C. - Group II - Ruddicks
Project Number: 361206 2065 9/01.2
Site: Ruddicks Dry Cleaners
Date: 09/12/2006
Time: Start: 1130 End: 1150
Sample Location ID: RCGW0040130 1XX
Signature of Sampler:

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing ___ _____
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Depth to Water _____ Ft.
Well Material: ___ PVC ___ SS ___ _____ Geoprobe Direct push
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch ___ _____
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ _____

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ ___ Gal/Ft. (___ in.) = [_____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Yes / No
Prot. Casing Secure ___ ___
Concrete Collar Intact ___ ___
Other _____ ___ ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
✓	✓	Press/Vac Filter	Stainless steel Screen / Mill Slot

Decontamination Fluids Used: (✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
___ _____
___ _____

Field Analysis Data

PID: Ambient Air 0.1 ppm Well Mouth ___ ppm
Purge Data Collected ___ In-line ✓ In Container
Sample Observations: ✓ Turbid ___ Clear ✓ Cloudy ___ Colored ___ Odor

Purge Data @ ~0.7 Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C: 17.0				
pH, units: 7.3 (MS)				
Specific Conductivity (µmhos/cm): 6.882				
Turbidity (NTUS): >1000				
Oxidation - Reduction, +/- mv: —				
Dissolved Oxygen, ppm (mg/L): 3.8				

Sample Collection Requirements (✓ If Required at this Location)

✓ Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	
___ SVOCs		4°C	2x1 liter AG	
___ Metals		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500mLP	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

(1145)

Notes: Screen Interval: 14' to 12'

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Region 8 D.C. - Group II - Ruddicks
Site: Ruddick Dry Cleaners
Project Number: 3612062046 59/01.2
Date: 09/27/2006
Time: Start: 1115 End: 1120
Sample Location ID: RCGW004 8230 1XX
Signature of Sampler: [signature]

Water Level/Well Data

Geoprobe Direct Push

Well Depth ____ Ft. ___ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up ____ Ft. (from ground)
Protective ____ Ft. Casing/Well Difference
Protective ____ Ft. Casing

Depth to Water ____ Ft.
Well Material: ___ PVC ___ SS
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column ____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = ____ Gal/Vol. ____ Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling	Equipment	Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless steel Screen	Millslot

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

PID: Ambient Air <0.1 ppm Well Mouth / ppm
Purge Data Collected ___ In-line ✓ In Container
Sample Observations: ✓ Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ ~1.0 Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	15.2				
pH, units	7.2				
Specific Conductivity (~~µmhos~~ mS/cm)	0.924				
Turbidity (NTUS)	>1000				
Oxidation - Reduction, +/- mv	—				
Dissolved Oxygen, ~~ppm~~ (mg/L)	1.23				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	@ 1125
___ SVOCs		4°C	2x1 liter AG	
___ Metals		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500mLP	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen Interval: 24'-22'

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

9404014D L22

Test Boring Log

Project: REGION 8 D.C. GROUP II – RUDDICKS DRY CLEANERS	Boring/Well No.: GS/BS005	Project No.: 361206204.6.01.2	
Client: NYSDEC	Site: RUDDICKS	Sheet No.: 1 of 1	
Logged By: Brandon Shaw	Ground Elevation:	Start Date: 09/26/2006	Finish Date: 09/26/2006
Drilling Contractor: GEOLOGIC	Driller's Name: Liam Cummins	Rig Type: 6610 DT	
Drilling Method: DIRECT PUSH	Protection Level: D	P.I.D. (eV): /	Casing Size: 1 1/2"	Auger Size: 2"
Soil Drilled: 16'	Rock Drilled: /	Total Depth: 24'	Depth to Groundwater/Date:	Piez ☑ Well ☐ Boring ☐

Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm): PI Meter Field Scan	PI Meter Head Space		Lab Tests
1	S1 1.9/4.0					0-1 Blacktop 1-1.8 Brown silty sand WG, fines to m. fine; damp, NP/SP, loose/m dense 1.8-2.1 Brown silty clay zone, wet, MP trace gravel, slight odor 2.1-4 Brown wl coarse sand and fine gravel, trace silt; damp, loose, PG, NP/SP	Fill SM/SC SC/CL SP/GP		150 ppm 74.5 ppm		RCBS00560201XX @0915	
2												
3									<0.1			
4												
5	S2 3.9/5.0					4-5.2 Lt Brown silty clay & gravel mixt, MP/NP, loose 5.2-6.6 Clean coarse-m coarse sand w trace fine gravel, damp 6.6-7 Same as above but w gravel 7-8.5 Clean m coarse-fine sand, loose 8.5-9 Same as 7-8.5 but w trace coarse gravel, damp, loose.	GC/CL SP SP SP SP/GP		<0.1			
6												
7												
8	S2 X											
9	S3 7.3'/3.0					9-12 Brown m coarse Sand & Gravel w/ some fines, loose to dense in lenses, dry, NP, @11.7 lense of dry sandy clay olive, w/ some gravel.	GW SC/GW		<0.1			
10												
11												
12												
13	S4 4.0/4.0					12-14.3 Same as 9-12, 14.3-16 Lt Brown silty Sand & gravel; PG, fine gravel, saturated NP; loose @15.3' lense of clean fine Sand V. Dense	GW SP		<0.1			
14												
15												
16												

± TDS: 24' bgs w/ water sampler

FIGURE 4-6
TYPICAL TEST BORING LOG
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

9404014D(z) L33

ABB Environmental Services, Inc.

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Region 8 D.C. - Group II - Ruddicks
Project Number: 361206204654/01.V
Site: Ruddick Dry Cleaners
Date: 09/26/2006
Time: Start: 0937 End: 1010
Sample Location ID: RCGW005013 01XX
Signature of Sampler:

Water Level/Well Data

Well Depth ____ Ft. ___ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up ____ Ft. (from ground)
Protective ____ Ft. Casing/Well Difference
Protective ____ Ft. Casing

Depth to Water ____ Ft.
Well Material: ___ PVC ___ SS
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Geoprobe Direct Push

Height of Water Column ____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__in.) = [____ Gal/Vol. ____ Total Gal Purged]

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling	Equipment	Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
✓	✓	Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless Steel Screen	Mill-Tek

Decontamination Fluids Used:

(✓ All That Apply at Location)

- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- ✓ Deionized Water
- ✓ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

PID: Ambient Air <0.1 ppm Well Mouth ✓ ppm
Purge Data Collected ___ In-line ✓ In Container
Sample Observations: ___ Turbid ___ Clear ✓ Cloudy ___ Colored ___ Odor

Purge Data	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.
Temperature, Deg. C					
pH, units					
Specific Conductivity (µmhos/cm)					
Turbidity (NTUS)					
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm					

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	
SVOCs		4°C	2x1 liter AG	
Metals		HNO_3,4°C	1x1 liter P	(4) 1000
Cyanide		NaOH,4°C	1x500mLP	
Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4,4°C	2x1 liter AG	
TOC		H_2SO_4,4°C	1x1 liter P	

Notes: No parameters recorded
Screen from 14' to 12'
MS, MSD collected here.

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

9404014D L22

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Region 8 D.C. - Group II - Ruddicks
Project Number: 361206 20465 9/01.2
Site: Ruddicks Dry Cleaners
Date: 09/26/2006
Time: Start: 0900 End: 0935
Sample Location ID: RCGW05023@1XX
Signature of Sampler:

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Depth to Water _____ Ft.
Well Material: ___ PVC ___ SS ___
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch ___ _____
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ _____

Geoprobe Direct push

Height of Water Column _____ Ft. X ___.16 Gal/Ft. (2 in.) ___.65 Gal/Ft. (4 in.) ___1.5 Gal/Ft. (6 in.) ___ __Gal/Ft. (__in.) = _____Gal/Vol. _____Total Gal Purged

Well Integrity: Yes No
Prot. Casing Secure ___ ___
Concrete Collar Intact ___ ___
Other _____ ___ ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
✓	✓	Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
✓	✓	Press/Vac Filter	Stainless steel Screen

Decontamination Fluids Used: (✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

PID: Ambient Air 0.1 ppm Well Mouth ___ ppm Purge Data Collected ✓ In-line ___ In Container
Sample Observations: ✓ Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data @ _____ Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C				
pH, units				
Specific Conductivity (µmhos/cm)				
Turbidity (NTUS)				
Oxidation - Reduction, +/- mv				
Dissolved Oxygen, ppm				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	6930
___ SVOCs		4°C	2x1 liter AG	
___ Metals		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500mLP	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: No parameters recorded
* Screen from 14' to 22'

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

Test Boring Log

Project: REGION 8 D.C. GROUP II ~ RUDDICKS DRYCLEANERS	Boring/Well No. GS/BS006	Project No. 3612062048/01.2
Client: NYSDEC	Site: RUDDICKS	Sheet No. 1 of 1
Logged By: Brandon Shaw	Ground Elevation:	Start Date: 09/26/2006 — Finish Date: 09/26/2006
Drilling Contractor: GEOLOGIC	Driller's Name: Liam Cummings	Rig Type: 6610 DT
Drilling Method: DIRECT PUSH	Protection Level: D — P.I.D. (eV): /	Casing Size: 1 1/2" — Auger Size: 2"
Soil Drilled: 20	Rock Drilled: —	Total Depth: 24' — Depth to Groundwater/Date: Piez ☒ Well ☐ Boring ☐

	Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	PI Meter Head Space		Lab Tests
S1	0–4	2.2/4.0					0-1.3' Brown silty loam, grass roots, dry - Fill 1.3-2.5 Brown fine sand to fine gravel w/ many fines, dry in Dense/loose dry, NP 2.5-4 Brown silty gravel w/ clay, moist, mgsp, v. angular to subrounded, trace fine gravel, loose	Fill GW GC CL		<0.1			
S2	4–8	3.2/4.0					4-6 silty sand and gravel, fines to fine gravel, loose, dry, NP, 6-6.4 Coarse sand & fine gravel, wet, loose, slight odor 6.4-8 gravel (fine) w/ some silty sand, loose, (lenses of dry clay tiny/moist), dry/odor	SW GW		<0.1			
S3	8–12	3.3/4.0					8-10.5 Same as above. 10.5-11.6 silty clay w/ coarse sand, wet, rounded 11.6-12 lt Brown silty gravel saturated, loose NP.	GW CL SL GC		<0.1 50ppm <0.1			
S4	12–16	2.1/4.0					12-~14 Same as 11.6-12. ~14-16 orange reddish brown, gravelly silt sand mix loose	GM GC		<0.1			

FIGURE 4-6
TYPICAL TEST BORING LOG
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services, Inc.

9404014D(z) L33

S5 — 4.0/4.0 — 16-20 Same as 14-16, V. loose — <0.1

TD: 24' bgs w/ water sampler

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Region 8 D.C. - Group II - Ruddicks
Project Number: 36120620465~~9~~/01-2
Site: Ruddick Dry Cleaners
Date: 09/ /2006
Time: Start: 1342 End: 1405
Sample Location ID: R C G W 0 0 6 0 1 3 0 1 X X
Signature of Sampler: [signature]

Water Level/Well Data

Geoprobe Direct Push

Well Depth ____ Ft. ___ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up ____ Ft. (from ground)
Protective ____ Ft. Casing/Well Difference
Protective ____ Ft. Casing

Depth to Water ____ Ft.
Well Material: ___ PVC ___ SS
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column ____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (in.) = [____ Gal/Vol. ____ Total Gal Purged]

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

Purging	Sampling	Equipment	Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
✓	✓	Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless Steel Screen	[illegible]

Decontamination Fluids Used: (✓ All That Apply at Location)

- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- ✓ Deionized Water
- ✓ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

PID: Ambient Air ____ ppm Well Mouth / ppm
Screen interval: 12-14' (bgs)
Purge Data Collected: ___ In-line ✓ In Container
Sample Observations: ___ Turbid ___ Colored ___ Clear ___ Odor ✓ Cloudy

Purge Data	@ ~1.0 Gal.	@ Gal.	@ Gal.	@ Gal.	@ Gal.
Temperature, Deg. C	16.3				
pH, units	7.1				
Specific Conductivity (~~µmhos~~ mS/cm)	0.937				
Turbidity (NTUS)	497				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm	3.67				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle /Lot Nos.
✓ VOCs	✓	4°C	2x40 ml	
SVOCs		4°C	2x1 liter AG	
Metals		HNO_3,4°C	1x1 liter P	
Cyanide		NaOH,4°C	1x500mLP	(W) 12/02
Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4,4°C	2x1 liter AG	
TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen 12'-14'

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Region 8 D.C. - Group II - Ruddicks
Project Number: 3612062046S4/01.2
Sample Location ID: RCGW0016023011KK
Site: Ruddick Dry Cleaners
Date: 09/26/2006
Time: Start: 1315 End: 1340
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth ____ Ft. ___ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up ____ Ft. (from ground)
Protective ____ Ft. Casing/Well Difference
Protective ____ Ft. Casing

Depth to Water ____ Ft.
Well Material: ___ PVC ___ SS ___
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Geoprobe Direct Push

Height of Water Column ____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__in.) = [____ Gal/Vol. ____ Total Gal Purged]

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

Purging (✓ If Used For)	Sampling	Equipment	Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless steel Screen	Mill Slot

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

PID: Ambient Air 0.1 ppm Well Mouth ✓ ppm
Purge Data Collected ✓ In-line ✓ In Container
Sample Observations: ✓ Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Screen Interval: 22'-24' (bgs) 12-14'

Purge Data	@ ~0.5 Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	15.5				
pH, units	7.0				
~~Specific Conductivity (µmhos/cm)~~ (mS/cm)	1.60				
Turbidity (NTUS)	891				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm	11.8				

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	
SVOCs		4°C	2x1 liter AG	
Metals		HNO_3,4°C	1x1 liter P	
Cyanide		NaOH,4°C	1x500mLP	
Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4,4°C	2x1 liter AG	
TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen reads from 24 to 22
~~Screen reads from 12 to~~

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

Test Boring Log

Project	Boring/Well No.	Project No.
REGION 8 D.C. GROUP II ~ RUDDICKS DRYCLEANERS	GS/BS007	3612062046/01.2

Client	Site	Sheet No.
NYSDEC	RUDDICKS	1 of 1

Logged By	Ground Elevation	Start Date	Finish Date
Brandon Shaw		09/26/2006	09/ /2006

Drilling Contractor	Driller's Name	Rig Type
GEOLOGIC	Liam Cummins	6610

Drilling Method	Protection Level	P.I.D. (eV)	Casing Size	Auger Size
DIRECT PUSH	D	/	1 1/2"	2"

Soil Drilled	Rock Drilled	Total Depth	Depth to Groundwater/Date	Piez	Well	Boring
12'	—	34'		☑	☐	☐

	Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space		Lab Tests
S1	0–4	1.9/4.0					0-1.8 Brown silty loamy top soil - Fill 1.8-4 Lt Brown silty coarse sand ; fine gravel, moist, SP, PG, trace coarse gravel, m Dense	Fill SM		<0.1			
S2	4–8	2.0/4.0					4-5.9 Same as 1.8-4, 5.9 to 7, Lt Brown, Silty fine sand, gravel, dry, NP, WG, m Dense. 7-7.2 Brown silty sand Dense, damp. 7.2-8 dry silty clay w/ gravel subrounded to rounded, loose/m Dense.	SM SM GM SM GM CL		<0.1 200 ppb <0.1			
S3	8–12	3.8/4.0					8-10.8 - Same as 7.2-8 10.8-11.2 - m coarse sand ; fine gravel, wet, loose 11.2-11.5 white sandstone ; rock frags, 11.5-12 Saturated silty sandy gravel ; v. angular, m Dense.	CL ML SM GM		<0.1 2000 ppb 3000 ppb 270 ppb 1000 ppb <0.1			
S4	12–16	/											

↓ TD: 36' bgs w/ water sampler

FIGURE 4-6
TYPICAL TEST BORING LOG
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

ABB Environmental Services, Inc.

9404014D(z) L33

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Region 8 D.C. - Group II - Ruddicks
Project Number: 3612062046594/01.V
Site: Ruddick Dry Cleaners
Date: 09/26/2006
Time: Start: 1710 End: 1720
Sample Location ID: RCGW0070130 1VX
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth ____ Ft. ____ Measured ____ Historical ____ Top of Well ____ Top of Protective Casing

Well Riser Stick-up ____ Ft. (from ground)

Protective ____ Ft. Casing/Well Difference

Protective ____ Ft. Casing

Depth to Water ____ Ft. Well Material: ____ PVC ____ SS

Well Locked?: ____ Yes ____ No

Well Dia. ____ 2 inch ____ 4 inch ____ 6 inch

Water Level Equip. Used: ____ Elect. Cond. Probe ____ Float Activated ____ Press. Transducer

Geoprobe Direct Push

Height of Water Column ____ Ft. X ____ .16 Gal/Ft. (2 in.) ____ .65 Gal/Ft. (4 in.) ____ 1.5 Gal/Ft. (6 in.) ____ Gal/Ft. (__in.) = [____ Gal/Vol. ____ Total Gal Purged]

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
		Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless Steel Screen	Mill slot

Decontamination Fluids Used:

(✓ All That Apply at Location)

- ____ Methanol (100%)
- ____ 25% Methanol/75% ASTM Type II water
- ✓ Deionized Water
- ✓ Liquinox Solution
- ____ Hexane
- ____ HNO_3/D.I. Water Solution
- ____ Potable Water
- ____ None

Field Analysis Data

PID: Ambient Air <0.1 ppm Well Mouth / ppm

Purge Data Collected ____ In-line ✓ In Container

Sample Observations: ____ Turbid ____ Colored ____ Clear ____ Odor ____ Cloudy

Purge Data	@ ~0.3 Gal.	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.
Temperature, Deg. C	16.0				
pH, units	7.3				
Specific Conductivity (~~µmhos~~ mS/cm)	0.869				
Turbidity (NTUS)	>1000				
Oxidation - Reduction, +/- mv	—				
Dissolved Oxygen, ppm	10.5				

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	@ 1715
SVOCs		4°C	2x1 liter AG	
Metals		HNO_3,4°C	1x1 liter P	
Cyanide		NaOH,4°C	1x500mLP	
Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4,4°C	2x1 liter AG	
TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen Interval > 14 to 12'

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: REGION 8 D.C. - GROUP II - RUDDICKS
Site: RUDDICK DRY CLEANERS
Project Number: 3612062046 59 /01.2
Date: 09/26/2006
Time: Start: 1645 End: 1710
Sample Location ID: RCGW00702301AA
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth ____ Ft. ___ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up ____ Ft. (from ground)
Protective ____ Ft. Casing/Well Difference
Protective ____ Ft. Casing

Depth to Water ____ Ft.
Well Material: ___ PVC ___ SS
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Geoprobe Direct Push

Height of Water Column ____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__in.) = [____ Gal/Vol. ____ Total Gal Purged]

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other ____		

Equipment Documentation

Purging/Sampling Equipment Used:

Purging (✓ If Used For)	Sampling	Equipment	Equipment ID
		Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless steel Screen	[illegible]

Decontamination Fluids Used:

(✓ All That Apply at Location)
- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- ✓ Deionized Water
- ✓ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

PID: Ambient Air <0.1 ppm Well Mouth ___ ppm
Purge Data Collected ___ In-line ✓ In Container
Sample Observations: ✓ Turbid ___ Clear ___ Cloudy ✓ Colored (Gray) ___ Odor

Purge Data	@ ~0.4 Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	15.3				
pH, units	7.3				
Specific Conductivity (~~µmhos/cm~~ mS/cm)	0.890				
Turbidity (NTUS)	>1000				
Oxidation - Reduction, +/- mv	—				
Dissolved Oxygen, ppm	11.8				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle /Lot Nos.
✓ VOCs	✓	4°C	2x40 ml	
SVOCs		4°C	2x1 liter AG	
Metals		HNO_3,4°C	1x1 liter P	
Cyanide		NaOH,4°C	1x500mLP	@ 1705
Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4,4°C	2x1 liter AG	
TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen: 24 to 22

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

9404014D L22

Test Boring Log

Project: REGION 8 D.C. GROUP II - RUDDICKS DRY CLEANERS	Boring/Well No.: GS/BS08	Project No.: 361206204654/01-2	
Client: NYSDEC	Site: RUDDICKS	Sheet No.: 1 of	
Logged By: Brandon Shaw	Ground Elevation:	Start Date: 09/28/2006	Finish Date: 09/28/2006
Drilling Contractor: GEOLOGIC	Driller's Name: Liam Cumming	Rig Type: 6610 DT	
Drilling Method: DIRECT PUSH	Protection Level: D	P.I.D. (eV): /	Casing Size: 1 1/2"	Auger Size: 2"
Soil Drilled: 13'	Rock Drilled: /	Total Depth: 24'	Depth to Groundwater/Date: ~12.5'	Piez ☐ Well ☐ Boring ☑

Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space	Lab Tests
1	S1 26/4.0					0-0.7 Brown silty loam moist	Fill		0.1		
2						0.7-2 DK Brown silty fine sand	Fill				
3						fill - glass; ash					
4						2-4 orange Brown silty fine sand & fine gravel, Dense, organic odor, moist, MD, some clay.	SM GM				
5	S2 5.0					4-5.2 same as 2-4	SM GM		0.1		
6						5.2-5.4 pink Sandstone cobble					
7						5.4-8.9 ct Brown silty coarse gravel, damp, SD, Dense	ML GM	Caving hot wet			
8						8.9-9. Cobble.					
9	S3 3.2/4.8					9-12 Silty Sand & trace fine gravel, damp, Dense	ML SM GM		0.1		
10						12.0-12.5 Lamination of lt grey cobbles, dry, dense; some clay lenses within					
11						12.5-13 Saturated silty coarse sand w/ some clay, HP,	ML SMSC				
12											
13	S4 /										
14											
15											
16											

FIGURE 4-6
TYPICAL TEST BORING LOG
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: REGION 8 D.C. - GROUP II - RUDDICKS
Project Number: 3612062046 59/01.2
Sample Location ID: RCGW08013011XX
Site: RUDDICKS DRY CLEANERS
Date: 09/28/2006
Time: Start: 1652 End: 1709
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth ____ Ft. ___ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up ____ Ft. (from ground)
Protective ____ Ft. Casing/Well Difference
Protective ____ Ft. Casing

Depth to Water ____ Ft.
Well Material: ___ PVC ___ SS
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Geoprobe Direct Push

Height of Water Column ____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = ____ Gal/Vol. ____ Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other ____		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling	Equipment	Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless Steel Screen	Mill slot

Decontamination Fluids Used:

(✓ All That Apply at Location)
- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- ✓ Deionized Water
- ✓ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

PID: Ambient Air 0.1 ppm Well Mouth — ppm
Purge Data Collected ___ In-line ✓ In Container
Sample Observations: ✓ Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ ~0.5 Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	16.6				
pH, units	7.2				
Specific Conductivity (~~µmhos/cm~~) (ms/)	0.43				
Turbidity (NTUS)	>1000				
Oxidation - Reduction, +/- mv	—				
Dissolved Oxygen, ~~ppm~~ mg/L	4.4				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	
SVOCs		4°C	2x1 liter AG	
Metals		HNO_3, 4°C	1x1 liter P	
Cyanide		NaOH, 4°C	1x500mLP	
Nitrate/Sulfate		H_2SO_4, 4°C	1x1 liter P	@ 1705
Nitrate/Phosphate		H_2SO_4, 4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4, 4°C	2x1 liter AG	
TOC		H_2SO_4, 4°C	1x1 liter P	

Notes: Screen: 14 to 12
purge water: DK olive Brown

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Region 8 D.C. - Group II - Ruddicks Site: Ruddicks Dry Cleaners
Project Number: 36120620246 59/01.2 Date: 09/28/2006
Time: Start: 1635 End: 1651
Sample Location ID: RCGW008023011XX Signature of Sampler: [signature]

Water Level/Well Data

Well Depth ____ Ft. ___ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing Well Riser Stick-up ____ Ft. (from ground) Protective ____ Ft. Casing/Well Difference

Protective ____ Ft. Casing

Depth to Water ____ Ft. Well Material: ___ PVC ___ SS Well Locked?: ___ Yes ___ No Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Geoprobe Direct Push

Height of Water Column ____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = [____ Gal/Vol. ____ Total Gal Purged]

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
		Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless Steel Screen	Mill Slot

Decontamination Fluids Used:

(✓ All That Apply at Location)
- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- ✓ Deionized Water
- ✓ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

PID: Ambient Air Led ppm Well Mouth ___ ppm Purge Data Collected ___ In-line ✓ In Container Sample Observations: ___ Turbid ___ Colored ✓ Clear ___ Odor ✓ Cloudy

Purge Data	@ ~0.7 Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	15.5				
pH, units	0.47				
Specific Conductivity (~~µmhos/cm~~ mg/l)	7.4				
Turbidity (NTUS)	400				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ~~ppm~~ mg/L	3.9				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	
SVOCs		4°C	2x1 liter AG	
Metals		HNO_3, 4°C	1x1 liter P	
Cyanide		NaOH, 4°C	1x500mLP	@ 1650
Nitrate/Sulfate		H_2SO_4, 4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4, 4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4, 4°C	2x1 liter AG	
TOC		H_2SO_4, 4°C	1x1 liter P	

Notes: Screen: 24 to 22'

purge water: Brown, slight Sheen on water

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

Test Boring Log

Project: Region 8 Dry Cleaners II	Boring/Well No. SB-009	Project No. 3612062059/01-2
Client: **NYSDEC**	Site: Roddicks	Sheet No. 1 of 1
Logged By: Brandon A. Shaw	Ground Elevation:	Start Date: 07/29/06 / Finish Date: 07/29/06
Drilling Contractor: Geologic NY	Driller's Name: Liam Cumming	Rig Type: 66DT
Drilling Method: Direct Push	Protection Level: D / P.I.D. (eV): —	Casing Size: 1½" / Auger Size: 2"
Soil Drilled: 14'	Rock Drilled: — / Total Depth: 28'	Depth to Groundwater/Date: Piez ☐ Well ☐ Boring ☑

Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space		Lab Tests
0–4 (S1)	21/4.0					0-1.5 DK Brown top soil w/ glass - Fill 1.5-2 olive silt, Ash, coal, glass - Fill 2-2.5 olive Brown sandy silt 2.5-2.7 cobble 2.7-3 olive silty clay, wet, HP trace fine crushed gravel 3-3.3 laminated layer of sandstone & rock flour 3.3-4 clean orange brown m. coarse sand	Fill SM ML SC/ML CL SP		<0.1			
4–9 (S2)	26/5.0					4-5.2 Same as 3.3-4, moist 5.2-5.9 Sandy clay, orange/Brown wet, MP 5.9-6.5 Same as 4 to 5.2 6.5-7 Same as 5.2 to 5.9 7-7.5 clean M coarse sand M Dense, damp. 7.5-9 Lt Brown silty sand & gravel, moist, Dense/M Dense, Angular to subrounded	SP SCML SP SC/ML SP SM/GM		<0.1			
9–14 (S3)	20/5.0					9.0-10.5 Same as 7.5-9 10.5-13.5 gravelly clay w/ little sand, wet/moist, MP/HP M stiff/stiff 13.5-14 Saturated silty gravel w/ sand	SM/GM ML/GC GM		<0.1			
15												
16												

FIGURE 4-6
TYPICAL TEST BORING LOG
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

ABB Environmental Services, Inc.

9404014D(z) L33

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Region 8 Dry Cleaners II
Project Number: 361206 20591/01.2
Sample Location ID: RCGW00901701XX

Site: Ruddicks
Date: 09/29/06
Time: Start: 0906 End: 0921
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth ______ Ft. ___ Measured ___ Historical

___ Top of Well ___ Top of Protective Casing

Well Riser Stick-up ______ Ft. (from ground)

Protective ______ Ft. Casing/Well Difference

Protective ______ Ft. Casing

Depth to Water ______ Ft.

Well Material: ___ PVC ___ SS

Well Locked?: ___ Yes ___ No

Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch

Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Geoprobe

Height of Water Column ______ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = ______ Gal/Vol. ______ Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other ______		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling	Equipment	Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
✓	✓	Press/Vac Filter	
		Millipore	

Decontamination Fluids Used:

(✓ All That Apply at Location)

___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

PID: Ambient Air <0.1 ppm Well Mouth <0.1 ppm

Purge Data Collected ___ In-line ✓ In Container

Sample Observations: ___ Turbid ___ Colored ___ Clear ___ Odor ✓ Cloudy

Purge Data	@ ~1.0 Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	14.3				
pH, units	7.2				
Specific Conductivity (~~umhos/cm~~) (mS)	0.896				
Turbidity (NTUS)	>150				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ~~ppm~~ mg/L	3.4				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	@ 0920
✓ SVOCs	✓	4°C	2x1 liter AG	
Metals		HNO_3, 4°C	1x1 liter P	
Cyanide		NaOH, 4°C	1x500mLP	
Nitrate/Sulfate		H_2SO_4, 4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4, 4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4, 4°C	2x1 liter AG	
TOC		H_2SO_4, 4°C	1x1 liter P	

Notes: Screen 18 to 16
Purge until 4 Bum → Clearing

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Kepins & Drycleaners II
Project Number: 3612062059/01-2
Sample Location ID: RCGW0090270XX

Site: Kuddecke
Date: 09/29/06
Time: Start: 0830 End: 0841
Signature of Sampler: ______

Water Level/Well Data

Well Depth ______ Ft. ___ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing ___ ______

Well Riser Stick-up ______ Ft. (from ground)

Protective ______ Ft. Casing/Well Difference

Protective ______ Ft. Casing

Depth to Water ______ Ft.

Well Material: ___ PVC ___ SS ______

Well Locked?: ___ Yes ___ No

Geoprobe

Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch ___ ______

Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ ______

Height of Water Column ______ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ ___ Gal/Ft. (__in.) = [______ Gal/Vol. ______ Total Gal Purged]

Well Integrity:	Yes	No
Prot. Casing Secure	___	___
Concrete Collar Intact	___	___
Other ______	___	___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
✓	✓	Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
✓	✓	Press/Vac Filter	
		Wellclat	

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
___ ______
___ ______

Field Analysis Data

PID: Ambient Air <0.1 ppm Well Mouth <0.1 ppm

Purge Data Collected ___ In-line ✓ In Container

Sample Observations: ✓ Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ ~1.0 Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C.	13.0				
pH, units	7.1				
Specific Conductivity (mS/cm)	0.913				
Turbidity (NTUS)	>1000				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, mg/L	1.2				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	
___ SVOCs		4°C	2x1 liter AG	
___ Metals		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500mLP	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	0840
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen: 28 to 26
purge meter: LF 3mm

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

ABB Environmental Services

9404014D L22

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Region 8 Dry Cleaners II
Project Number: 36120620591/07.2
Sample Location ID: RCGW0090370100XX

Site: Ruddicks
Date: 09/29/06
Time: Start: 0842 End: 0906
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth ____ Ft. ____ Measured ____ Historical ____ Top of Well ____ Top of Protective Casing ____ ____

Well Riser Stick-up ____ Ft. (from ground)

Protective ____ Ft. Casing/Well Difference

Protective ____ Ft. Casing

Depth to Water ____ Ft.

Well Material: ____ PVC ____ SS ____

Well Locked?: ____ Yes ____ No

Well Dia. ____ 2 inch ____ 4 inch ____ 6 inch ____ ____

Water Level Equip. Used: ____ Elect. Cond. Probe ____ Float Activated ____ Press. Transducer ____ ____

Geoprobe

Height of Water Column ____ Ft. X ____ .16 Gal/Ft. (2 in.) ____ .65 Gal/Ft. (4 in.) ____ 1.5 Gal/Ft. (6 in.) ____ ____ Gal/Ft. (__in.) = ____ Gal/Vol. ____ Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other ____		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
✓	✓	Press/Vac Filter	
		Millipore	

Decontamination Fluids Used:

(✓ All That Apply at Location)

____ Methanol (100%)
____ 25% Methanol/75% ASTM Type II water
____ Deionized Water
____ Liquinox Solution
____ Hexane
____ HNO_3/D.I. Water Solution
____ Potable Water
____ None
____ ____

Field Analysis Data

PID: Ambient Air <0.1 ppm Well Mouth <0.1 ppm

Purge Data Collected ✓ In-line ✓ In Container

Sample Observations: ✓ Turbid __ Clear __ Cloudy __ Colored __ Odor

Purge Data	@ ~0.5 Gal.	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.
Temperature, Deg. C	13.4				
pH, units	7.4				
Specific Conductivity (~~umhos/cm~~ ms/cm)	0.857				
Turbidity (NTUS)	>1000				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ~~ppm~~ mg/L	2.9				

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle /Lot Nos.
✓ VOCs	✓	4°C	2x40 ml	
SVOCs		4°C	2x1 liter AG	
Metals		HNO_3,4°C	1x1 liter P	@ 0905
Cyanide		NaOH,4°C	1x500mLP	
Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4,4°C	2x1 liter AG	
TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen: 28-36
Appearance: Olive/Brown

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

Test Boring Log

Project: Region 8 D.C. - Ruddicks	Boring/Well No.: GW/BSB-010	Project No.: 36120620590/12	
Client: NYSDEC	Site: Ruddicks	Sheet No.: 1 of 1	
Logged By: Brandon A. Shaw	Ground Elevation	Start Date: 09/29/06	Finish Date: 09/29/06
Drilling Contractor: Geologic NY	Driller's Name: Liam Cumming	Rig Type: 66DT	
Drilling Method: Direct Push	Protection Level: D	P.I.D. (eV)	Casing Size: 1 1/2"	Auger Size: 2"
Soil Drilled: 14'	Rock Drilled	Total Depth: 28'	Depth to Groundwater/Date	Piez ☐ Well ☐ Boring ☑

Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm): PI Meter Field Scan	Monitoring (ppm): PI Meter Head Space	Lab Tests
1	S1 2.7/4.0					0 - ~2 DF Brown silty loam w coarse sand; damp, MP, M Dense	Fill		40.1		
2						~2 - 4' Lt Tan/Brown, Sandy silt & fine gravel, damp, SP/MP, M Dense.	SM/GM				
3											
4						4 - ~5' Brown silty clay w/ some m-coarse sand, wet, HP/MP	CL		40.1		
5						5 - ~7 Brown silty sand & gravel wet, M Dense.	SM GM				
6	S2 2.6/5.0										
7						7 to 9 Brown m-coarse sand & trace fine gravel w/ some fines, damp.	SW				
8											
9						~9 to ~11' Same as 7 to 9	SW		40.1		
10											
11	S3 2.4/5.0					11 to ~13.5 Lt Brown Sand silt & clay w/ some fine gravel, wet	SM SC				
12						HP/MP, V. Dense/Stiff					
13						13.5 to 14' Saturated silty gravel & some sand.	GM SM				
14											

FIGURE 4-6
TYPICAL TEST BORING LOG
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

ABB Environmental Services, Inc.

9404014D(z) L33

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: REGION 8 D.C. - GROUP II - RUDDICKS
Site: RUDDICKS DRY CLEANERS
Project Number: 36120620465901.2
Date: 09/29/2006
Time: Start: 0816 End: 0821
Sample Location ID: RCGW0100170 1XX
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth ____ Ft. ____ Measured ____ Historical
____ Top of Well ____ Top of Protective Casing
Well Riser Stick-up ____ Ft. (from ground)
Protective ____ Ft. Casing/Well Difference
Protective ____ Ft. Casing

Depth to Water ____ Ft.
Well Material: ____ PVC ____ SS
Well Locked?: ____ Yes ____ No
Well Dia. ____ 2 inch ____ 4 inch ____ 6 inch
Water Level Equip. Used: ____ Elect. Cond. Probe ____ Float Activated ____ Press. Transducer

Geoprobe Direct Push

Height of Water Column ____ Ft. X ____ .16 Gal/Ft. (2 in.) ____ .65 Gal/Ft. (4 in.) ____ 1.5 Gal/Ft. (6 in.) ____ Gal/Ft. (__in.) = ____ Gal/Vol. ____ Total Gal Purged

Well Integrity: Yes No
Prot. Casing Secure
Concrete Collar Intact
Other

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling	Equipment	Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
✓		Bailer	
	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless steel screen	MI 1151

Decontamination Fluids Used:

(✓ All That Apply at Location)
____ Methanol (100%)
____ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
____ Hexane
____ HNO_3/D.I. Water Solution
____ Potable Water
____ None

Field Analysis Data

PID: Ambient Air 0.1 ppm Well Mouth ____ ppm
Purge Data Collected ____ In-line ✓ In Container
Sample Observations: ✓ Turbid ____ Clear ✓ Cloudy ____ Colored ____ Odor

Purge Data	@ ~0.5 Gal.	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.
Temperature, Deg. C	14.1				
pH, units	7.0				
Specific Conductivity (~~μmhos/cm~~ mS/cm)	0.975				
Turbidity (NTUS)	300				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ~~ppm~~ mg/L	2.0				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	
SVOCs		4°C	2x1 liter AG	
Metals		HNO_3,4°C	1x1 liter P	
Cyanide		NaOH,4°C	1x500mLP	@ 0820
Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4,4°C	2x1 liter AG	
TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen: 18 to 16
purge water: reddish brown

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: REGION 8 D.C. - GROUP II - RUDDICKS
Project Number: 36120620465 9/01.2
Sample Location ID: RCGW01007 01XX

Site: RUDDICKS DRY CLEANERS
Date: 09/29/2006
Time: Start: 0748 End: 0806
Signature of Sampler:

Water Level/Well Data

Well Depth ______ Ft. ___ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing

Well Riser Stick-up ______ Ft. (from ground)

Protective ______ Ft. Casing/Well Difference

Protective ______ Ft. Casing

Depth to Water ______ Ft.

Well Material: ___ PVC ___ SS

Well Locked?: ___ Yes ___ No

Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch

Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Geoprobe Direct Push

Height of Water Column ______ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = [______ Gal/Vol. ______ Total Gal Purged]

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

Purging (✓ If Used For)	Sampling	Equipment	Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
✓	✓	Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless Steel Screen	Mill Slot

Decontamination Fluids Used:

(✓ All That Apply at Location)

- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- ✓ Deionized Water
- ✓ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

PID: Ambient Air 0.1 ppm Well Mouth / ppm

Purge Data Collected ___ In-line ✓ In Container

Sample Observations: ✓ Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ ~1.0 Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	13.4				
pH, units	7.1				
Specific Conductivity (~~µmhos/cm~~ ms/cm)	0.970				
Turbidity (NTUS)	71000				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ~~ppm~~ mg/L	0.9				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	@ 0805
SVOCs		4°C	2x1 liter AG	
Metals		HNO_3,4°C	1x1 liter P	
Cyanide		NaOH,4°C	1x500mLP	
Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4,4°C	2x1 liter AG	
TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen : 28' to 30'
purge water: Brown, silty

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

Test Boring Log

Project: REGION 8 D.C. GROUP II ~ RUDDICKS DRYCLEANERS		Boring/Well No.: GS/BSO[illegible]	Project No.: 3612062045659/01.2
Client: NYSDEC	Site: RUDDICKS		Sheet No. 1 of 1
Logged By: Brandon Shaw	Ground Elevation:	Start Date: 09/28/2006	Finish Date: 09/28/2006
Drilling Contractor: GEOLOGIC	Driller's Name: Liam Cummins		Rig Type: 6610 DT
Drilling Method: DIRECT PUSH	Protection Level: D	P.I.D. (eV): —	Casing Size: 1 1/2" ; Auger Size: 2"
Soil Drilled: 13'	Rock Drilled: —	Total Depth: 26'	Depth to Groundwater/Date: Piez ☐ Well ☐ Boring ☑

Sample	Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	PI Meter Head Space		Lab Tests
S1	0–4	2.4/4.0					0-1.2 Lt Brown silty fine Sand, loam & roots 1.2-2.2 Dk olive Sandy Silt & gravel, mp, damp 2.2-2.6 sandstone cobbles 2.6-4 olive Brown silty sand & gravel, damp, m. Dense.	Fill GM GC ML SM GM		<0.1			
S2	4–8	3.9/5.0					4-9 silty sand & gravel, damp Dense/m. Dense, v. angular to sub rounded, trace coarse gravel @ ~6.5; v. little gravel from 7 to 9.	SM GM SM GM		<0.1			
S3	8–12	3.4/4.0					9 to 10.5 Silty Sand & gravel dry, m Dense, 10.5 to 12.4 clean m coarse Sand, loose, damp. PG. 12.4-12 Lt Brown Sat silty Sand & mostly gravel, m Dense to loose, fines to fine gravel	SM GM SP GM SM		<0.1			
S4	12–16												

FIGURE 4-6
TYPICAL TEST BORING LOG
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services, Inc.

9404014D(z) L33

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Region 8 D.C. - Group II - Ruddicks
Project Number: 361206 2046 59/01.2
Sample Location ID: RCGW01181501XA

Site: Ruddicks Dry Cleaners
Date: 09/28/2006
Time: Start: 1551 End: 1605
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth ____ Ft. ___ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing ___ ____
Well Riser Stick-up ____ Ft. (from ground)
Protective ____ Ft. Casing/Well Difference
Protective ____ Ft. Casing

Depth to Water ____ Ft.
Well Material: ___ PVC ___ SS ___
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch ___ ___
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ ___

Height of Water Column ____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = [____ Gal/Vol. ____ Total Gal Purged]

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other ____		

Geoprobe Direct Push

Equipment Documentation

Purging/Sampling Equipment Used:

Purging (✓ If Used For)	Sampling		Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless Steel Screen	Mg Heat

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
___ ____
___ ____

Field Analysis Data

PID: Ambient Air <0.1 ppm Well Mouth ____ ppm
Purge Data Collected ___ In-line ✓ In Container
Sample Observations: ___ Turbid ___ Colored ___ Clear ___ Odor ✓ Cloudy

Purge Data	@ ~1.0 Gal.	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.
Temperature, Deg. C	16.8				
pH, units	7.1				
Specific Conductivity (~~µmhos/cm~~) ms/cm	1.06				
Turbidity (NTUS)	~100				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ~~ppm~~ mg/L	3.1				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle /Lot Nos.
✓ VOCs	✓	4°C	2x40 ml	
SVOCs		4°C	2x1 liter AG	
Metals		HNO_3,4°C	1x1 liter P	
Cyanide		NaOH,4°C	1x500mLP	@ 1602
Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4,4°C	2x1 liter AG	
TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen from 16 to 14
Purge water: lt. brown → clear

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Region 8 D.C. - Group II - Ruddicks
Project Number: 361206204654/01.2
Site: Ruddicks Dry Cleaners
Date: 09/28/2006
Time: Start: 1532 End: 1551
Sample Location ID: RCGW011025011XX
Signature of Sampler:

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Depth to Water _____ Ft.
Well Material: ___ PVC ___ SS
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Geoprobe Direct Push

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = _____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Prot. Casing Secure; Concrete Collar Intact; Other _____ — Yes / No

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
		Peristaltic Pump	
		Submersible Pump	
✓	✓	Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
✓	✓	Press/Vac Filter	Stainless steel screen / Millipore

Decontamination Fluids Used: (✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

PID: Ambient Air 0.1 ppm Well Mouth ___ ppm
Purge Data Collected ___ In-line ✓ In Container
Sample Observations: ✓ Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ ~1.0 Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	14.8					
pH, units	7.3					
Specific Conductivity (µmhos/cm)	0.94 (ms)					
Turbidity (NTUS)	>1000					
Oxidation - Reduction, +/- mv						
Dissolved Oxygen, ppm	0.5 mg/L					

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	~1551
___ SVOCs		4°C	2x1 liter AG	
___ Metals		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500mLP	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Drawn from: 26 to 24
purge water: Lt Brown

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

Test Boring Log

Project: REGION 8 D.C. GROUP II – RUDDICKS DRYCLEANERS	Boring/Well No.: GS/BS0#2	Project No.: 3612062046/022 (59)
Client: NYSDEC	Site: RUDDICKS	Sheet No. 1 of 1
Logged By: Brandon Shaw	Ground Elevation:	Start Date: 09/28/2006 — Finish Date: 09/28/2006
Drilling Contractor: GEOLOGIC	Driller's Name: Liam Cummins	Rig Type: 6610 DT
Drilling Method: DIRECT PUSH	Protection Level: D — P.I.D. (eV): /	Casing Size: 1 1/2" — Auger Size: 2"
Soil Drilled: 12' — Rock Drilled: —	Total Depth: 16'	Depth to Groundwater/Date: ~11' — Piez ☐ Well ☐ Boring ☑

Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space	Monitoring (ppm)	Lab Tests
0–4 (S1)	3.2/4.0					0-0.8 DK Brown silty loam roots, topsoil 0.8-1.4 orange brown silty m. coarse sand, WG, Dry, NP 1.4-2.1 fine sand/silt w/ fine gravel; MP, Dense 2.1-3.2 DK Brown clean fine sand/silt, Dense, WG, damp, SP 3.2-4 Silty sand & gravel, dry, M Dense	Fill SW ML ML SM GM		<0.1			
4–8 (S2)	2.5/4.0					4-4.5 orangish Brown silty sand & gravel, dry 4.5-4.9 Lt Brown, silty sand & fine gravel, dry 4.9-5.3 Brown sandy gravel w/ some fines 5.3 to 8 Lt Brown sand & silt & gravel dry, Dense.	SM GM GW GM		<0.1			
8–12 (S3)	3.4/4.0					8 to 10.5 Lt Brown silty sand & gravel, dry, M Dense, PG 10.5 to 11.1 Brown gravel silt & some clay, damp, MP/SP, 11.1 to 12 reddish/Brown sat. silty gravel w/ some m-coarse sand loose/M Dense	GM GM ML GM		<0.1			
12–16 (S4)	/											

FIGURE 4-6
TYPICAL TEST BORING LOG
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

ABB Environmental Services, Inc.

9404014D(z) L33

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Region 8 D.C. - Group II - Ruddicks
Project Number: 361206 2046 59/01.2
Site: Ruddicks Dry Cleaners
Date: 09/28/2006
Time: Start: 1037 End: 1048
Sample Location ID: RCGW01201301XX
Signature of Sampler:

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Depth to Water _____ Ft.
Well Material: ___ PVC ___ SS
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__in.) = _____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Prot. Casing Secure Yes / No; Concrete Collar Intact Yes / No; Other _____ Yes / No

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless steel Screen	Mill-Lot

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

PID: Ambient Air 0.1 ppm Well Mouth ___ ppm
Purge Data Collected ✓ In-line ✓ In Container
Sample Observations: ___ Turbid ___ Clear ✓ Cloudy ___ Colored ___ Odor

Purge Data	@ ~0.7 Gal.	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.
Temperature, Deg. C	15.4				
pH, units	6.31				
Specific Conductivity (mmhos/cm)	0.953				
Turbidity (NTUS)	250				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm mg/L	3.4				

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs		4°C	2x40 ml	
___ SVOCs		4°C	2x1 liter AG	
___ Metals		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500mLP	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen : 14 to 12
purge water: cloudy

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

9404014D L22

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Region 8 D.C. - Group II - Ruddicks
Project Number: 361206 2054 59/01.2
Site: Ruddicks Dry Cleaners
Date: 09/28/2006
Time: Start: 1018 End: 1031
Sample Location ID: RCGW01207301XX
Signature of Sampler:

Water Level/Well Data

Well Depth _____ Ft. ___Measured ___Historical
___Top of Well ___Top of Protective Casing
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Depth to Water _____ Ft.
Well Material: ___PVC ___SS
Well Locked?: ___Yes ___No
Well Dia. ___2 inch ___4 inch ___6 inch
Water Level Equip. Used: ___Elect. Cond. Probe ___Float Activated ___Press. Transducer

Geoprobe Direct push

Height of Water Column _____ Ft. X ___.16 Gal/Ft. (2 in.) ___.65 Gal/Ft. (4 in.) ___1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__in.) = _____Gal/Vol. _____Total Gal Purged

Well Integrity: Prot. Casing Secure; Concrete Collar Intact; Other _____ — Yes / No

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
	✓	Peristaltic Pump	
		Submersible Pump	
✓		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless steel Screen	Mallcut

Decontamination Fluids Used: (✓ All That Apply at Location)
___Methanol (100%)
___25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___Hexane
___HNO_3/D.I. Water Solution
___Potable Water
___None

Field Analysis Data

PID: Ambient Air 0.1 ppm Well Mouth ___ ppm
Purge Data Collected ___In-line ___In Container
Sample Observations: ✓ Turbid ___Clear ___Cloudy ✓ Colored ___Odor

Purge Data	@ ~1.0 Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C	14.0				
pH, units ms	4.3				
Specific Conductivity (µmhos/cm)	0.960				
Turbidity (NTUS)	>1,000				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm mg/L	3.9				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	@ 1030
___ SVOCs		4°C	2x1 liter AG	
___ Metals		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500mLP	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen: 24 to 27
purgewater: brown

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

Test Boring Log

Project: REGION 8 D.C. GROUP II ~ RUDDICKS DRYCLEANERS	Boring/Well No. GS/BSO4	Project No. 361206201/012
Client: NYSDEC	Site: RUDDICKS	Sheet No. 1 of 1
Logged By: Brandon Shaw	Ground Elevation:	Start Date: 09/28/2006 — Finish Date: 09/28/2006
Drilling Contractor: GEOLOGIC	Driller's Name: Adam Cummings	Rig Type: 6610 DT
Drilling Method: DIRECT PUSH	Protection Level: D — P.I.D. (eV): —	Casing Size: 1/2" — Auger Size: 2"
Soil Drilled: 17'	Rock Drilled: —	Total Depth: 28' — Depth to Groundwater/Date: Piez ☐ Well ☐ Boring ☑

Sample	Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	PI Meter Head Space		Lab Tests
S1	0–4	2.3/4.0					0-1.4 ~~Dk~~ Brown organic silty loam & grass roots 1.4-4 orange/Brown fines to m. coarse gravel, damp ~~trace fine~~ coarse sand, loose/m Dense. PG	Fill GW SW		<0.1			
S2	4–8	3.0/5.0					4-6.6 Orange Brown clean m. coarse sand, damp, m Dense trace coarse sand @ ~4.8-5.5 6.6-7.6 orange olive Brown fines to m coarse sandy clay, HP Stiff, wet, 7.6-9 sandstone layers, rock ~~flour w/ some silty m. coarse~~ sand, dry.	SP SC ML		<0.1			
S3	9–12	3.0/4.0					9-13 Silty sand & gravel, w/ veneer of limestone & sandstone mixed, v. Dense, Dry WG, v. angular to rounded,	SM GM		<0.1			
S4	13–16	3.7/4.0					13-15.7 Same as 9-13 15.7-17 Saturated Lt Brown Sand & silt & gravel, fines to fine gravel, M Dense/Loose	SM GM		<0.1			

FIGURE 4-6
TYPICAL TEST BORING LOG
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

ABB Environmental Services, Inc.

9404014D(z) L33

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Region 8 D.C. - Group II - Ruddicks
Project Number: 3612062046 59/01.2
Sample Location ID: RCGW0140170lXX
Site: Ruddicks Dry Cleaners
Date: 09/28/2006
Time: Start: 0918 End: 0930
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth ______ Ft. ___ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up ______ Ft. (from ground)
Protective ______ Ft. Casing/Well Difference
Protective ______ Ft. Casing

Depth to Water ______ Ft.
Well Material: ___ PVC ___ SS ___
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch ___
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___

Geoprobe Direct Push

Height of Water Column ______ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__in.) = ______ Gal/Vol. ______ Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other ______		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
		Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless steel screen	Mills [illegible]

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

PID: Ambient Air <0.1 ppm Well Mouth ___ ppm
Purge Data Collected ✓ In-line ✓ In Container
Sample Observations: ✓ Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ ~0.4 Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	15.7				
pH, units	7.1				
Specific Conductivity (~~µmhos/cm~~) (ms)	0.812				
Turbidity (NTUS)	600				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ~~ppm~~ (mg/L)	3.1				

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	
SVOCs		4°C	2x1 liter AG	
Metals		HNO_3,4°C	1x1 liter P	
Cyanide		NaOH,4°C	1x500mLP	@0925
Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4,4°C	2x1 liter AG	
TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen from 18 to 16'

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Region 8 D.C. - Group II - Ruddicks
Project Number: 361206204659/01.2
Site: Ruddicks Dry Cleaners
Date: 09/28/2006
Time: Start: 0858 End: 0915
Sample Location ID: RCGW01402701XX
Signature of Sampler:

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Depth to Water _____ Ft.
Well Material: ___ PVC ___ SS
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Geoprobe Direct Push

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = _____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Yes / No
Prot. Casing Secure
Concrete Collar Intact
Other _____

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
✓	✓	Press/Vac Filter	

Stainless steel Screen

Decontamination Fluids Used: (✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

PID: Ambient Air 0.1 ppm Well Mouth ___ ppm
Purge Data Collected ✓ In-line ✓ In Container
Sample Observations: ✓ Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data @ 20.2 Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C 16.4					
pH, units 7.6					
Specific Conductivity (µmhos/cm) 0.692					
Turbidity (NTUS) 71000					
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm 2.9					

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	0912
___ SVOCs		4°C	2x1 liter AG	
___ Metals		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500mLP	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen from 28 to 26'
purge water V. turbid; w/ some fine sand

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

Test Boring Log

Project: REGION 8 D.C. GROUP II - RUDDICKS DRYCLEANERS	Boring/Well No.: GS/BSO#5	Project No.: 361206204659/01.2
Client: NYSDEC	Site: RUDDICKS	Sheet No.: 1 of 1
Logged By: Brandon Shaw	Ground Elevation	Start Date: 09/28/2006 — Finish Date: 09/28/2006
Drilling Contractor: GEOLOGIC	Driller's Name: Tim Cummings	Rig Type: 6610 DT
Drilling Method: DIRECT PUSH	Protection Level: D — P.I.D. (eV): /	Casing Size: 4 1/2" — Auger Size: 2"
Soil Drilled: 12' — Rock Drilled: /	Total Depth: 24' — Depth to Groundwater/Date: ~10.5	Piez ☐ Well ☐ Boring ☑

Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm): PI Meter Field Scan	PI Meter Head Space		Lab Tests
1	S1 1.8/4.0					0-0.8 Black top [Asphalt	Fill		40.1			
2						0.8-1.2 Olive silty sand clay, V. Dense	SM					
3						1.2-1.4 DK olive silt, Sand Clay mix V. Stiff, moist, HP	SCSM					
4						1.4-3.1 Brownish orange silty coarse sandy clay, NP, wet/moist, M stiff.	SMSC					
						3.1-4 Brwn silt, M coarse sandy clay M stiff/soft, wet, NP.	SMSC					
5	S2 2.7/4.0					4-4.8 Brwn silty Sand & gravel moist, M Dense, NP	SMGM		40.1			
6						4.8-8 Silty sand & gravel Dense, dry, Some Sandstone NP,	GM SM					
7												
8												
9	S3 2.9/4.0					8-10.4 Silty sand & gravel, dry, NP, Dense	GM		40.1			
10						10.4-10.5 DK Brwn Clean silty clay, damp, V Stiff	SM					
11						10.5 to 10.8 wet silty M coarse to coarse sand, NP, loose	SM					
12						10.8 to 12 Lt brwn gravel coarse, silty, saturated M Dense	SM					
13												
14	S4 /											
15												
16												

FIGURE 4-6
TYPICAL TEST BORING LOG
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: REGION 8 D.C. - GROUP II - RUDDICKS
Project Number: 36120620 46 59/01.2
Sample Location ID: RCGW015D130XX

Site: RUDDICK DRY CLEANERS
Date: 09/28/2006
Time: Start: 1131 End: 1155
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth ______ Ft. ___ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing ___ ______

Well Riser Stick-up ______ Ft. (from ground)

Protective ______ Ft. Casing/Well Difference

Protective ______ Ft. Casing

Depth to Water ______ Ft.

Well Material: ___ PVC ___ SS ___

Well Locked?: ___ Yes ___ No

Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch ___ ______

Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ ______

Geoprobe Direct Push

Height of Water Column ______ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__in.) = [______ Gal/Vol. ______ Total Gal Purged]

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other ______		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless steel Screen	Mottslot

Decontamination Fluids Used:

(✓ All That Apply at Location)
- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- ✓ Deionized Water
- ✓ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

PID: Ambient Air <0.1 ppm Well Mouth — ppm

Purge Data Collected ✓ In-line ✓ In Container

Sample Observations: ✓ Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ ~1.0 Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	16.1				
pH, units	7.4				
Specific Conductivity ~~(µmhos/cm)~~ (ms/cm)	7				
Turbidity (NTUS)	0.904				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ~~ppm~~ mg/L	2.6				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	@ 1140
___ SVOCs		4°C	2x1 liter AG	
___ Metals		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500mLP	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen from: 14 to 12'
purge water: orange/Brown

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Region 8 D.C. - Group II - Ruddicks
Project Number: 361206 2046 54 01.2
Site: Ruddicks Dry Cleaners
Date: 09/28/2006
Time: Start: 1110 End: 1132
Sample Location ID: RCGW01502301XX
Signature of Sampler:

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Depth to Water _____ Ft.
Well Material: ___ PVC ___ SS
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Ge. probe
Direct push

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = _____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Prot. Casing Secure; Concrete Collar Intact; Other _____ — Yes / No

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
✓	✓	Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless steel Screen	Milestol

Decontamination Fluids Used: (✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

PID: Ambient Air 0.1 ppm Well Mouth ___ ppm
Purge Data Collected ___ In-line ✓ In Container
Sample Observations: ___ Turbid ✓ Colored ___ Clear ✓ Cloudy ___ Odor

Purge Data	@ ~1.2 Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C	12.6				
pH, units	7.4				
Specific Conductivity (µmhos/cm)	850				
Turbidity (NTUS)					
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm	3.5				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	1130
___ SVOCs		4°C	2x1 liter AG	
___ Metals		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500mLP	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen from 17.4-22
purge water: Cloudy, Lt Brown

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

Test Boring Log

Project: REGION 8 D.C. GROUP II - RUDDICKS DRY CLEANERS	Boring/Well No.: GS/BSO#6	Project No.: 361206 20459/01.2	
Client: NYSDEC	Site: RUDDICKS	Sheet No.: 1 of 1	
Logged By: Brandon Shaw	Ground Elevation:	Start Date: 09/28/2006	Finish Date: 09/28/2006
Drilling Contractor: GEOLOGIC	Driller's Name: Liam Cummings	Rig Type: 6610	
Drilling Method: DIRECT PUSH	Protection Level: D	P.I.D. (eV): /	Casing Size: 1 1/2" / Auger Size: 2"
Soil Drilled: 12'	Rock Drilled: /	Total Depth: 20'	Depth to Groundwater/Date: ~7.9' Piez ☐ Well ☐ Boring ☑

Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space	Lab Tests
1	S1 2.3/4.0					0-1.3 DK Brn Silty f-m coarse Sandy loamy roots, grass	Fill		20.1		
2						1.3-1.5 Sandstone cobbles	ML				
3						1.5 to 2 Orange/olive silty clay w/ some coarse sand wet, MP	CL				
4						2-3.7 Orangish Brown, Silty Sand & gravel mix, Fill, Like Stones @ 3.6'	SM/GM				
5	S2 1.9/4.0					3.7-4 Lt Brown/orange Silty Clay w/ gravel wet, HP			20.1		
6						4-7.2 Same as 2-3.7, lenses of Sandstone cobbles	SM GM				
7						7.2-7.9 Tan moist V. Dense ~~Silt~~ fine Sandy Silt, trace cobbles					
8						7.9-8 Saturated orangish Brown silty fine to coarse Sand loose	CL				
9	S3 1.5/4.0					8-11 Lt Brown w/ some orange gravel w/ some fines & Sand Saturated, M Dense	SW SM GM		20.1		
10						11 to 12 clean M coarse Sand w/ trace rounded gravel, M Dense Sat, MP trace fines					
11							SM				
12											
13	S4 /										
14											
15											
16											

FIGURE 4-6
TYPICAL TEST BORING LOG
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services, Inc.

9404014D(z) L33

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Region 8 D.C. - Group II - Ruddicks
Project Number: 36120620465901.2
Sample Location ID: RCGW016009 01XX

Site: Ruddick Dry Cleaners
Date: 09/28/2006
Time: Start: 1222 End: 1240
Signature of Sampler: [signature]

Water Level/Well Data

Well Depth ____ Ft. ___ Measured ___ Historical ___ Top of Well ___ Top of Protective Casing

Well Riser Stick-up ____ Ft. (from ground)

Protective Casing/Well Difference ____ Ft.

Protective Casing ____ Ft.

Depth to Water ____ Ft.

Well Material: ___ PVC ___ SS

Well Locked?: ___ Yes ___ No

Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch

Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Geoprobe Direct Push

Height of Water Column ____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = [____ Gal/Vol. ____ Total Gal Purged]

Well Integrity:	Yes	No
Prot. Casing Secure		
Concrete Collar Intact		
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For)

Purging	Sampling		Equipment ID
		Peristaltic Pump	
		Submersible Pump	
		Bailer	
✓	✓	PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless steel screen	Mult [illegible]

Decontamination Fluids Used:

(✓ All That Apply at Location)

- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- ✓ Deionized Water
- ✓ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

PID: Ambient Air <0.1 ppm Well Mouth ____ ppm

Purge Data Collected ___ In-line ✓ In Container

Sample Observations: ___ Turbid ___ Colored ___ Clear ___ Odor ✓ Cloudy

Purge Data	@ ~ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	17.3				
pH, units	7.2				
Specific Conductivity (~~µmhos/cm~~) ms/cm	0.878				
Turbidity (NTUS)	~500				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ~~ppm~~ mg/L	3.7				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle Lot Nos.
✓ VOCs	✓	4°C	2x40 ml	
SVOCs		4°C	2x1 liter AG	
Metals		HNO_3, 4°C	1x1 liter P	
Cyanide		NaOH, 4°C	1x500mLP	(n) 1231
Nitrate/Sulfate		H_2SO_4, 4°C	1x1 liter P	
Nitrate/Phosphate		H_2SO_4, 4°C	1x1 liter P	
Pest/PCB		4°C	3x1 liter AG	
TPH		H_2SO_4, 4°C	2x1 liter AG	
TOC		H_2SO_4, 4°C	1x1 liter P	

Notes: Screen Interval: 10' to 8'

purge water:

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

9404014D L22

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Region 8 D.C. - Group II - Ruddicks
Project Number: 361206 2046 59/01.2
Sample Location ID: RCGW01601901XX
Site: Ruddicks Dry Cleaners
Date: 09/28/2006
Time: Start: 1209 End: 1221
Signature of Sampler:

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Depth to Water _____ Ft.
Well Material: ___ PVC ___ SS ___ Geoprobe Direct push
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ ___ Gal/Ft. (___ in.) = [_____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Yes No
Prot. Casing Secure ___ ___
Concrete Collar Intact ___ ___
Other _____ ___ ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
	✓	Peristaltic Pump	
		Submersible Pump	
✓	✓	Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
✓	✓	Press/Vac Filter (Stainless Steel Screen)	Airlift

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
___ _____
___ _____

Field Analysis Data

PID: Ambient Air 0.0 ppm Well Mouth ___ ppm Purge Data Collected ___ In-line ✓ In Container
Sample Observations: ___ Turbid ___ Clear ✓ Cloudy ___ Colored ___ Odor

Purge Data	@ ~0.5 Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C	16.0				
pH, units	7.4				
Specific Conductivity (µmhos/cm)	0.720				
Turbidity (NTUS)	1000				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm	5.9				

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	1220
___ SVOCs		4°C	2x1 liter AG	
___ Metals		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500mLP	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen Interval: 20' to 18'
purge water: Light Brown, cloudy w/ Slight Hydrocarbon Smell

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

Test Boring Log

Project: REGION 8 D.C. GROUP II ~ RUDDICKS DRY CLEANERS	Boring/Well No.: GS/BSO#7	Project No.: 361206204859/12
Client: NYSDEC	Site: RUDDICKS	Sheet No.: 1 of 1
Logged By: Brandon Shaw	Ground Elevation:	Start Date: 09/28/2006
Finish Date: 09/28/2006		
Drilling Contractor: GEOLOGIC	Driller's Name: Liam Cumming	Rig Type: 6610 DT
Drilling Method: DIRECT PUSH	Protection Level: D	P.I.D. (eV): /
Casing Size: 1 1/2"	Auger Size: 2"	
Soil Drilled: 8'	Rock Drilled: /	Total Depth: 20'
Depth to Groundwater/Date: ~7.9'	Piez ☐ Well ☐ Boring ☑	

Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space	Monitoring (ppm)	Lab Tests
1	S1 1.7/4.0					0-~2' DK Brown silty loam, M Dense dmp;			60.1			
2						~2'-3' orange/brown silty sand w/ some clay, wet, HP/mp	Fill					
3						3'-4' tan sandy clay, HP, wet, M stiff, fines to ~~fine~~ M coarse sand	SMSC					
4						* pushed a cobble; in shoe.	CLSC					
5	S2 1.4/4.0					4-~7.5 Lt Brown, Silty sand & gravel, trace cobbles, Dense dmp, NP	SM GM		60.1			
6												
7						7.5-8 Saturated silty sand & gravel, loose, SP/mp.						
8						* pushed cobble again; v. soft drilling	SM					
9	S3 /											
10												
11												
12												
13	S4 /											
14												
15												
16												

FIGURE 4-6
TYPICAL TEST BORING LOG
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services, Inc.

9404014D(z) L33

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Region 8 D.C. - Group II - Ruddicks
Project Number: 361206 2046 59/01.2
Site: Ruddicks Dry Cleaners
Date: 09/28/2006
Time: Start: 1321 End: 1340
Sample Location ID: RCGW01700901 11
Signature of Sampler:

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Depth to Water _____ Ft.
Well Material: ___ PVC ___ SS
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Geoprobe Direct push

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__in.) = _____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Prot. Casing Secure Yes ___ No ___; Concrete Collar Intact Yes ___ No ___; Other _____ Yes ___ No ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
	✓	Peristaltic Pump	
		Submersible Pump	
✓	✓	Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
✓	✓	Press/Vac Filter	Millstop

Stainless steel screen

Decontamination Fluids Used: (✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

PID: Ambient Air 0.1 ppm Well Mouth ___ ppm
Purge Data Collected ___ In-line ✓ In Container
Sample Observations: ___ Turbid ___ Clear ✓ Cloudy ___ Colored ___ Odor

Purge Data	@ ~0.5 Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	17.9				
pH, units	7.0				
Specific Conductivity (µmhos/cm)	1.19				
Turbidity (NTUS)	200				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm	3.1				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs		4°C	2x40 ml	1334
___ SVOCs		4°C	2x1 liter AG	
___ Metals		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500mLP	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen 10'-15'
purge water Brown → clearing up

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: REGION 8 D.C. - GROUP II - RUDDICKS
Project Number: 361206 2046 59/01.2
Site: RUDDICKS DRY CLEANERS
Date: 09/28/2006
Time: Start: 1318 End: 1331
Sample Location ID: RCGW0170190IIXX
Signature of Sampler:

Water Level/Well Data

Well Depth _____ Ft. ___Measured ___Historical
___Top of Well ___Top of Protective Casing
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Depth to Water _____ Ft.
Well Material: ___PVC ___SS _____
Well Locked?: ___Yes ___No
Well Dia. ___2 inch ___4 inch ___6 inch ___ _____
Water Level Equip. Used: ___Elect. Cond. Probe ___Float Activated ___Press. Transducer ___ _____

Geoprobe Direct push

Height of Water Column _____ Ft. X ___.16 Gal/Ft. (2 in.) ___.65 Gal/Ft. (4 in.) ___1.5 Gal/Ft. (6 in.) ___ __ Gal/Ft. (__in.) = _____Gal/Vol. _____Total Gal Purged

Well Integrity: Prot. Casing Secure; Concrete Collar Intact; Other _____ — Yes / No

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
✓	✓	Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless steel Screen	Mill Stok

Decontamination Fluids Used: (✓ All That Apply at Location)
___Methanol (100%)
___25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___Hexane
___HNO_3/D.I. Water Solution
___Potable Water
___None
___ _____
___ _____

Field Analysis Data

PID: Ambient Air 0.1 ppm Well Mouth ___ ppm
Purge Data Collected ___In-line ✓ In Container
Sample Observations: ✓ Turbid ___Clear ___Cloudy ___Colored ___Odor

Purge Data	@ 0.2 Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	17.5				
pH, units	(MS)				
Specific Conductivity (µmhos/cm)	0.883				
Turbidity (NTUS)	>1000				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm mg/L	3.7				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs		4°C	2x40 ml	1330
___ SVOCs		4°C	2x1 liter AG	
___ Metals		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500mLP	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen: 20' to 18'
purge water: V. Turbid w/ Silt & fine sand, Brown
* Smell on purge water - hydrocarbon

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

Test Boring Log

Project: REGION 8 D.C. GROUP II - RUDDICKS DRY CLEANER	Boring/Well No.: GS/BSOIB	Project No.: 59 3612062046/01.2
Client: NYSDEC	Site: RUDDICKS	Sheet No.: 1 of 1
Logged By: Brandon Shaw	Ground Elevation:	Start Date: 09/25/2006
Finish Date: 09/25/2006		
Drilling Contractor: GEOLOGIC	Driller's Name: Liam Cummins	Rig Type: 6610 DT.
Drilling Method: DIRECT PUSH	Protection Level: D	P.I.D. (eV): /
Casing Size: 1 1/2"	Auger Size: 2"	
Soil Drilled: 12'	Rock Drilled: /	Total Depth: 12'
Depth to Groundwater/Date: 09/25/2006 : 9.9' bgs	Piez ☐ Well ☐ Boring ☑	

Depth(Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space	Lab Tests
1	S1 2.6/4.0					0-1 DF Brown silty loam w gravel Topsoil - Fill	Fill		0.1		
2						1-3.4 olive Brown silty fine Sand & gravel loose, some lenses of dry clayey silt	SM GM				
3						3.4-3.7 olive Brown silty clay w gravel moist, SP, w. Strf,					
4						3.7-4 Same as 1-3.4.	SM GM				
5	S2 1.9/4.0					4-5.5 clayey gravel, some fine Sand, PG fine to coarse, wet, NP/SP	GC		0.1		
6						6.5-7.5 olive Clayey gravel, moist NP, WG, Some fine Sand					
7						7.5-8 cobble - sandstone streak in sleeve.	GC				
8							ML				
9	S3 1.8/4.0					8-9.9 Brown Silty Sand & gravel w. Dense, moist, NP.	SM GM		0.1		
10						9.9 - 12 Lt Brown Silty Sand & gravel, Saturated, loose					
11						▼TDS: 24 w/ water Sampler	SM GM				
12											
13	S4 /										
14											
15											
16											

FIGURE 4-6
TYPICAL TEST BORING LOG
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services, Inc.

9404014D(z) L33

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: REGION 8 D.C. - GROUP II - RUDDICKS
Project Number: 361206 20465 9/01.2
Site: RUDDICKS DRY CLEANERS
Date: 09/26/2006
Time: Start: 0806 End: 0820
Sample Location ID: RCGW01B011011XX
Signature of Sampler:

Water Level/Well Data

Well Depth _____ Ft. ___Measured ___Historical
___Top of Well ___Top of Protective Casing ___ _____
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Depth to Water _____ Ft.
Well Material: ___PVC ___SS _____
Well Locked?: ___Yes ___No
Well Dia. ___2 inch ___4 inch ___6 inch ___ _____
Water Level Equip. Used: ___Elect. Cond. Probe ___Float Activated ___Press. Transducer ___ _____

Geoprobe Direct push

Height of Water Column _____ Ft. X ___.16 Gal/Ft. (2 in.) ___.65 Gal/Ft. (4 in.) ___1.5 Gal/Ft. (6 in.) ___ __ Gal/Ft. (__in.) = [_____Gal/Vol. _____Total Gal Purged

Well Integrity: Prot. Casing Secure ___ ___; Concrete Collar Intact ___ ___; Other _____ ___ ___ (Yes / No)

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
✓	✓	Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless steel Screen	mill slot

Decontamination Fluids Used: (✓ All That Apply at Location)

___Methanol (100%)
___25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___Hexane
___HNO_3/D.I. Water Solution
___Potable Water
___None
___ _____
___ _____

Field Analysis Data

PID: Ambient Air 0.1 ppm Well Mouth ___ ppm Purge Data Collected ___In-line ✓In Container

Sample Observations: ✓Turbid ___Clear ___Cloudy ___Colored ___Odor

Purge Data @ _____ Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C				
pH, units				
Specific Conductivity (µmhos/cm)				
Turbidity (NTUS)				
Oxidation - Reduction, +/- mv				
Dissolved Oxygen, ppm				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	Sample time @0817
___ SVOCs		4°C	2x1 liter AG	
___ Metals		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500mLP	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: No 4-10; parameters cannot be collected

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: REGION 8 D.C. - GROUP II - RUDDICKS
Project Number: 361206 2046 54 101.2

Site: RUDDICKS DRY CLEANERS
Date: 09/26/2006
Time: Start: 0735 End: 0805
Sample Location ID: RCGW01BD21E1XX
Signature of Sampler:

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical

___ Top of Well ___ Top of Protective Casing ___ _____

Well Riser Stick-up _____ Ft. (from ground)

Protective _____ Ft. Casing/Well Difference

Protective _____ Ft. Casing

Depth to Water _____ Ft.

Well Material: ___ PVC ___ SS ___ _____ Geoprobe Direct push

Well Locked?: ___ Yes ___ No

Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch ___ _____

Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ _____

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ ___ Gal/Ft. (__in.) = [_____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Prot. Casing Secure Yes ___ No ___; Concrete Collar Intact Yes ___ No ___; Other _____ Yes ___ No ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
✓	✓	Bailer	
✓		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless steel Screen	Mill Slot

Decontamination Fluids Used: (✓ All That Apply at Location)

___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
___ _____
___ _____

Field Analysis Data

PID: Ambient Air 0.1 ppm Well Mouth 1 ppm

Purge Data Collected ___ In-line ✓ In Container

Sample Observations: ✓ Turbid ___ Clear ___ Cloudy ✓ Colored ___ Odor

Purge Data	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C					
pH, units		7			
Specific Conductivity (µmhos/cm)	0				
Turbidity (NTUS)					
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm					

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	Sample Time @ 0800
___ SVOCs		4°C	2x1 liter AG	
___ Metals		HNO_3, 4°C	1x1 liter P	
___ Cyanide		NaOH, 4°C	1x500mLP	
___ Nitrate/Sulfate		H_2SO_4, 4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4, 4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4, 4°C	2x1 liter AG	
___ TOC		H_2SO_4, 4°C	1x1 liter P	

Notes: No U-log parameters can not be collected

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

Test Boring Log

Project	Boring/Well No.	Project No.
REGION 8 D.C. GROUP II ~ RUDDICKS DRYCLEANERS	GS/BS009	3612062046 54/012

Client	Site	Sheet No.
NYSDEC	RUDDICKS	1 of 1

Logged By	Ground Elevation	Start Date	Finish Date
Brandon Shaw		09/28/2006	09/28/2006

Drilling Contractor	Driller's Name	Rig Type
GEOLOGIC	Liam Cummins	6610 DT

Drilling Method	Protection Level	P.I.D. (eV)	Casing Size	Auger Size
DIRECT PUSH	D	/	1 1/2"	2"

Soil Drilled	Rock Drilled	Total Depth	Depth to Groundwater/Date	Piez	Well	Boring
8'	/	20'	~7'	☐	☐	☑

Sample	Depth (Feet)	Sample No. & Penetration/ Recovery (Feet)	Sample Type	SPT Blows/6" or Core Rec./Rqd. %	SPT-N (Blows/Ft.)	Graphic Log	Sample Description	USCS Group Symbol	Notes on Drilling	Monitoring (ppm) PI Meter Field Scan	Monitoring (ppm) PI Meter Head Space		Lab Tests
S1	0–4	1.9/4.0					0-0.8 Blacktop 0.8-1.4 Brown silty gravel Fill 1.4-4 DK olive silty clay wet, w pieces of brick @4 - red bricks	Fill		<0.1			
S2	4–8	2.6/4.0					4-8 All fill; bricks & white ceramic pieces @ ~ Slag? broken glass @ ~6.5; steel nail @ ~7 7.5 to 8 v. soft light grey clay, HP, stratified	Fill		<0.1			
S3	8–12	/											
S4	12–16	/											

FIGURE 4-6
TYPICAL TEST BORING LOG
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

ABB Environmental Services, Inc.

9404014D(z) L33

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: REGION 8 D.C. - GROUP II - RUDDICKS
Project Number: 361206 2006 59 01.2
Site: RUDDICKS DRY CLEANERS
Date: 09/28/2006
Time: Start: 1442 End: 1456
Sample Location ID: RCGW01900901XX
Signature of Sampler:

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Depth to Water _____ Ft.
Well Material: ___ PVC ___ SS
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Geoprobe Direct push

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = [_____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Prot. Casing Secure Yes ___ No ___; Concrete Collar Intact Yes ___ No ___; Other _____ Yes ___ No ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
✓	✓	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	
✓	✓	Stainless steel screen	

Decontamination Fluids Used: (✓ All That Apply at Location)

___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
___ _____
___ _____

Field Analysis Data

PID: Ambient Air 0.1 ppm Well Mouth ___ ppm Purge Data Collected ___ In-line ✓ In Container

Sample Observations: ___ Turbid ___ Clear ✓ Cloudy ___ Colored ___ Odor

Purge Data	@ ~1.5 Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C	16.0				
pH, units	6.8				
Specific Conductivity (µmhos/cm)	0.835				
Turbidity (NTUS)	~600				
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm mg/L	3.8				

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	1455
___ SVOCs		4°C	2x1 liter AG	
___ Metals		HNO_3,4°C	1x1 liter P	
___ Cyanide		NaOH,4°C	1x500mLP	
___ Nitrate/Sulfate		H_2SO_4,4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4,4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4,4°C	2x1 liter AG	
___ TOC		H_2SO_4,4°C	1x1 liter P	

Notes: Screen: 1 0 to 8
purge water: DK Brown ⇒ clear

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN
ABB Environmental Services

9404014D L22

GROUNDWATER SAMPLE FIELD DATA RECORD

Project: Region 8 D.C. - Group II - Ruddicks
Project Number: 361206 2046 59/01.2
Sample Location ID: RCGW01901901XX
Site: Ruddicks Dry Cleaners
Date: 09/28/2006
Time: Start: 1425 End: 1441
Signature of Sampler:

Water Level/Well Data

Well Depth _____ Ft. ___ Measured ___ Historical
___ Top of Well ___ Top of Protective Casing
Well Riser Stick-up _____ Ft. (from ground)
Protective _____ Ft. Casing/Well Difference
Protective _____ Ft. Casing

Depth to Water _____ Ft.
Well Material: ___ PVC ___ SS ___ Geoprobe Direct push
Well Locked?: ___ Yes ___ No
Well Dia. ___ 2 inch ___ 4 inch ___ 6 inch
Water Level Equip. Used: ___ Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column _____ Ft. X ___ .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (__ in.) = _____ Gal/Vol. _____ Total Gal Purged

Well Integrity: Yes / No
Prot. Casing Secure
Concrete Collar Intact
Other _____

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
		Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
✓	✓	Press/Vac Filter Stainless steel screen	

Decontamination Fluids Used: (✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
✓ Deionized Water
✓ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

PID: Ambient Air 0.1 ppm Well Mouth ___ ppm
Purge Data Collected ✓ In-line ✓ In Container
Sample Observations: ✓ Turbid ___ Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.	@ _____ Gal.
Temperature, Deg. C					
pH, units					
Specific Conductivity (µmhos/cm)					
Turbidity (NTUS)					
Oxidation - Reduction, +/- mv					
Dissolved Oxygen, ppm					

Took water readings

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Sample Collected	Preservation Method	Volume Required	Sample Bottle ILot Nos.
✓ VOCs	✓	4°C	2x40 ml	
___ SVOCs		4°C	2x1 liter AG	
___ Metals		HNO_3, 4°C	1x1 liter P	
___ Cyanide		NaOH, 4°C	1x500mLP	
___ Nitrate/Sulfate		H_2SO_4, 4°C	1x1 liter P	
___ Nitrate/Phosphate		H_2SO_4, 4°C	1x1 liter P	
___ Pest/PCB		4°C	3x1 liter AG	
___ TPH		H_2SO_4, 4°C	2x1 liter AG	
___ TOC		H_2SO_4, 4°C	1x1 liter P	

1440

Notes: Screen 10 to 18
purge water: V. Turbid, Sandy w/ heavy silt.

FIGURE 4-1
GROUNDWATER SAMPLE DATA RECORD
NYSDEC QUALITY ASSURANCE PROGRAM PLAN

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	Region 8 Group 2 Dry Cleaners	SAMPLE I.D. NUMBER	RCMW06S02302XX (MS MD)
SAMPLE TIME	1210	EXPLORATION ID:	MW - 6S
SITE	RUDDICKS.	DATE	05/10/07
TIME	START 1109 END 1230	JOB NUMBER	3612062059/0112
FILE TYPE	NYSDEC		

WATER LEVEL / PUMP SETTINGS

MEASUREMENT POINT
- [X] TOP OF WELL RISER
- [ ] TOP OF PROTECTIVE CASING
- [ ] OTHER ______

PROTECTIVE CASING STICKUP (FROM GROUND): 2.1 FT

PROTECTIVE CASING / WELL DIFFERENCE: 0.12 FT

INITIAL DEPTH TO WATER: * N/A FT

WELL DEPTH (TOR): ~28.1 FT

PID AMBIENT AIR: <0.1 PPM

WELL DIAMETER: 2 IN *Stainless steel

FINAL DEPTH TO WATER: * N/A FT

SCREEN LENGTH: * ~~10~~ FT *Screen length unknown

PID WELL MOUTH: <0.1 PPM

WELL INTEGRITY: YES / NO / N/A
- CAP: ✓
- CASING: ✓
- *LOCKED: X
- COLLAR: N/A X

*Cut lock

DRAWDOWN VOLUME: N/A GAL (initial - final x 0.16 {2-inch} or x 0.65 {4-inch})

RATIO OF DRAWDOWN VOLUME TO TOTAL VOLUME PURGED: * N/A

PRESSURE TO PUMP: — PSI

TOTAL VOL. PURGED: 2.9 GAL (purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/milliliter)

REFILL TIMER SETTING: — SECONDS

DISCHARGE TIMER SETTING: — SECONDS

PURGE DATA

*Using U-22 readings

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/m)	TEMP. (deg. c)	SPECIFIC CONDUCTANCE (ms/cm)	pH (units)	DISS. O2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1120	PUMP ON								~23	PUMP ON
1122	N/A	225	11.2	0.227	8.2	10.8	510	110	|	
1127	|	225	10.9	0.207	8.3	9.1	200	160	|	
1132	|	225	10.9	0.202	8.4	8.8	180	100	|	
1137	|	225	11.1	0.201	8.4	8.5	130	100	|	
1142	|	225	11.0	0.205	8.4	8.5	110	100	|	
1147	|	225	11.1	0.202	8.4	8.5	90	100	|	
1152	|	225	11.1	0.202	8.4	8.4	70	100	|	
1157	|	225	11.1	0.202	8.4	8.4	60	100	|	
1202	|	225	11.2	0.202	8.4	8.5	60	90	|	
1207	|	225	11.2	0.202	8.4	8.4	50	90	|	
1210	Sample time @ mw-6S									Sample time
1213	Pump off									
1227	Finished @ well									

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL	TYPE OF BLADDER MATERIAL
[ ] MARSCHALK BLADDER	[X] SILASTIC	[ ] POLYVINYL CHLORIDE	[ ] TEFLON
[ ] SIMCO BLADDER	[X] HIGH DENSITY POLYETHYLENE	[ ] STAINLESS STEEL	[✓] OTHER none
[✓] GEOPUMP	[ ] OTHER ______	[✓] OTHER none	

ANALYTICAL PARAMETERS

*MS/MSD collected here as well.

To Be Collected	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED
* [X] VOC	8260B	HCL / 4 DEG. C	3 X 40 mL	[X] VOC
[ ] SVOC	CLP	4 DEG. C	2 X 1 L AG	[ ] SVOC
[ ] PEST / PCBs	CLP	4 DEG. C	2 X 1 L AG	[ ] PEST / PCBs
[ ] TAL INORGANICS	CLP	HNO3 to pH <2	1 x 1 L P	[ ] TAL INORGANICS
[ ] Other ______				[ ]

8

PURGE OBSERVATIONS - Lt brown, cloudy

PURGE WATER CONTAINERIZED: YES [NO]

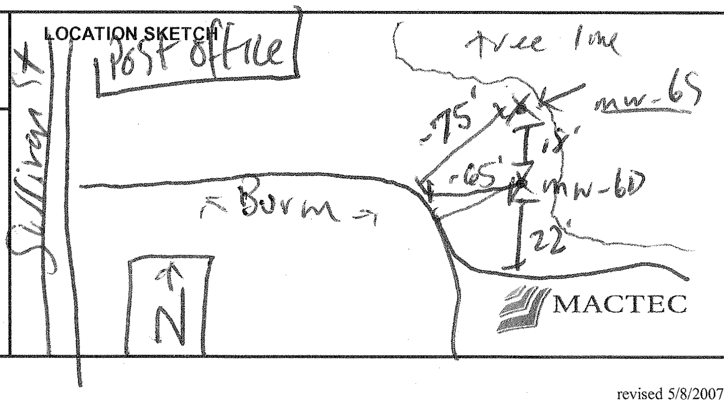
NUMBER OF GALLONS GENERATED: 2.9

NOTES *Well riser is bent; no DTW @ mw-6S

All Equipment used either dedicated or deconned prior to arrival on site. No rinseate/ field blank required

SIGNATURE: [signature]

LOCATION SKETCH

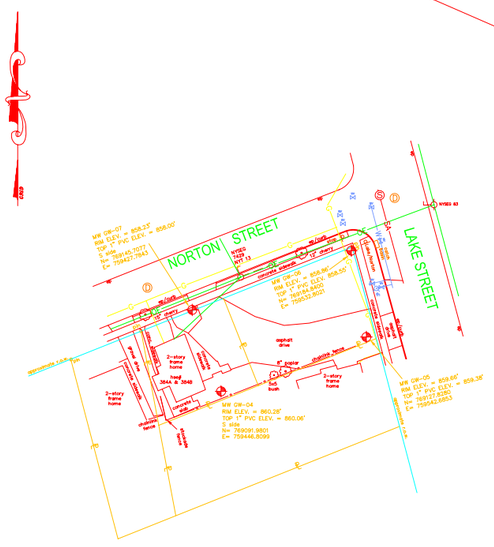


MACTEC

revised 5/8/2007

APPENDIX C

SITE SURVEY



WL-1
Top of Headwall Elev.=853.69'
Top of Water Elev.=850.83' on 12-05-06.
Invert at opening 848.69'
N= 770623.4870
E= 756666.2410

MW GW-07
RIM ELEV. = 858.23'
TOP 1" PVC ELEV. = 858.00'
S side
N= 769145.7077
E= 759427.7843

MW GW-06
RIM ELEV. = 858.86'
TOP 1" PVC ELEV. 858.55'
N= 769184.8400
E= 759532.8021

MW GW-05
RIM ELEV. = 859.66'
TOP 1" PVC ELEV. = 859.38'
N= 769127.8280
E= 759542.6853

MW GW-04
RIM ELEV. = 860.28'
TOP 1" PVC ELEV. = 860.06'
S side
N= 769091.9801
E= 759446.8099

WL-2
Top of Headwall Elev.=852.90'
Bottom of Cut in Headwall Elev.=852.77'
Top of Water Elev.=848.49' on 12-05-06.
Invert of 26" cm pipe 847.52'
N= 767967.7090
E= 760482.8290

LEGEND

-⊙-	UTP NYSEG 6302	UTILITY POLE
WV ⋈		WATER VALVE
WSO		WATER SEVICE VALVE
⋈	GV	GAS VALVE
-⊙-	UPL NYSEG 6298 NYT 4	UTILITY POLE WITH LIGHT
△		SURVEY CONTROL POINT
□	cab	DRAINAGE CATCH BASIN
Ⓓ	DMH	DRAINAGE MANHOLE
—SA—		SEWER LINE
——		GAS MAIN
⊕	MON. WELL MW #04 RIM ELEV.= 854.18' TOP PVC ELEV.= 853.90' N=764634.7515 E=760549.2186	MONITORING WELL

SURVEY NOTES:

1.) THE VERTICAL ELEVATIONS LISTED HEREON ARE REFERENCED TO NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.

2.) THE HORIZONTAL COORDINATES ARE REFERENCED TO THE NEW YORK STATE PLANE COORDINATES SYSTEM, CENTRAL ZONE. THEY ARE BASED ON THE NAD 1983 COORDINATE DATUM.

3.) ALL ELEVATIONS ON MONITORING WELL PVC WAS TAKEN ON THE NORTH SIDE UNLESS OTHERWISE SPECIFIED.

4.) PROPERTY LINES ARE APPROXIMATE FROM TAX MAPS.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

DATE	REVISIONS	BY

DRAWING ALTERATION

WARNING: It is a violation of the New York State Education Law, Article 145, Section 7209, Special Provision 2, for any person unless he is acting under the direction of a Licensed Professional Engineer or Land Surveyor to alter an item in any way. If an item bearing the seal of an engineer or land surveyor is altered, the altering engineer or land surveyor shall affix to the item his seal and notation "altered by" followed by his signature and date of such alteration, and a specific description of the alteration.

BY: ____________________

DATE: ____________________

LU ENGINEERS
Civil and Environmental

JOSEPH C. LU ENGINEERING AND
LAND SURVEYING, P.C.
2230 Penfield Road
Penfield, New York 14526
(585) 377-1450
FAX: (585) 377-1266

PROJECT:

FORMER RUDDICKS
ELMIRA, NY

CLIENT:

MACTEC ENGINEERING, INC.
511 CONGRESS STREET
PORTLAND, ME 04101

DRAWING TITLE:

Environmental MAP

DESIGNED BY:	SCALE: 1" = 50'
DRAWN BY: AEM	DATE: 12/18/06
CHECKED BY: CJR	PROJECT No. 36414-04
SHEET 1 OF 1	DRAWING No. S-1

J:\Projects\36400 MACTEC\36414 Region 8 Cleaners Sites\36414-04 Ruddicks\Cadd\Former Ruddicks Cleaners.dwg

APPENDIX D

DATA USABILITY SUMMARY REPORT

DATA VALIDATION REPORT

Volatile & Semi-volatile Analyses

SDG No. X4586
Sampling Date: September 27 & 29, 2006

Submitted to:

MACTEC, Inc.,
511 Congress Street
Portland, ME 04112
207-775-5401

Submitted by:

EDV, Inc.,
1326 Orangewood Avenue
Pittsburgh, PA 15216
412-341-5281

December 26, 2006

Site:	Ruddick Cleaners/NYSDEC
Client:	MACTEC, Inc.
Analytical Laboratory:	Chemtech 284 Sheffield Street Mountainside, NJ 07092
Sample Delivery Group (SDG):	X4586
Sampling Date:	September 27 & 29, 2006
Analyses:	Volatile
Analytical Method:	CLP OLM 4.3 and USEPA TO-15

Summary of Data Validation:

The adherence of laboratory analytical performance to CLP and USEPA TO-15 Analytical Specifications were evaluated during the data validation process. The USEPA Region II's data validation SOP Checklists (SOP HW-18 Rev 0, August 1994**,** SOP, HW-15 Rev 2, May 1993) and the National Functional Guidelines for Organic Data Review (October 1999), were used as guidelines for data qualifications.

Volatile: 1,1,1-Trichloroethane in some samples was qualified as a non-detect due to method blank contamination. Some compounds were qualified as estimated due to calibration issues. One acetone sample result was qualified as estimated due to calibration range exceedance.

Semi-volatile: Benzaldehyde, 2,4-dinitrophenol and bis (2-ethyl hexyl) phthalate were qualified as estimated due to calibration issues. Some other compounds were qualified as estimated due to internal standard area issues.

The sample qualifiers applied by the data validator are in section 15.0 and Attachment A- Form 1s. The detailed discussions can be found in the report.

Table of Contents

Table of Contents (Continued)

List of Appendices

1.0 Sample Identifications

The following table summarizes sample IDENTIFICATIONS, matrix of each sample and analyses present in the data package for each sample.

Client Sample ID	Matrix	Volatile	TO-15	Semi-volatile
SDG X4586				
RCGW00901701XX	WATER	X	-	X
RCGW00902701XX	WATER	X	-	-
RCGW00903701XX	WATER	X	-	-
RCGW01001701XX	WATER	X	-	-
RCGW01002701XX	WATER	X	-	-
RCGV00101001XX	AIR	-	X	-
RCGV00101001XD	AIR	-	X	-
RCGV00201001XX	AIR	-	X	-
RCGV00301001XX	AIR	-	X	-
RCTB004XXX01XX	WATER	X	-	-
RCGW00103501XX	WATER	X	-	-
RCGW00201301XX	WATER	X	-	-
RCGW00201301XD	WATER	X	-	-
RCGW00202301XX	WATER	X	-	-
RCGW00401301XX	WATER	X	-	-
RCGW00402301XX	WATER	X	-	-
RCTB002XXX01XX	WATER	X	-	-
QC sample ID	**Matrix**			
LCS	WATER	X	X	X
LCSD	WATER	X	X	-

2.0 Completeness Checklist

The following table identifies the summary form information and raw data found in the data package. Form numbers shown in parentheses refer to the current U.S. EPA CLP SOW equivalent reporting of results in an alternate summary format that has been determined to be acceptable. Analyses in this data package were performed in accordance with USEPA CLP and TO-15 Methods.

Completeness Checklist

X	Case Narrative
X	Chain of Custody Records/Traffic Reports/Tracking Records
X	Preservation Information
X	Sample Cross Reference with Unique Identifiers
X	Sample Results Summary Form (Form 1/Form 1-TIC)
X	CLP Flagging used on Results Summary
X	SMC/Surrogate Results Summary (Form 2)
NR	Matrix Spike/Matrix Spike Duplicate Results Summary (Form 3)
X	Laboratory Control Sample (LCS)/ Blank Spike Results Summary (Form 3)
NR	Control Charts
X	Method/Preparation Blank Results Summary (Form 4)
X	Volatile Initial Calibration Summary (Forms 6)
X	Volatile Continuing Calibration Summary (Form 7)
X	Volatile Analytical Sequence (Form 8)
X	Internal Standard Area Summary (Form X11)
X	Raw Data (incl. IS, Surr/SMC, RT, quant. Reports, etc.)
X	Samples
X	Initial Calibration
NR	Clean-ups
X	Continuing Calibration
NR	Instrument Blanks
X	Preparation Blanks/Method Blanks
O	Other Blanks
X	LCS/Blank Spike
X	Matrix Spikes/Matrix Spike Duplicates
NR	Matrix Duplicates/Replicates
O	Field Blanks – Trip Blank
X	Field Duplicates
X	Extraction Log Benchsheets
X	Instrument Run Logs
X	Sample Descriptions
X	Legible Pages
X	Pages in Package Numbered and in Sequence
X	Electronic Data Deliverable (EDD)

X: Included in original Data Package
NR: Not Required
O: Not Included and/or Not Available
RS: Provided as a Resubmission
X/RS: Incomplete in original data package, completed as a resubmission

3.0 Detection Limits

All Contract Required Detection Limits (CRDLs) were met.

4.0 Holding Time

Holding times were acceptable.

4.1 Sample Preservation

Samples were appropriately preserved.

4.2 Percent Moisture

Percent moisture is not applicable.

4.3 Chain of Custody Record

Chain of Custody Record was present.

5.0 Calibration Quality Control

5.1 Initial Calibration

Air samples-Methylene chloride-35.34% recovery exceeded the 30 %RSD criterion. All results were qualified as estimated due to this anomaly.

SVOA: For ICAL done on instrument BNAA, the following compound exceed the 30% relative percent difference criterion.

Compound	**%RSD-10/08/06**
Benzaldehyde	30.8
2,4-dinitrophenol	37.0
Bis-2-ethyl hexyl phthalate	32.4

Detected results for these compounds in affected samples were qualified "J" to indicate the results are estimated and non-detected results were qualified "UJ" to indicate the results are estimated due to this anomaly.

5.2 Continuing Calibration (CCAL)

For water samples the following %D criteria were exceeded;

Compound	**%D-10/04/06**	**%D-10/05/06**
Dichlorodifluoromethane	37.4	-
Bromomethane	32.3	-
Chloroethane	31.9	-
Trichlorofluoromethane	28.5	40.3
1,1-Dichloroethene	29.6	-
1,2-Dichloroethane	-	29.4
Bromoform	-	31.0
1,2-Dibromo-3-chloropropane	-	46.6

6.0 Blanks Quality Control

VOA: Method blank reported 1,1,1-trichloroethane contamination. All affected detected acetone results were qualified as non-detects due to this anomaly.

SVOA: Method blank reported bis (2-ethyl hexyl) phthalate contamination at 10µg/L. This resulted in associated detected results for this compound being qualified as a non-detect at CRDL.

7.0 Surrogate Recoveries

Recoveries are acceptable.

8.0 Accuracy

8.1 Laboratory Control Samples (LCS)/Blank Spikes

LCS recoveries were acceptable.

8.2 Matrix Spike/Matrix Spike Duplicates (MS/MSD)

8.2.1 Frequency

No MS/MSDs were analyzed.

8.2.2 Recovery

Recoveries are no applicable.

9.0 Precision

9.1 Matrix Spike Duplicates

The results were acceptable.

9.2 Matrix Duplicate

RPDs were acceptable.

10.0 Field QC

10.1 Field Blanks/Rinse Blanks

There were no field blanks associated with this SDG.

10.2 Trip Blanks

Trip blanks reported some contamination but there were no affected sample results thus no qualification was necessary.

10.3 Field Duplicate

Sample RCGW00201301XD was presented as a field duplicate. The original sample is identified as RCGW00201301XX. RPD for tetrachloroethene exceed the QC criterion. However, the compound was qualified by the laboratory as estimated "J" and therefore required no further qualification. Sample RCGV00101001XD was presented as a field duplicate. The original sample is identified as RCGV00101001XX. RPDs are calculated when both original and duplicate report detects. RPDs were acceptable.

11.0 Internal Standards (IS)

11.1 IS Area Counts

SVOA: IS area counts for perylene d-12 was below the required QC limits. All affected samples were qualified as non-detects.

11.2 Retention Time (RT)

All RTs were within the method accepted criteria.

12.0 Target Compound Identification

All target compounds identification is acceptable.

12.1 Tentatively Identified Compounds (TICs)

TICs were acceptable.

13.0 Calculations and Transcription

Raw data were accurately transcribed to summary data sheets.

14.0 Additional Comments

Acetone in sample RCGV00201001XX was qualified as estimated "J" due to calibration range exceedance. The sample was reanalyzed at 20X dilution in which acetone was reported as a non-detect. Based on professional judgment and technical information the validator determined that the compound was present in the sample, but an accurate concentration was not attainable at 2X dilution, thus an estimated concentration.

15.0 Data Qualifier Table

Volatile

Sample Identification	Compound	Qualifier	Section Reference
RCGW00201301XD, RCGW00202301XX, RCGW00401301XX, RCGW00402301XX	Dichlorodifluoromethane, bromomethane, chloroethane, trichlorofluoromethane, 1,1-dichloroethene	UJ	5.2
RCTB002XXX01XX	Trichlorofluoromethane, 1,2-dichloroethane, bromoform, 1,2-dibromo-3-chloropropane	UJ	5.2
RCGV00101001XX RCGV00101001XD, RCGV00301001XX	Methylene chloride	J	5.2
RCGV00101001XX, RCGV00301001XX	1,1,1-Trichloroethane	U	6.0
RCGV00201001XX	Acetone	J	14.0

Semi-volatile

Sample Identification	Compound	Qualifier	Section Reference
RCGW00901701XX,	Benzaldehyde, 2,4-dinitrophenol, bis (2-ethyl hexyl) phthalate	UJ	5.1
	Benzo (b) fluoranthene, benzo (k) fluoranthene, benzo (a) pyrene, indeno (1,2,3-cd) pyrene, dibenz (a,h) anthracene, benzo (g,h,i) perylene	UJ	11.1

DATA VALIDATION REPORT

Volatile & Semi-volatile Analyses

SDG No. X4707
Sampling Date: September 26-27, 2006

Submitted to:

MACTEC, Inc.,
511 Congress Street
Portland, ME 04112
207-775-5401

Submitted by:

EDV, Inc.,
1326 Orangewood Avenue
Pittsburgh, PA 15216
412-341-5281

December 18, 2006

Site:	Ruddick Dry Cleaners/NYSDEC
Client:	MACTEC, Inc.
Analytical Laboratory:	Chemtech 284 Sheffield Street Mountainside, NJ 07092
Sample Delivery Group (SDG):	X4707
Sampling Date:	September 26-27, 2006
Analyses:	Volatile & semi-volatile
Analytical Method:	CLP OLM 4.3

Summary of Data Validation:

The adherence of laboratory analytical performance to CLP Specifications was evaluated during the data validation process. The USEPA Region II's data validation SOP Checklists (HW-15 Rev 2, May 1993) and the National Functional Guidelines for Organic Data Review (October 1999), were used as guidelines for data qualifications.

Volatile: Acetone was qualified as a non-detect in sample RCGS00500201XX due to method blank contamination. Methyl acetate, trichlorofluoromethane, acetone and 2-butanone results in some samples were qualified as estimated due to calibration issues.

Semi-volatile: Di-n-butyl phthalate was qualified as a non-detect due to method blank contamination. Benzaldehyde, 2,4-dinitrophenol and bis (2-ethyl hexyl) phthalate were qualified as estimated due to calibration issues.

The sample qualifiers applied by the data validator are in section 15.0 and Attachment A- Form 1s. The detailed discussions can be found in the report.

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List of Appendices

1.0 Sample Identifications

The following table summarizes sample IDENTIFICATIONS, matrix of each sample and analyses present in the data package for each sample.

Client Sample ID	Matrix	Volatile	Semi-volatile
SDG X4707			
RCGW00501301XX	WATER	X	–
RCGW00502301XX	WATER	X	–
RCGW00602301XX	WATER	X	–
RCGW00601301XX	WATER	X	–
RCGW00702301XX	WATER	X	–
RCGW00701301XX	WATER	X	–
RCGW01301101XX	WATER	X	–
RCGW01302101XX	WATER	X	–
RCGS00500201XX	SOIL	X	–
RCTB001XXX01XX	WATER	X	–
RCGS00100901XX	SOIL	X	–
RCGS00200801XX	SOIL	X	–
RCGS00400401XX	SOIL	X	–
RCGS00400401XD	SOIL	X	–
RCGW00101701XX	WATER	X	X
RCGW00102701XX	WATER	X	–
QC sample ID	**Matrix**		
RCGW00501301XX MS	WATER	X	–
RCGW00501301XX MSD	WATER	X	–
RCGS00100901XXMS	SOIL	X	–
RCGS00100901XXMSD	SOIL	X	–

*reanalysis, ** dilution

2.0 Completeness Checklist

The following table identifies the summary form information and raw data found in the data package. Form numbers shown in parentheses refer to the current U.S. EPA CLP SOW equivalent reporting of results in an alternate summary format that has been determined to be acceptable. Analyses in this data package were performed in accordance with USEPA CLP Method.

Completeness Checklist

X	Case Narrative
X	Chain of Custody Records/Traffic Reports/Tracking Records
X	Preservation Information
X	Sample Cross Reference with Unique Identifiers
X	Sample Results Summary Form (Form 1/Form 1-TIC)
X	CLP Flagging used on Results Summary
X	SMC/Surrogate Results Summary (Form 2)
NR	Matrix Spike/Matrix Spike Duplicate Results Summary (Form 3)
X	Laboratory Control Sample (LCS)/ Blank Spike Results Summary (Form 3)
NR	Control Charts
X	Method/Preparation Blank Results Summary (Form 4)
X	Volatile Initial Calibration Summary (Forms 6)
X	Volatile Continuing Calibration Summary (Form 7)
X	Volatile Analytical Sequence (Form 8)
X	Internal Standard Area Summary (Form X11)
X	Raw Data (incl. IS, Surr/SMC, RT, quant. Reports, etc.)
X	Samples
X	Initial Calibration
NR	Clean-ups
X	Continuing Calibration
NR	Instrument Blanks
X	Preparation Blanks/Method Blanks
O	Other Blanks
X	LCS/Blank Spike
X	Matrix Spikes/Matrix Spike Duplicates
NR	Matrix Duplicates/Replicates
O	Field Blanks – Trip Blank
X	Field Duplicates
X	Extraction Log Benchsheets
X	Instrument Run Logs
X	Sample Descriptions
X	Legible Pages
X	Pages in Package Numbered and in Sequence
X	Electronic Data Deliverable (EDD)

X: Included in original Data Package
NR: Not Required
O: Not Included and/or Not Available
RS: Provided as a Resubmission
X/RS: Incomplete in original data package, completed as a resubmission

3.0 Detection Limits

All Contract Required Detection Limits (CRDLs) were met.

4.0 Holding Time

Holding times were acceptable.

4.1 Sample Preservation

Samples were appropriately preserved.

4.2 Percent Moisture

Percent moisture results are acceptable.

4.3 Chain of Custody Record

Chain of Custody Record was present.

5.0 Calibration Quality Control

5.1 Initial Calibration

SVOA: For ICAL done on instrument BNAA, the following compound exceed the 30% relative percent difference criterion.

Compound	**%RSD-10/08/06**
Benzaldehyde	30.8
2,4-dinitrophenol	37.0
Bis (2-ethyl hexyl) phthalate	32.4

Detected results for these compounds in affected samples were qualified "J" to indicate the results are estimated and non-detected results were qualified "UJ" to indicate the results are estimated due to this anomaly.

5.2 Continuing Calibration (CCAL)

VOA: The following compounds exceeded the 25% CCAL criterion:

Compound	**%D 9/30/06**	**%D-10/03/06**
Methyl acetate	28.4	-
Trichlorofluromethane	-	26.1
Acetone	-	30.4
2-butanone	-	27.4

6.0 Blanks Quality Control

VOA: Method blank VBLK04 reported acetone and 2-butanone contamination at 17 and 7 µg/L respectively. Method blank VBLK03 reported acetone contamination at 11 µg/L. All associated detected results for these compounds were qualified as non-detects.

SVOA: Method blank reported bis (2-ethyl hexyl) phthalate and di-n-butyl phthalate contamination at 10µg/L and 1.5µg/L respectively. This resulted in associated detected results for this compound being qualified as a non-detect at CRDL.

7.0 Surrogate Recoveries

Recoveries were acceptable.

8.0 Accuracy

8.1 Laboratory Control Samples (LCS)/Blank Spikes

LCS recoveries were acceptable.

8.2 Matrix Spike/Matrix Spike Duplicates (MS/MSD)

8.2.1 Frequency

Frequency was met.

8.2.2 Recovery

Recoveries are acceptable.

9.0 Precision

9.1 Matrix Spike Duplicates

The results were acceptable.

9.2 Matrix Duplicate

RPDs were acceptable.

10.0 Field QC

10.1 Field Blanks/Rinse Blanks

No field blanks were reported with this SDG.

10.2 Trip Blanks

Trip blank reported no contamination.

10.3 Field Duplicate

Sample RCGS00400401XD was presented as a field duplicate. The original sample is identified as RCGS00400401XX. RPDs are calculated when both original and duplicate report detects. RPDs were acceptable.

11.0 Internal Standards (IS)

11.1 IS Area Counts

IS area counts were within QC limit.

11.2 Retention Time (RT)

All RTs were within the method accepted criteria.

12.0 Target Compound Identification

All target compounds identification is acceptable.

12.1 Tentatively Identified Compounds (TICs)

SVOA: One TICs was rejected because it is a volatile target compounds and therefore cannot be reported as SVOA TICs.

13.0 Calculations and Transcription

Raw data were accurately transcribed to summary data sheets.

14.0 Additional Comments

15.0 Data Qualifier Table

Volatile

Sample Identification	Compound	Qualifier	Section Reference
RCGW00501301XX, RCGW00502301XX, RCGW00602301XX RCGW00601301XX, RCGW00702301XX, RCGW00701301XX,	Methyl acetate	UJ	5.2
RCGS00500201XX	Acetone	U	6.0
RCGS00100901XX, RCGS00200801XX, RCGS00400401XX, RCGS00400401XD	Trichlorofluoromethane, acetone, 2-butanone	UJ	5.2

Semi-volatile

Sample Identification	Compound	Qualifier	Section Reference
RCGW00101701XX	Benzaldehyde, 2,4-dinitrophenol, bis (2-ethyl hexyl) phthalate	UJ	5.1
	Di-n-butyl phthalate	U	6.0

DATA VALIDATION REPORT

Volatile & Semi-volatile Analyses

SDG No. X4752
Sampling Date: September 28, 2006

Submitted to:

MACTEC, Inc.,
511 Congress Street
Portland, ME 04112
207-775-5401

Submitted by:

EDV, Inc.,
1326 Orangewood Avenue
Pittsburgh, PA 15216
412-341-5281

December 18, 2006

Site:	Ruddick Dry Cleaners/NYSDEC
Client:	MACTEC, Inc.
Analytical Laboratory:	Chemtech 284 Sheffield Street Mountainside, NJ 07092
Sample Delivery Group (SDG):	X4752
Sampling Date:	September 28, 2006
Analyses:	Volatile & semi-volatile
Analytical Method:	CLP OLM 4.3

Summary of Data Validation:

The adherence of laboratory analytical performance to CLP Analytical Specifications was evaluated during the data validation process. The USEPA Region II's data validation SOP Checklists (HW-15 Rev 2, May 1993) and the National Functional Guidelines for Organic Data Review (October 1999), were used as guidelines for data qualifications.

Volatile: Several compounds were qualified as estimated due to calibration issues.

Semi-volatile: Several compounds were qualified as estimated due to calibration and or internal standard issues.

The sample qualifiers applied by the data validator are in section 15.0 and Attachment A- Form 1s. The detailed discussions can be found in the report.

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List of Appendices

1.0 Sample Identifications

The following table summarizes sample IDENTIFICATIONS, matrix of each sample and analyses present in the data package for each sample.

Client Sample ID	Matrix	Volatile	Semi-volatile
SDG X4752			
RCGS00300701XX	SOIL	x	–
RCGW00301301XX	WATER	x	–
RCGW00302301XX	WATER	x	–
RCGW00801301XX	WATER	x	–
RCGW00802301XX	WATER	x	–
RCGW01101501XX	WATER	x	–
RCGW01102501XX	WATER	x	–
RCGW01201301XX	WATER	x	–
RCGW01202301XX	WATER	x	–
RCGW01401701XX	WATER	x	–
RCGW01402701XX	WATER	x	–
RCGW01501301XX	WATER	x	x
RCGW01502301XX	WATER	x	–
RCGW01600901XX	WATER	x	–
RCGW01601901XX	WATER	x	–
RCGW01700901XX	WATER	x	–
RCGW01701901XX	WATER	x	–
RCGW01900901XX	WATER	x	–
RCGW01901XX	WATER	x	–
RCGW01501301XD	WATER	x	x
RCTB003XXX01XX	WATER	x	–
QC sample ID	**Matrix**		
RCGW01501301XX MS	WATER	x	–
RCGW01501301XX MSD	WATER	x	–

2.0 Completeness Checklist

The following table identifies the summary form information and raw data found in the data package. Form numbers shown in parentheses refer to the current U.S. EPA CLP SOW equivalent reporting of results in an alternate summary format that has been determined to be acceptable. Analyses in this data package were performed in accordance with USEPA CLP Method.

Completeness Checklist

X	Case Narrative
X	Chain of Custody Records/Traffic Reports/Tracking Records
X	Preservation Information
X	Sample Cross Reference with Unique Identifiers
X	Sample Results Summary Form (Form 1/Form 1-TIC)
X	CLP Flagging used on Results Summary
X	SMC/Surrogate Results Summary (Form 2)
NR	Matrix Spike/Matrix Spike Duplicate Results Summary (Form 3)
X	Laboratory Control Sample (LCS)/ Blank Spike Results Summary (Form 3)
NR	Control Charts
X	Method/Preparation Blank Results Summary (Form 4)
X	Volatile Initial Calibration Summary (Forms 6)
X	Volatile Continuing Calibration Summary (Form 7)
X	Volatile Analytical Sequence (Form 8)
X	Internal Standard Area Summary (Form X11)
X	Raw Data (incl. IS, Surr/SMC, RT, quant. Reports, etc.)
X	Samples
X	Initial Calibration
NR	Clean-ups
X	Continuing Calibration
NR	Instrument Blanks
X	Preparation Blanks/Method Blanks
O	Other Blanks
X	LCS/Blank Spike
X	Matrix Spikes/Matrix Spike Duplicates
NR	Matrix Duplicates/Replicates
O	Field Blanks – Trip Blank
X	Field Duplicates
X	Extraction Log Benchsheets
X	Instrument Run Logs
X	Sample Descriptions
X	Legible Pages
X	Pages in Package Numbered and in Sequence
X	Electronic Data Deliverable (EDD)

X: Included in original Data Package
NR: Not Required
O: Not Included and/or Not Available
RS: Provided as a Resubmission
X/RS: Incomplete in original data package, completed as a resubmission

3.0 Detection Limits

All Contract Required Detection Limits (CRDLs) were met.

4.0 Holding Time

Holding times were acceptable.

4.1 Sample Preservation

Samples were appropriately preserved.

4.2 Percent Moisture

Percent moisture results are acceptable.

4.3 Chain of Custody Record

Chain of Custody Record was present.

5.0 Calibration Quality Control

5.1 Initial Calibration

SVOA: For ICAL done on instrument BNAA, the following compound exceeded the 30% relative percent difference criterion.

Compound	%RSD-10/08/06
Benzaldehyde	30.8
2,4-dinitrophenol	37.0
Bis-2-ethyl hexyl phthalate	32.4

Detected results for these compounds in affected samples were qualified "J" to indicate the results are estimated and non-detected results were qualified "UJ" to indicate the results are estimated due to this anomaly.

5.2 Continuing Calibration (CCAL)

VOA: The following compounds exceeded the 25% difference criterion.

Compound	%D-10/04/06	%D-10/05/06	%D-10/08/06
Dichlorodifluoromethane	37.4	-	26.3
Chloromethane	-	-	29.8
Bromomethane	32.3	-	30.2
Chloroethane	31.9	-	30.8
Acetone	-	-	34.4
Trichlorofluoromethane	28.5	40.3	-
1,1-dichloroethene	29.6	-	-
1,2-dichloroethane	-	29.4	-
Bromoform	-	31.0	-
1,2-Dibromo-3-chloropropane	-	46.6	-

Detected results for these compounds in affected samples were qualified "J" to indicate the results are estimated and non-detected results were qualified "UJ" to indicate the results are estimated due to this

anomaly.

6.0 Blanks Quality Control

Method blanks were acceptable.

7.0 Surrogate Recoveries

VOA: Surrogate recovery for toluene-d_8 in sample RCGW01701901XX was 113% which was above the 88-111% QC limits. There were no detects for this sample thus, no qualification was necessary.

8.0 Accuracy

8.1 Laboratory Control Samples (LCS)/Blank Spikes

LCS recoveries were acceptable.

8.2 Matrix Spike/Matrix Spike Duplicates (MS/MSD)

8.2.1 Frequency

Frequency was met.

8.2.2 Recovery

Recoveries are acceptable.

9.0 Precision

9.1 Matrix Spike Duplicates

The results were acceptable.

9.2 Matrix Duplicate

RPDs were acceptable.

10.0 Field QC

10.1 Field Blanks/Rinse Blanks

No field blanks were reported with this SDG.

10.2 Trip Blanks

Trip blank reported no contamination.

10.3 Field Duplicate

Sample RCGW01501301XD was presented as a field duplicate. The original sample is identified as RCGW01501301XX. RPDs are calculated when both original and duplicate report detects. RPDs were

acceptable.

11.0 Internal Standards (IS)

11.1 IS Area Counts

SVOA: IS area counts were below the required QC limits for perylene-d_{12} in samples RCGW01501301XX and RCGW01501301XD. All affected compounds were qualified as estimated due to this anomaly.

11.2 Retention Time (RT)

All RTs were within the method accepted criteria.

12.0 Target Compound Identification

All target compounds identification is acceptable.

12.1 Tentatively Identified Compounds (TICs)

TICs were acceptable.

13.0 Calculations and Transcription

Raw data were accurately transcribed to summary data sheets.

14.0 Additional Comments

VOA: Samples RCGW01700901XX and RCGW01701901XX were reanalyzed due to surrogate recovery issues. Based on professional judgment and technical information, the validator presented the reanalyses.

SVOA: Sample RCGW01501301XX and RCGW01501301XD were reanalyzed due to internal standard area issues. Based on professional judgment and technical information, the validator presented the original analyses.

15.0 Data Qualifier Table

Volatile

Sample Identification	Compound	Qualifier	Section Reference
RCGS00300701XX, RCGW01402701XX, RCGW01900901XX	Dichlorodifluoromethane, chloromethane, bromomethane, chloroethane,	UJ	5.2
RCGW01402701XX, RCGW01501301XX, RCGW01502301XX, RCGW01600901XX	Dichlorodifluoromethane, bromomethane, chloroethane, trichlorofluoromethane, 1,1-dichloroethene	UJ	5.2
RCGW00301301XX, RCGW00302301XX, RCGW00801301XX, RCGW00802302XX, RCGW01201301XX, RCGW01202301XX, RCGW01401701XX, RCGW01900901XX, RCTB003XXX01XX	Trichlorofluoromethane, 1,2-dichloroethane, bromoform, 1,2-dibromo-3-chloropropane	UJ	5.2

Semi-volatile

Sample Identification	Compound	Qualifier	Section Reference
RCGW01501301XX, RCGW01501301XD	Benzaldehyde, 2,4-dinitrophenol, bis (2-ethyl hexyl) phthalate	UJ	5.1
	Benzo (b) fluoranthene, benzo (k) fluoranthene, benzo (a) pyrene, indeno (1,2,3-cd) pyrene, dibenz (a,h) anthracene, benzo (g,h,i) perylene	UJ	11.1

DATA USABILITY SUMMARY REPORT
SEPTEMBER 2006 SAMPLING EVENT
RUDDICK CLEANERS
ELMIRA, NY

1.0 Introduction:

Water, soil, and air samples were collected at the Ruddick Cleaner's site in September 2006 and submitted for off-site laboratory analyses. Samples were analyzed by CHEMTECH in Mountainside, New Jersey. A listing of samples included in this investigation is presented in Table 1. Samples were analyzed for the following parameters:

- Air: EPA Method TO-15 for VOCs
- Water: VOCs and SVOCs by CLP OLM04.3
- Soil: VOC by CLP OLM04.3

Deliverables for the off-site laboratory analyses included a Category B deliverable as defined in the New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocols (NYSDEC, 1995; NYSDEC, 2000).

Data validation was completed based on NYSDEC Division of Environmental Remediation guidance for Data Usability Summary Reports (NYSDEC, 2002) and USEPA Region II Guidelines (USEPA, 1993; USEPA, 1994). Samples were reported in lab sample delivery groups (SDG) X4586, X4707, and X4752. Validation was completed by EDV, Inc. in Pittsburgh, Pennsylvania. Validation reports for each SDG are presented in Attachment 1. With the exception of the items discussed below, results are interpreted to be usable as reported by the laboratory. The following qualifiers are used in the final data presentation.

U = target analyte is not detected at the reported detection limit
J = concentration is estimated
UJ = target analyte is not detected at the reported detection limit and is estimated

A summary of final sample results is presented in Appendix E. Tentatively identified compounds (TICs) were reported in accordance with the CLP methods if detected. A summary of detected TICs is provided in Appendix E.

2.0 Water Samples

2.1 VOCs

X4707

The continuing calibration had percent differences that were greater than the control limit of 25 for methyl acetate (28.4). The results for methyl acetate in samples RCGW00501301XX, RCGW00502301XX, RCGW00602301XX, RCGW00601301XX, RCGW00702301XX, and RCGW00701301XX were non-detect and were qualified as estimated (UJ).

X4586

The continuing calibration had percent differences that were greater than the control limit of 25 for dichlorodifluoromethane (37.4), bromomethane (32.3), chloroethane (31.9), trichlorofluoromethane (28.5), and 1,1-dichloroethene (29.6). The results for these compounds in samples RCGW00201301XD, RCGW00202301XX, RCGW00401301XX, and RCGW00402301XX were non-detect and were qualified as estimated (UJ).

Sample RCGW00201301XD was presented as the field duplicate. The original sample is identified as RCGW00201301XX. The relative percent difference for tetrachloroethene exceeds the QC criterion. However, the compound was qualified by the laboratory as estimated "J" and therefore required no further qualification.

X4752

The initial calibration had relative standard deviations that were greater than the control limit of 30 for chloroethane (44.9) and trichlorofluoromethane (40.1). The results for these compounds in samples RCGW01101501XX, RCGW01102501XX, RCGW01700901XX, RCGW01701901XX, RCGW01901XX, and RCGW01501301XD were non-detect and were qualified as estimated (UJ).

The continuing calibration had percent differences that were greater than the control limit of 25 for dichlorodifluoromethane (37.4), bromomethane (32.3), chloroethane (31.9), trichlorofluoromethane (28.5), and 1,1-dichloroethene (29.6). The results for these compounds in samples RCGW01402701XX, RCGW01501301XX, RCGW01502301XX, and RCGW01600901XX were non-detect and were qualified as estimated (UJ).

The continuing calibration had percent differences that were greater than the control limit of 25 for trichlorofluoromethane (40.3), 1,2-dichloroethane (29.4), bromoform (31.0), 1,2-dibromo-3-chloropropane (46.6) and chloroethane (44.9). The results for these compounds in samples RCGW00301301XX, RCGW00302301XX, RCGW00801301XX, RCGW00802302XX, RCGW01201301XX, RCGW01202301XX, RCGW01401701XX, and RCGW01900901XX were non-detect and were qualified as estimated (UJ).

Samples RCGW01700901XX and RXGW01701901XX were reanalyzed due to surrogate recovery issues. Based on professional judgment and technical information, the validator presented the reanalyses.

2.2 SVOCs

X4707

The initial calibration had relative standard deviations that were greater than the control limit of 30 for benzaldehyde (30.8), 2,4-dinitrophenol (37.0), and bis(2-ethyl-hexyl)phthalate (32.4). The results for these compounds in sample RCGW00101701XX were non-detect and were qualified as estimated (UJ).

The method blank had detections of bis(2-ethyl-hexyl)phthalate (10 µg/L) and di-n-butyl phthalate (1.5 µg/L). An action level was calculated at ten times the detections reported in the

blank. The results for these two compounds in sample RCGW00101701XX were less than the action level and were qualified as non-detect (U).

X4586

The initial calibration had relative standard deviations that were greater than the control limit of 30 for benzaldehyde (30.8), 2,4-dinitrophenol (37.0), and bis (2-ehtyl-hexyl)phthalate (32.4). The results for these compounds in sample RCGW00901701XX were non-detect and were qualified as estimated (UJ).

The method blank reported detections of bis(2-ethyl-hexyl)phthalate (10 µg/L). An action level was calculated at ten times the detection reported in the blank. The result for bis(2-ethyl-hexyl)phthalate in sample RCGW00901701XX was less than the action level and was qualified as non-detect (U).

Sample RCGW00901701XX had area counts for the internal standard perylene d-12 that were low and outside of control limits. The compounds associated with this internal standard were qualified as estimated (J/UJ) and include: benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, benzo(ghi)perylene, and di-n-octyl phthalate.

X4752

The initial calibration had relative standard deviations that were greater than the control limit of 30 for benzaldehyde (30.8), 2,4-dinitrophenol (37.0), and bis(2-ethyl-hexyl)phthalate (32.4). The results for these compounds in samples RCGW01501301XX and RCGW01501301XD were non-detect and were qualified as estimated (UJ).

The method blank reported detections of di-n-butyl phthalate (1.5 µg/L) and bis(2-ethyl-hexyl)phthalate (10 µg/L). An action level was calculated at ten times the detections reported in the blanks. The results for di-n-butyl phthalate in sample RCGW01501301XD was less than the action level and was qualified as non-detect (U). In addition, the results for bis(2-ethyl-hexyl)phthalate in samples RCGW01501301XX and RCGW01501301XD were both less than the action level and were qualified as non-detect (U).

Samples RCGW01501301XX and RCGW01501301XD had area counts that were less than control limits for the internal standard perylene d-12. The compounds associated with this internal standard were qualified as estimated (J/UJ) and include: benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, benzo(ghi)perylene, and di-n-octyl phthalate.

Samples RCGW01501301XX and RCGW01501301XD were reanalyzed due to internal standard area issues. Based on professional judgment and technical information, the validator presented the original analyses.

3.0 Soil Samples

3.1 VOCs

X4707

The continuing calibration had percent differences that were greater than the control limit of 25 for trichlorofluoromethane (26.1), acetone (30.4), and 2-butanone (27.4). The results for these compounds in samples RCGS00100901XX, RCGS00200801XX, RCGS00400401XX, and RCGS00400401XD were non-detect and were qualified as estimated (UJ).

The method blank VBLK04 reported detections of acetone (17 µg/L) and 2-butanone (7 µg/L). In addition, a detection of acetone (11 µg/L) was detected in another method blank. An action level was calculated at ten times the detections reported in the blanks. The result for acetone in sample RCGS00500201XX was less than the action level and was qualified as non-detect (U). In addition, the detections for acetone and 2-butanone in samples RCGS00100901XX, RCGS00200801XX, RCGS00400401XX, and RCGS00400401XD were less than the action level and were qualified as non-detect (U).

X4752

The continuing calibration had percent differences that were greater than the control limit of 25 for dichlorodifluoromethane (26.3), chloromethane (29.8), bromomethane (30.2), and chloroethane (30.8). The results for these compounds in sample RCGS00300701XX were non-detect and were qualified as estimated (UJ).

4.0 Air Samples

4.1 VOCs

X4586

The initial calibration had relative standard deviations that were greater than the control limit of 30 for methylene chloride (35.3). The results for methylene chloride in samples RCGV00101001XX, RCGV0010100XD, and RCGV00301001XX were positive and were qualified as estimated (J).

The method blank reported a detection of 1,1,1-trichloroethane. An action level was calculated at five times the detection reported in the blank. The results for 1,1,1-trichloroethane in samples RCGV001001XX and RCGV00301001XX were less than the action level and were qualified as non-detect (U).

Acetone in sample RCGV00201001XX was qualified as estimated “J” due to calibration range exceedence. The sample was reanalyzed at 20X dilution in which acetone was reported as a non-detect. Based on professional judgment and technical information the validator determined that the compound was present in the sample, but an accurate concentration was not attainable at 2X dilution, thus an estimated concentration.

Table 1

SDG	Lab ID	Field Sample ID	Sample Date	Method	Media	QC Code
X4586	X4586-01	RCGW00901701XX	9/29/2006	OLM04.3_SVOA	GW	FS
X4586	X4586-01RE	RCGW00901701XX	9/29/2006	OLM04.3_SVOA	GW	FS
X4586	X4586-11	RCGW00103501XX	9/27/2006	OLM04.3_VOA	GW	FS
X4586	X4586-13	RCGW00201301XD	9/27/2006	OLM04.3_VOA	GW	FD
X4586	X4586-12	RCGW00201301XX	9/27/2006	OLM04.3_VOA	GW	FS
X4586	X4586-14	RCGW00202301XX	9/27/2006	OLM04.3_VOA	GW	FS
X4586	X4586-15	RCGW00401301XX	9/27/2006	OLM04.3_VOA	GW	FS
X4586	X4586-16	RCGW00402301XX	9/27/2006	OLM04.3_VOA	GW	FS
X4586	X4586-01	RCGW00901701XX	9/29/2006	OLM04.3_VOA	GW	FS
X4586	X4586-02	RCGW00902701XX	9/29/2006	OLM04.3_VOA	GW	FS
X4586	X4586-03	RCGW00903701XX	9/29/2006	OLM04.3_VOA	GW	FS
X4586	X4586-04	RCGW01001701XX	9/29/2006	OLM04.3_VOA	GW	FS
X4586	X4586-05	RCGW01002701XX	9/29/2006	OLM04.3_VOA	GW	FS
X4586	X4586-17	RCTB002XXX01XX	9/27/2006	OLM04.3_VOA	BW	TB
X4586	X4586-10	RCTB004XXX01XX	9/29/2006	OLM04.3_VOA	BW	TB
X4586	X4586-07	RCGV00101001XD	9/29/2006	TO-15	Air	FD
X4586	X4586-07DL	RCGV00101001XD	9/29/2006	TO-15	Air	FD
X4586	X4586-06	RCGV00101001XX	9/29/2006	TO-15	Air	FS
X4586	X4586-06DL	RCGV00101001XX	9/29/2006	TO-15	Air	FS
X4586	X4586-08	RCGV00201001XX	9/29/2006	TO-15	Air	FS
X4586	X4586-08DL	RCGV00201001XX	9/29/2006	TO-15	Air	FS
X4586	X4586-09	RCGV00301001XX	9/29/2006	TO-15	Air	FS
X4586	X4586-09DL	RCGV00301001XX	9/29/2006	TO-15	Air	FS
X4707	X4707-19	RCGW00101701XX	9/27/2006	OLM04.3_SVOA	GW	FS
X4707	X4707-13	RCGS00100901XX	9/27/2006	OLM04.3_VOA	Soil	FS
X4707	X4707-16	RCGS00200801XX	9/27/2006	OLM04.3_VOA	Soil	FS
X4707	X4707-18	RCGS00400401XD	9/27/2006	OLM04.3_VOA	Soil	FD
X4707	X4707-17	RCGS00400401XX	9/27/2006	OLM04.3_VOA	Soil	FS
X4707	X4707-11	RCGS00500201XX	9/26/2006	OLM04.3_VOA	Soil	FS
X4707	X4707-19	RCGW00101701XX	9/27/2006	OLM04.3_VOA	GW	FS
X4707	X4707-20	RCGW00102701XX	9/27/2006	OLM04.3_VOA	GW	FS
X4707	X4707-01	RCGW00501301XX	9/26/2006	OLM04.3_VOA	GW	FS
X4707	X4707-04	RCGW00502301XX	9/26/2006	OLM04.3_VOA	GW	FS
X4707	X4707-06	RCGW00601301XX	9/26/2006	OLM04.3_VOA	GW	FS
X4707	X4707-05	RCGW00602301XX	9/26/2006	OLM04.3_VOA	GW	FS
X4707	X4707-08	RCGW00701301XX	9/26/2006	OLM04.3_VOA	GW	FS
X4707	X4707-07	RCGW00702301XX	9/26/2006	OLM04.3_VOA	GW	FS
X4707	X4707-09	RCGW01301101XX	9/26/2006	OLM04.3_VOA	GW	FS
X4707	X4707-10	RCGW01302101XX	9/26/2006	OLM04.3_VOA	GW	FS
X4707	X4707-12	RCTB001XXX01XX	9/26/2006	OLM04.3_VOA	BW	TB
X4752	X4752-22	RCGW01501301XD	9/28/2006	OLM04.3_SVOA	GW	FD

X4752	X4752-22RE	RCGW01501301XD	9/28/2006	OLM04.3_SVOA	GW	FD
X4752	X4752-12	RCGW01501301XX	9/28/2006	OLM04.3_SVOA	GW	FS
X4752	X4752-12RE	RCGW01501301XX	9/28/2006	OLM04.3_SVOA	GW	FS
X4752	X4752-01	RCGS00300701XX	9/28/2006	OLM04.3_VOA	Soil	FS
SDG	**Lab ID**	**Field Sample ID**	**Sample Date**	**Method**	**Media**	**QC Code**
X4752	X4752-02	RCGW00301301XX	9/28/2006	OLM04.3_VOA	GW	FS
X4752	X4752-03	RCGW00302301XX	9/28/2006	OLM04.3_VOA	GW	FS
X4752	X4752-04	RCGW00801301XX	9/28/2006	OLM04.3_VOA	GW	FS
X4752	X4752-05	RCGW00802301XX	9/28/2006	OLM04.3_VOA	GW	FS
X4752	X4752-06	RCGW01101501XX	9/28/2006	OLM04.3_VOA	GW	FS
X4752	X4752-07	RCGW01102501XX	9/28/2006	OLM04.3_VOA	GW	FS
X4752	X4752-08	RCGW01201301XX	9/28/2006	OLM04.3_VOA	GW	FS
X4752	X4752-09	RCGW01202301XX	9/28/2006	OLM04.3_VOA	GW	FS
X4752	X4752-10	RCGW01401701XX	9/28/2006	OLM04.3_VOA	GW	FS
X4752	X4752-11	RCGW01402701XX	9/28/2006	OLM04.3_VOA	GW	FS
X4752	X4752-22	RCGW01501301XD	9/28/2006	OLM04.3_VOA	GW	FD
X4752	X4752-12	RCGW01501301XX	9/28/2006	OLM04.3_VOA	GW	FS
X4752	X4752-13	RCGW01502301XX	9/28/2006	OLM04.3_VOA	GW	FS
X4752	X4752-14	RCGW01600901XX	9/28/2006	OLM04.3_VOA	GW	FS
X4752	X4752-15	RCGW01601901XX	9/28/2006	OLM04.3_VOA	GW	FS
X4752	X4752-16	RCGW01700901XX	9/28/2006	OLM04.3_VOA	GW	FS
X4752	X4752-16RE	RCGW01700901XX	9/28/2006	OLM04.3_VOA	GW	FS
X4752	X4752-17	RCGW01701901XX	9/28/2006	OLM04.3_VOA	GW	FS
X4752	X4752-17RE	RCGW01701901XX	9/28/2006	OLM04.3_VOA	GW	FS
X4752	X4752-18	RCGW01900901XX	9/28/2006	OLM04.3_VOA	GW	FS
X4752	X4752-19	RCGW01901XX	9/28/2006	OLM04.3_VOA	GW	FS
X4752	X4752-23	RCTB003XXX01XX	9/28/2006	OLM04.3_VOA	BW	TB

Reference:

New York State Department of Environmental Conservation (NYSDEC), 1995. "Analytical Services Protocols"; 10/95 Edition; October 1995.

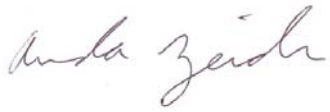
New York State Department of Environmental Conservation (NYSDEC), 2000. "Analytical Services Protocols"; June 2000.

New York State Department of Environmental Conservation (NYSDEC), 1997. "Guidance for the Development of Data Usability Reports"; Division of Environmental Remediation; September 1997.

U.S. Environmental Protection Agency (USEPA), 1993. "USEPA Region II Checklist SOP HW-15"; Revision 2; May 1993.

U.S. Environmental Protection Agency (USEPA), 1994. "USEPA Region II Checklist SOP HW-18"; Revision 0; August 1994.

Data Validation Review: Amanda Zeidler

Signature:  Date: 3/27/07

Quality Assurance Officer: Chris Ricardi, NRCC-EAC

Date: 3/30/07

ATTACHMENT 1
DATA VALIDATION REPORTS

SDG X4586
SDG X4707
SDG X4752

Table 1.1 Groundwater SVOC Results

Lab Sample Id	X4586-01		X4707-19		X4752-12		X4752-22	
Lab Sample Delivery Group	X4586		X4707		X4752		X4752	
Loc Name	GW-9		GW-1		GW-15		GW-15	
Field Sample Id	RCGW00901701XX		RCGW00101701XX		RCGW01501301XX		RCGW01501301XD	
Field Sample Date	9/29/2006		9/27/2006		9/28/2006		9/28/2006	
Qc Code	FS		FS		FS		FD	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
2,4,5-Trichlorophenol	10	U	10	U	10	U	10	U
2,4,6-Trichlorophenol	10	U	10	U	10	U	10	U
2,4-Dichlorophenol	10	U	10	U	10	U	10	U
2,4-Dimethylphenol	10	U	10	U	10	U	10	U
2,4-Dinitrophenol	20	UJ	21	UJ	20	UJ	20	UJ
2,4-Dinitrotoluene	10	U	10	U	10	U	10	U
2,6-Dinitrotoluene	10	U	10	U	10	U	10	U
2-Chloronaphthalene	10	U	10	U	10	U	10	U
2-Chlorophenol	10	U	10	U	10	U	10	U
2-Methylnaphthalene	10	U	10	U	10	U	10	U
2-Methylphenol	10	U	10	U	10	U	10	U
2-Nitroaniline	10	U	10	U	10	U	10	U
2-Nitrophenol	10	U	10	U	10	U	10	U
3,3`-Dichlorobenzidine	20	U	21	U	20	U	20	U
3-Nitroaniline	10	U	10	U	10	U	10	U
4,6-Dinitro-2-methylphenol	20	U	21	U	20	U	20	U
4-Bromophenyl phenyl ether	10	U	10	U	10	U	10	U
4-Chloro-3-methylphenol	10	U	10	U	10	U	10	U
4-Chloroaniline	10	U	10	U	10	U	10	U
4-Chlorophenyl phenyl ether	10	U	10	U	10	U	10	U
4-Methylphenol	10	U	10	U	10	U	10	U
4-Nitroaniline	10	U	10	U	10	U	10	U
4-Nitrophenol	20	U	21	U	20	U	20	U
Acenaphthene	10	U	10	U	10	U	10	U
Acenaphthylene	10	U	10	U	10	U	10	U
Acetophenone	10	U	10	U	10	U	10	U
Anthracene	10	U	10	U	10	U	10	U
Atrazine	10	U	10	U	10	U	10	U
Benzaldehyde	10	UJ	10	UJ	10	UJ	10	UJ
Benzo(a)anthracene	10	U	10	U	10	U	10	U
Benzo(a)pyrene	10	UJ	10	U	10	UJ	10	UJ
Benzo(b)fluoranthene	10	UJ	10	U	10	UJ	10	UJ
Benzo(ghi)perylene	10	UJ	10	U	10	UJ	10	UJ
Benzo(k)fluoranthene	10	UJ	10	U	10	UJ	10	UJ

Table 1.1 Groundwater SVOC Results

Lab Sample Id	X4586-01		X4707-19		X4752-12		X4752-22	
Lab Sample Delivery Group	X4586		X4707		X4752		X4752	
Loc Name	GW-9		GW-1		GW-15		GW-15	
Field Sample Id	RCGW00901701XX		RCGW00101701XX		RCGW01501301XX		RCGW01501301XD	
Field Sample Date	9/29/2006		9/27/2006		9/28/2006		9/28/2006	
Qc Code	FS		FS		FS		FD	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Biphenyl	10	U	10	U	10	U	10	U
Bis(2-Chloroethoxy)methane	10	U	10	U	10	U	10	U
Bis(2-Chloroethyl)ether	10	U	10	U	10	U	10	U
Bis(2-Chloroisopropyl)ether	10	U	10	U	10	U	10	U
Bis(2-Ethylhexyl)phthalate	10	UJ	13	UJ	10	UJ	14	UJ
Butylbenzylphthalate	4.5	J	10	U	10	U	10	U
Caprolactum	10	U	10	U	10	U	10	U
Carbazole	10	U	10	U	10	U	10	U
Chrysene	10	U	10	U	10	U	10	U
Di-n-butylphthalate	10	U	10	U	10	U	10	U
Di-n-octylphthalate	1.1	J	10	U	1.4	J	10	UJ
Dibenz(a,h)anthracene	10	UJ	10	U	10	UJ	10	UJ
Dibenzofuran	10	U	10	U	10	U	10	U
Diethylphthalate	10	U	10	U	10	U	10	U
Dimethylphthalate	10	U	10	U	10	U	10	U
Fluoranthene	10	U	10	U	10	U	10	U
Fluorene	10	U	10	U	10	U	10	U
Hexachlorobenzene	10	U	10	U	10	U	10	U
Hexachlorobutadiene	10	U	10	U	10	U	10	U
Hexachlorocyclopentadiene	10	U	10	U	10	U	10	U
Hexachloroethane	10	U	10	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	10	UJ	10	U	10	UJ	10	UJ
Isophorone	10	U	10	U	10	U	10	U
N-Nitrosodi-n-propylamine	10	U	10	U	10	U	10	U
N-Nitrosodiphenylamine	10	U	10	U	10	U	10	U
Naphthalene	10	U	10	U	10	U	10	U
Nitrobenzene	10	U	10	U	10	U	10	U
Pentachlorophenol	20	U	21	U	20	U	20	U
Phenanthrene	10	U	10	U	10	U	10	U
Phenol	10	U	10	U	10	U	10	U
Pyrene	10	U	10	U	10	U	10	U

Table 1.1 Groundwater SVOC Results

Lab Sample Id	X4586-01		X4707-19		X4752-12		X4752-22	
Lab Sample Delivery Group	X4586		X4707		X4752		X4752	
Loc Name	GW-9		GW-1		GW-15		GW-15	
Field Sample Id	RCGW00901701XX		RCGW00101701XX		RCGW01501301XX		RCGW01501301XD	
Field Sample Date	9/29/2006		9/27/2006		9/28/2006		9/28/2006	
Qc Code	FS		FS		FS		FD	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**

Notes:
Results in micrograms per liter (µg/L)
Samples analyzed for SVOCs by EPA Method OLM04.3
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration greater than the RL
J = Estimated value
B = Analyte was detected in the method blank

Table 1.2 Groundwater VOC Results

Lab Sample Id	X4586-01		X4586-02		X4586-03		X4586-04		X4586-05		X4586-10	
Lab Sample Delivery Group	X4586		X4586		X4586		X4586		X4586		X4586	
Loc Name	GW-9		GW-9		GW-9		GW-10		GW-10		QC	
Field Sample Id	RCGW00901701XX		RCGW00902701XX		RCGW00903701XX		RCGW01001701XX		RCGW01002701XX		RCTB004XXX01XX	
Field Sample Date	9/29/2006		9/29/2006		9/29/2006		9/29/2006		9/29/2006		9/29/2006	
Qc Code	FS		FS		FS		FS		FS		TB	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
1,1,1-Trichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethene	10	U	10	U	10	U	10	U	10	U	10	U
1,2,4-Trichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dibromo-3-chloropropane	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dibromoethane	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichloropropane	10	U	10	U	10	U	10	U	10	U	10	U
1,3-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,4-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
2-Butanone	50	U	50	U	50	U	50	U	50	U	50	U
2-Hexanone	50	U	50	U	50	U	50	U	50	U	50	U
4-Methyl-2-pentanone	50	U	50	U	50	U	50	U	50	U	50	U
Acetic acid, methyl ester	10	U	10	U	10	U	10	U	10	U	10	U
Acetone	50	U	50	U	50	U	50	U	50	U	18	J
Benzene	10	U	10	U	10	U	10	U	10	U	10	U
Bromodichloromethane	10	U	10	U	10	U	10	U	10	U	10	U
Bromoform	10	U	10	U	10	U	10	U	10	U	10	U
Bromomethane	10	U	10	U	10	U	10	U	10	U	10	U
Carbon disulfide	10	U	10	U	10	U	10	U	10	U	10	U
Carbon tetrachloride	10	U	10	U	10	U	10	U	10	U	10	U
Chlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
Chlorodibromomethane	10	U	10	U	10	U	10	U	10	U	10	U
Chloroethane	10	U	10	U	10	U	10	U	10	U	10	U
Chloroform	10	U	10	U	10	U	10	U	10	U	10	U
Chloromethane	10	U	10	U	10	U	10	U	10	U	10	U
Cis-1,2-Dichloroethene	10	U	3.2	J	2.3	J	10	U	10	U	10	U
cis-1,3-Dichloropropene	10	U	10	U	10	U	10	U	10	U	10	U
Cyclohexane	10	U	10	U	10	U	10	U	10	U	10	U
Dichlorodifluoromethane	10	U	10	U	10	U	10	U	10	U	10	U

Table 1.2 Groundwater VOC Results

	Lab Sample Id		X4586-01		X4586-02		X4586-03		X4586-04		X4586-05		X4586-10	
	Lab Sample Delivery Group		X4586		X4586		X4586		X4586		X4586		X4586	
	Loc Name		GW-9		GW-9		GW-9		GW-10		GW-10		QC	
	Field Sample Id		RCGW00901701XX		RCGW00902701XX		RCGW00903701XX		RCGW01001701XX		RCGW01002701XX		RCTB004XXX01XX	
	Field Sample Date		9/29/2006		9/29/2006		9/29/2006		9/29/2006		9/29/2006		9/29/2006	
	Qc Code		FS		FS		FS		FS		FS		TB	
Parameter		**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Ethyl benzene		10	U	10	U	10	U	10	U	10	U	10	U
Isopropylbenzene		10	U	10	U	10	U	10	U	10	U	10	U
Methyl cyclohexane		10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tertbutyl Ether		10	U	10	U	10	U	10	U	10	U	10	U
Methylene chloride		2.1	J	10	U	10	U	3.2	J	2.6	J	10	U
o-Xylene		10	U	10	U	10	U	10	U	10	U	10	U
Styrene		10	U	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene		1.9	J	10	U	10	U	10	U	10	U	10	U
Toluene		10	U	10	U	10	U	10	U	10	U	10	U
trans-1,2-Dichloroethene		10	U	2.2	J	1.5	J	10	U	10	U	10	U
trans-1,3-Dichloropropene		10	U	10	U	10	U	10	U	10	U	10	U
Trichloroethene		10	U	10	U	10	U	10	U	10	U	10	U
Trichlorofluoromethane		10	U	10	U	10	U	10	U	10	U	10	U
Vinyl chloride		10	U	10	U	10	U	10	U	10	U	10	U
Xylene, m/p		10	U	10	U	10	U	10	U	10	U	10	U

Notes:
Results in micrograms per liter (µg/L)
Samples analyzed for VOCs by EPA Method OLM04.3
QC Code:
FS = Field Sample
FD = Field Duplicate
TB = Trip Blank
Qualifiers:
U = Not detected at a concentration greater than the RL
J = Estimated value

Table 1.2 Groundwater VOC Results

Lab Sample Id	X4586-11		X4586-12		X4586-13		X4586-14		X4586-15		X4586-16	
Lab Sample Delivery Group	X4586		X4586		X4586		X4586		X4586		X4586	
Loc Name	GW-1		GW-2		GW-2		GW-2		GW-4		GW-4	
Field Sample Id	RCGW00103501XX		RCGW00201301XX		RCGW00201301XD		RCGW00202301XX		RCGW00401301XX		RCGW00402301XX	
Field Sample Date	9/27/2006		9/27/2006		9/27/2006		9/27/2006		9/27/2006		9/27/2006	
Qc Code	FS		FS		FD		FS		FS		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
1,1,1-Trichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethene	10	U	10	U	10	UJ	10	UJ	10	UJ	10	UJ
1,2,4-Trichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dibromo-3-chloropropane	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dibromoethane	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichloropropane	10	U	10	U	10	U	10	U	10	U	10	U
1,3-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,4-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
2-Butanone	50	U	50	U	50	U	50	U	50	U	50	U
2-Hexanone	50	U	50	U	50	U	50	U	50	U	50	U
4-Methyl-2-pentanone	50	U	50	U	50	U	50	U	50	U	50	U
Acetic acid, methyl ester	10	U	10	U	10	U	10	U	10	U	10	U
Acetone	50	U	50	U	50	U	50	U	50	U	50	U
Benzene	10	U	10	U	10	U	10	U	10	U	10	U
Bromodichloromethane	10	U	10	U	10	U	10	U	10	U	10	U
Bromoform	10	U	10	U	10	U	10	U	10	U	10	U
Bromomethane	10	U	10	U	10	UJ	10	UJ	10	UJ	10	UJ
Carbon disulfide	10	U	10	U	10	U	10	U	10	U	10	U
Carbon tetrachloride	10	U	10	U	10	U	10	U	10	U	10	U
Chlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
Chlorodibromomethane	10	U	10	U	10	U	10	U	10	U	10	U
Chloroethane	10	U	10	U	10	UJ	10	UJ	10	UJ	10	UJ
Chloroform	10	U	10	U	10	U	10	U	10	U	10	U
Chloromethane	10	U	10	U	10	U	10	U	10	U	10	U
Cis-1,2-Dichloroethene	10	U	10	U	10	U	2.8	J	10	U	5.7	J
cis-1,3-Dichloropropene	10	U	10	U	10	U	10	U	10	U	10	U
Cyclohexane	10	U	10	U	10	U	10	U	10	U	10	U
Dichlorodifluoromethane	10	U	10	U	10	UJ	10	UJ	10	UJ	10	UJ

Table 1.2 Groundwater VOC Results

	Lab Sample Id		X4586-11		X4586-12		X4586-13		X4586-14		X4586-15		X4586-16	
	Lab Sample Delivery Group		X4586		X4586		X4586		X4586		X4586		X4586	
	Loc Name		GW-1		GW-2		GW-2		GW-2		GW-4		GW-4	
	Field Sample Id		RCGW00103501XX		RCGW00201301XX		RCGW00201301XD		RCGW00202301XX		RCGW00401301XX		RCGW00402301XX	
	Field Sample Date		9/27/2006		9/27/2006		9/27/2006		9/27/2006		9/27/2006		9/27/2006	
	Qc Code		FS		FS		FD		FS		FS		FS	
Parameter		**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Ethyl benzene		10	U	10	U	10	U	10	U	10	U	10	U
Isopropylbenzene		10	U	10	U	10	U	10	U	10	U	10	U
Methyl cyclohexane		10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tertbutyl Ether		10	U	10	U	10	U	10	U	10	U	10	U
Methylene chloride		2	J	10	U	10	U	10	U	4.2	J	2.4	J
o-Xylene		10	U	10	U	10	U	10	U	10	U	10	U
Styrene		10	U	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene		1.2	J	8.2	J	9.6	J	3.4	J	14		7.4	J
Toluene		10	U	10	U	10	U	10	U	10	U	10	U
trans-1,2-Dichloroethene		10	U	10	U	10	U	10	U	10	U	2.1	J
trans-1,3-Dichloropropene		10	U	10	U	10	U	10	U	10	U	10	U
Trichloroethene		10	U	10	U	10	U	10	U	10	U	10	U
Trichlorofluoromethane		10	U	10	U	10	UJ	10	UJ	10	UJ	10	UJ
Vinyl chloride		10	U	10	U	10	U	10	U	10	U	10	U
Xylene, m/p		10	U	10	U	10	U	10	U	10	U	10	U

Notes:
Results in micrograms per liter (µg/L)
Samples analyzed for VOCs by EPA Method OLM04.3
QC Code:
FS = Field Sample
FD = Field Duplicate
TB = Trip Blank
Qualifiers:
U = Not detected at a concentration greater than the RL
J = Estimated value

Table 1.2 Groundwater VOC Results

Lab Sample Id	X4586-17		X4707-01		X4707-04		X4707-05		X4707-06		X4707-07	
Lab Sample Delivery Group	X4586		X4707		X4707		X4707		X4707		X4707	
Loc Name	QC		GW-5		GW-5		GW-6		GW-6		GW-7	
Field Sample Id	RCTB002XXX01XX		RCGW00501301XX		RCGW00502301XX		RCGW00602301XX		RCGW00601301XX		RCGW00702301XX	
Field Sample Date	9/27/2006		9/26/2006		9/26/2006		9/26/2006		9/26/2006		9/26/2006	
Qc Code	TB		FS		FS		FS		FS		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
1,1,1-Trichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethene	10	U	10	U	10	U	10	U	10	U	10	U
1,2,4-Trichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dibromo-3-chloropropane	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dibromoethane	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichloropropane	10	U	10	U	10	U	10	U	10	U	10	U
1,3-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,4-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
2-Butanone	2.3	J	50	U	50	U	50	U	50	U	50	U
2-Hexanone	50	U	50	U	50	U	50	U	50	U	50	U
4-Methyl-2-pentanone	50	U	50	U	50	U	50	U	50	U	50	U
Acetic acid, methyl ester	10	U	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
Acetone	15	J	50	U	50	U	50	U	50	U	50	U
Benzene	10	U	10	U	10	U	10	U	10	U	10	U
Bromodichloromethane	10	U	10	U	10	U	10	U	10	U	10	U
Bromoform	10	U	10	U	10	U	10	U	10	U	10	U
Bromomethane	10	U	10	U	10	U	10	U	10	U	10	U
Carbon disulfide	10	U	10	U	10	U	10	U	10	U	10	U
Carbon tetrachloride	10	U	10	U	10	U	10	U	10	U	10	U
Chlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
Chlorodibromomethane	10	U	10	U	10	U	10	U	10	U	10	U
Chloroethane	10	U	10	U	10	U	10	U	10	U	10	U
Chloroform	10	U	10	U	10	U	10	U	10	U	10	U
Chloromethane	10	U	10	U	10	U	10	U	10	U	10	U
Cis-1,2-Dichloroethene	10	U	10	U	6.3	J	10	U	10	U	10	U
cis-1,3-Dichloropropene	10	U	10	U	10	U	10	U	10	U	10	U
Cyclohexane	10	U	10	U	10	U	10	U	10	U	10	U
Dichlorodifluoromethane	10	U	10	U	10	U	10	U	10	U	10	U

Table 1.2 Groundwater VOC Results

	Lab Sample Id		X4586-17		X4707-01		X4707-04		X4707-05		X4707-06		X4707-07	
	Lab Sample Delivery Group		X4586		X4707		X4707		X4707		X4707		X4707	
	Loc Name		QC		GW-5		GW-5		GW-6		GW-6		GW-7	
	Field Sample Id		RCTB002XXX01XX		RCGW00501301XX		RCGW00502301XX		RCGW00602301XX		RCGW00601301XX		RCGW00702301XX	
	Field Sample Date		9/27/2006		9/26/2006		9/26/2006		9/26/2006		9/26/2006		9/26/2006	
	Qc Code		TB		FS		FS		FS		FS		FS	
Parameter		**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Ethyl benzene		10	U	10	U	10	U	10	U	10	U	10	U
Isopropylbenzene		10	U	10	U	10	U	10	U	10	U	10	U
Methyl cyclohexane		10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tertbutyl Ether		10	U	10	U	10	U	10	U	10	U	10	U
Methylene chloride		10	U	10	U	10	U	10	U	10	U	10	U
o-Xylene		10	U	10	U	10	U	10	U	10	U	10	U
Styrene		10	U	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene		10	U	7.6	J	16		4	J	10	U	10	U
Toluene		10	U	10	U	10	U	10	U	10	U	10	U
trans-1,2-Dichloroethene		10	U	10	U	10	U	10	U	10	U	10	U
trans-1,3-Dichloropropene		10	U	10	U	10	U	10	U	10	U	10	U
Trichloroethene		10	U	10	U	2.9	J	10	U	10	U	10	U
Trichlorofluoromethane		10	U	10	U	10	U	10	U	10	U	10	U
Vinyl chloride		10	U	10	U	10	U	10	U	10	U	10	U
Xylene, m/p		10	U	10	U	10	U	10	U	10	U	10	U

Notes:
Results in micrograms per liter (µg/L)
Samples analyzed for VOCs by EPA Method OLM04.3
QC Code:
FS = Field Sample
FD = Field Duplicate
TB = Trip Blank
Qualifiers:
U = Not detected at a concentration greater than the RL
J = Estimated value

Table 1.2 Groundwater VOC Results

Lab Sample Id	X4707-08		X4707-09		X4707-10		X4707-12		X4707-19		X4707-20	
Lab Sample Delivery Group	X4707		X4707		X4707		X4707		X4707		X4707	
Loc Name	GW-7		GW-13		GW-13		QC		GW-1		GW-1	
Field Sample Id	RCGW00701301XX		RCGW01301101XX		RCGW01302101XX		RCTB001XXX01XX		RCGW00101701XX		RCGW00102701XX	
Field Sample Date	9/26/2006		9/26/2006		9/26/2006		9/26/2006		9/27/2006		9/27/2006	
Qc Code	FS		FS		FS		TB		FS		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
1,1,1-Trichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethene	10	U	10	U	10	U	10	U	10	U	10	U
1,2,4-Trichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dibromo-3-chloropropane	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dibromoethane	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichloropropane	10	U	10	U	10	U	10	U	10	U	10	U
1,3-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,4-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
2-Butanone	50	U	50	U	50	U	50	U	50	U	50	U
2-Hexanone	50	U	50	U	50	U	50	U	50	U	50	U
4-Methyl-2-pentanone	50	U	50	U	50	U	50	U	50	U	50	U
Acetic acid, methyl ester	10	UJ	10	U	10	U	10	U	10	U	10	U
Acetone	50	U	50	U	50	U	50	U	50	U	50	U
Benzene	10	U	10	U	10	U	10	U	10	U	10	U
Bromodichloromethane	10	U	10	U	10	U	10	U	10	U	10	U
Bromoform	10	U	10	U	10	U	10	U	10	U	10	U
Bromomethane	10	U	10	U	10	U	10	U	10	U	10	U
Carbon disulfide	10	U	10	U	10	U	10	U	10	U	10	U
Carbon tetrachloride	10	U	10	U	10	U	10	U	10	U	10	U
Chlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
Chlorodibromomethane	10	U	10	U	10	U	10	U	10	U	10	U
Chloroethane	10	U	10	U	10	U	10	U	10	U	10	U
Chloroform	10	U	10	U	10	U	10	U	10	U	10	U
Chloromethane	10	U	10	U	10	U	10	U	10	U	10	U
Cis-1,2-Dichloroethene	10	U	10	U	10	U	10	U	10	U	1.8	J
cis-1,3-Dichloropropene	10	U	10	U	10	U	10	U	10	U	10	U
Cyclohexane	10	U	10	U	10	U	10	U	10	U	10	U
Dichlorodifluoromethane	10	U	10	U	10	U	10	U	10	U	10	U

Table 1.2 Groundwater VOC Results

	Lab Sample Id		X4707-08		X4707-09		X4707-10		X4707-12		X4707-19		X4707-20	
	Lab Sample Delivery Group		X4707		X4707		X4707		X4707		X4707		X4707	
	Loc Name		GW-7		GW-13		GW-13		QC		GW-1		GW-1	
	Field Sample Id		RCGW00701301XX		RCGW01301101XX		RCGW01302101XX		RCTB001XXX01XX		RCGW00101701XX		RCGW00102701XX	
	Field Sample Date		9/26/2006		9/26/2006		9/26/2006		9/26/2006		9/27/2006		9/27/2006	
	Qc Code		FS		FS		FS		TB		FS		FS	
Parameter		**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Ethyl benzene		10	U	10	U	10	U	10	U	10	U	10	U
Isopropylbenzene		10	U	10	U	10	U	10	U	10	U	10	U
Methyl cyclohexane		10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tertbutyl Ether		10	U	10	U	10	U	10	U	10	U	10	U
Methylene chloride		10	U	10	U	10	U	10	U	10	U	10	U
o-Xylene		10	U	10	U	10	U	10	U	10	U	10	U
Styrene		10	U	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene		6.4	J	10	U	10	U	10	U	6.4	J	3.8	J
Toluene		10	U	10	U	10	U	10	U	10	U	10	U
trans-1,2-Dichloroethene		10	U	10	U	10	U	10	U	10	U	10	U
trans-1,3-Dichloropropene		10	U	10	U	10	U	10	U	10	U	10	U
Trichloroethene		10	U	10	U	10	U	10	U	10	U	10	U
Trichlorofluoromethane		10	U	10	U	10	U	10	U	10	U	10	U
Vinyl chloride		10	U	10	U	10	U	10	U	10	U	10	U
Xylene, m/p		10	U	10	U	10	U	10	U	10	U	10	U

Notes:
Results in micrograms per liter (µg/L)
Samples analyzed for VOCs by EPA Method OLM04.3
QC Code:
FS = Field Sample
FD = Field Duplicate
TB = Trip Blank
Qualifiers:
U = Not detected at a concentration greater than the RL
J = Estimated value

Table 1.2 Groundwater VOC Results

Lab Sample Id	X4752-02		X4752-03		X4752-04		X4752-05		X4752-06		X4752-07	
Lab Sample Delivery Group	X4752		X4752		X4752		X4752		X4752		X4752	
Loc Name	GW-3		GW-3		GW-8		GW-8		GW-11		GW-11	
Field Sample Id	RCGW00301301XX		RCGW00302301XX		RCGW00801301XX		RCGW00802301XX		RCGW01101501XX		RCGW01102501XX	
Field Sample Date	9/28/2006		9/28/2006		9/28/2006		9/28/2006		9/28/2006		9/28/2006	
Qc Code	FS		FS		FS		FS		FS		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
1,1,1-Trichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethene	10	U	10	U	10	U	10	U	10	U	10	U
1,2,4-Trichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dibromo-3-chloropropane	10	UJ	10	UJ	10	UJ	10	UJ	10	U	10	U
1,2-Dibromoethane	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichloroethane	10	UJ	10	UJ	10	UJ	10	UJ	10	U	10	U
1,2-Dichloropropane	10	U	10	U	10	U	10	U	10	U	10	U
1,3-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,4-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
2-Butanone	50	U	50	U	50	U	50	U	50	U	50	U
2-Hexanone	50	U	50	U	50	U	50	U	50	U	50	U
4-Methyl-2-pentanone	50	U	50	U	50	U	50	U	50	U	50	U
Acetic acid, methyl ester	10	U	10	U	10	U	10	U	10	U	10	U
Acetone	50	U	50	U	50	U	50	U	50	U	50	U
Benzene	10	U	10	U	10	U	10	U	10	U	10	U
Bromodichloromethane	10	U	10	U	10	U	10	U	10	U	10	U
Bromoform	10	UJ	10	UJ	10	UJ	10	UJ	10	U	10	U
Bromomethane	10	U	10	U	10	U	10	U	10	U	10	U
Carbon disulfide	10	U	10	U	10	U	10	U	10	U	10	U
Carbon tetrachloride	10	U	10	U	10	U	10	U	10	U	10	U
Chlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
Chlorodibromomethane	10	U	10	U	10	U	10	U	10	U	10	U
Chloroethane	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
Chloroform	10	U	10	U	10	U	10	U	10	U	10	U
Chloromethane	10	U	10	U	10	U	10	U	10	U	10	U
Cis-1,2-Dichloroethene	10	U	1.4	J	10	U	1.8	J	10	U	3.5	J
cis-1,3-Dichloropropene	10	U	10	U	10	U	10	U	10	U	10	U
Cyclohexane	10	U	10	U	10	U	10	U	10	U	10	U
Dichlorodifluoromethane	10	U	10	U	10	U	10	U	10	U	10	U

Table 1.2 Groundwater VOC Results

	Lab Sample Id		X4752-02		X4752-03		X4752-04		X4752-05		X4752-06		X4752-07	
	Lab Sample Delivery Group		X4752		X4752		X4752		X4752		X4752		X4752	
	Loc Name		GW-3		GW-3		GW-8		GW-8		GW-11		GW-11	
	Field Sample Id		RCGW00301301XX		RCGW00302301XX		RCGW00801301XX		RCGW00802301XX		RCGW01101501XX		RCGW01102501XX	
	Field Sample Date		9/28/2006		9/28/2006		9/28/2006		9/28/2006		9/28/2006		9/28/2006	
	Qc Code		FS		FS		FS		FS		FS		FS	
Parameter		**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Ethyl benzene		10	U	10	U	10	U	10	U	10	U	10	U
Isopropylbenzene		10	U	10	U	10	U	10	U	10	U	10	U
Methyl cyclohexane		10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tertbutyl Ether		10	U	10	U	10	U	10	U	10	U	10	U
Methylene chloride		10	U	10	U	10	U	10	U	10	U	10	U
o-Xylene		10	U	10	U	10	U	10	U	10	U	10	U
Styrene		10	U	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene		4	J	4.1	J	4.6	J	7.5	J	10	U	4.9	J
Toluene		10	U	10	U	10	U	10	U	10	U	10	U
trans-1,2-Dichloroethene		10	U	10	U	10	U	1.6	J	10	U	10	U
trans-1,3-Dichloropropene		10	U	10	U	10	U	10	U	10	U	10	U
Trichloroethene		10	U	10	U	10	U	10	U	10	U	3.4	J
Trichlorofluoromethane		10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
Vinyl chloride		10	U	10	U	10	U	10	U	10	U	10	U
Xylene, m/p		10	U	10	U	10	U	10	U	10	U	10	U

Notes:
Results in micrograms per liter (µg/L)
Samples analyzed for VOCs by EPA Method OLM04.3
QC Code:
FS = Field Sample
FD = Field Duplicate
TB = Trip Blank
Qualifiers:
U = Not detected at a concentration greater than the RL
J = Estimated value

Table 1.2 Groundwater VOC Results

Lab Sample Id	X4752-08		X4752-09		X4752-10		X4752-11		X4752-12		X4752-13	
Lab Sample Delivery Group	X4752		X4752		X4752		X4752		X4752		X4752	
Loc Name	GW-12		GW-12		GW-14		GW-14		GW-15		GW-15	
Field Sample Id	RCGW01201301XX		RCGW01202301XX		RCGW01401701XX		RCGW01402701XX		RCGW01501301XX		RCGW01502301XX	
Field Sample Date	9/28/2006		9/28/2006		9/28/2006		9/28/2006		9/28/2006		9/28/2006	
Qc Code	FS		FS		FS		FS		FS		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
1,1,1-Trichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethene	10	U	10	U	10	U	10	UJ	10	UJ	10	UJ
1,2,4-Trichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dibromo-3-chloropropane	10	UJ	10	UJ	10	UJ	10	U	10	U	10	U
1,2-Dibromoethane	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichloroethane	10	UJ	10	UJ	10	UJ	10	U	10	U	10	U
1,2-Dichloropropane	10	U	10	U	10	U	10	U	10	U	10	U
1,3-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,4-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
2-Butanone	50	U	50	U	50	U	50	U	50	U	50	U
2-Hexanone	50	U	50	U	50	U	50	U	50	U	50	U
4-Methyl-2-pentanone	50	U	50	U	50	U	50	U	50	U	50	U
Acetic acid, methyl ester	10	U	10	U	10	U	10	U	10	U	10	U
Acetone	50	U	50	U	50	U	50	U	50	U	50	U
Benzene	10	U	10	U	10	U	10	U	10	U	10	U
Bromodichloromethane	10	U	10	U	10	U	10	U	10	U	10	U
Bromoform	10	UJ	10	UJ	10	UJ	10	U	10	U	10	U
Bromomethane	10	U	10	U	10	U	10	UJ	10	UJ	10	UJ
Carbon disulfide	10	U	10	U	10	U	10	U	10	U	10	U
Carbon tetrachloride	10	U	10	U	10	U	10	U	10	U	10	U
Chlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
Chlorodibromomethane	10	U	10	U	10	U	10	U	10	U	10	U
Chloroethane	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
Chloroform	10	U	10	U	10	U	10	U	10	U	10	U
Chloromethane	10	U	10	U	10	U	10	U	10	U	10	U
Cis-1,2-Dichloroethene	10	U	10	U	10	U	10	U	10	U	10	U
cis-1,3-Dichloropropene	10	U	10	U	10	U	10	U	10	U	10	U
Cyclohexane	10	U	10	U	10	U	10	U	10	U	10	U
Dichlorodifluoromethane	10	U	10	U	10	U	10	UJ	10	UJ	10	UJ

Table 1.2 Groundwater VOC Results

	Lab Sample Id		X4752-08		X4752-09		X4752-10		X4752-11		X4752-12		X4752-13	
	Lab Sample Delivery Group		X4752		X4752		X4752		X4752		X4752		X4752	
	Loc Name		GW-12		GW-12		GW-14		GW-14		GW-15		GW-15	
	Field Sample Id		RCGW01201301XX		RCGW01202301XX		RCGW01401701XX		RCGW01402701XX		RCGW01501301XX		RCGW01502301XX	
	Field Sample Date		9/28/2006		9/28/2006		9/28/2006		9/28/2006		9/28/2006		9/28/2006	
	Qc Code		FS		FS		FS		FS		FS		FS	
Parameter		**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Ethyl benzene		10	U	10	U	10	U	10	U	10	U	10	U
Isopropylbenzene		10	U	10	U	10	U	10	U	10	U	10	U
Methyl cyclohexane		10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tertbutyl Ether		10	U	10	U	10	U	10	U	10	U	10	U
Methylene chloride		10	U	10	U	10	U	10	U	10	U	10	U
o-Xylene		10	U	10	U	10	U	10	U	10	U	10	U
Styrene		10	U	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene		10	U	10	U	10	U	10	U	10	U	10	U
Toluene		10	U	10	U	10	U	10	U	10	U	10	U
trans-1,2-Dichloroethene		10	U	10	U	10	U	10	U	10	U	10	U
trans-1,3-Dichloropropene		10	U	10	U	10	U	10	U	10	U	10	U
Trichloroethene		10	U	10	U	6.4	J	19		10	U	10	U
Trichlorofluoromethane		10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
Vinyl chloride		10	U	10	U	10	U	10	U	10	U	10	U
Xylene, m/p		10	U	10	U	10	U	10	U	10	U	10	U

Notes:
Results in micrograms per liter (µg/L)
Samples analyzed for VOCs by EPA Method OLM04.3
QC Code:
FS = Field Sample
FD = Field Duplicate
TB = Trip Blank
Qualifiers:
U = Not detected at a concentration greater than the RL
J = Estimated value

Table 1.2 Groundwater VOC Results

Lab Sample Id	X4752-14		X4752-15		X4752-16RE		X4752-17RE		X4752-18		X4752-19	
Lab Sample Delivery Group	X4752		X4752		X4752		X4752		X4752		X4752	
Loc Name	GW-16		GW-16		GW-17		GW-17		GW-19		GW-19	
Field Sample Id	RCGW01600901XX		RCGW01601901XX		RCGW01700901XX		RCGW01701901XX		RCGW01900901XX		RCGW01901XX	
Field Sample Date	9/28/2006		9/28/2006		9/28/2006		9/28/2006		9/28/2006		9/28/2006	
Qc Code	FS		FS		FS		FS		FS		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
1,1,1-Trichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethene	10	UJ	10	UJ	10	U	10	U	10	U	10	U
1,2,4-Trichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dibromo-3-chloropropane	10	U	10	U	10	U	10	U	10	UJ	10	U
1,2-Dibromoethane	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichloroethane	10	U	10	U	10	U	10	U	10	UJ	10	U
1,2-Dichloropropane	10	U	10	U	10	U	10	U	10	U	10	U
1,3-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,4-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
2-Butanone	50	U	50	U	50	U	50	U	50	U	50	U
2-Hexanone	50	U	50	U	50	U	50	U	50	U	50	U
4-Methyl-2-pentanone	50	U	50	U	50	U	50	U	50	U	50	U
Acetic acid, methyl ester	10	U	10	U	10	U	10	U	10	U	10	U
Acetone	50	U	50	U	50	U	50	U	50	U	50	U
Benzene	10	U	10	U	10	U	10	U	10	U	10	U
Bromodichloromethane	10	U	10	U	10	U	10	U	10	U	10	U
Bromoform	10	U	10	U	10	U	10	U	10	UJ	10	U
Bromomethane	10	UJ	10	UJ	10	U	10	U	10	U	10	U
Carbon disulfide	10	U	10	U	10	U	10	U	10	U	10	U
Carbon tetrachloride	10	U	10	U	10	U	10	U	10	U	10	U
Chlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
Chlorodibromomethane	10	U	10	U	10	U	10	U	10	U	10	U
Chloroethane	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
Chloroform	10	U	10	U	10	U	10	U	10	U	10	U
Chloromethane	10	U	10	U	10	U	10	U	10	U	10	U
Cis-1,2-Dichloroethene	10	U	10	U	10	U	10	U	10	U	10	U
cis-1,3-Dichloropropene	10	U	10	U	10	U	10	U	10	U	10	U
Cyclohexane	10	U	10	U	10	U	10	U	10	U	10	U
Dichlorodifluoromethane	10	UJ	10	UJ	10	U	10	U	10	U	10	U

Table 1.2 Groundwater VOC Results

	Lab Sample Id	X4752-14		X4752-15		X4752-16RE		X4752-17RE		X4752-18		X4752-19	
	Lab Sample Delivery Group	X4752		X4752		X4752		X4752		X4752		X4752	
	Loc Name	GW-16		GW-16		GW-17		GW-17		GW-19		GW-19	
	Field Sample Id	RCGW01600901XX		RCGW01601901XX		RCGW01700901XX		RCGW01701901XX		RCGW01900901XX		RCGW01901XX	
	Field Sample Date	9/28/2006		9/28/2006		9/28/2006		9/28/2006		9/28/2006		9/28/2006	
	Qc Code	FS		FS		FS		FS		FS		FS	
Parameter		**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Ethyl benzene		10	U	10	U	10	U	10	U	10	U	10	U
Isopropylbenzene		10	U	10	U	10	U	10	U	10	U	10	U
Methyl cyclohexane		10	U	10	U	10	U	10	U	10	U	10	U
Methyl Tertbutyl Ether		10	U	10	U	10	U	10	U	10	U	10	U
Methylene chloride		10	U	10	U	10	U	10	U	10	U	10	U
o-Xylene		10	U	10	U	10	U	10	U	10	U	10	U
Styrene		10	U	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene		10	U	10	U	10	U	10	U	10	U	10	U
Toluene		10	U	10	U	10	U	10	U	10	U	10	U
trans-1,2-Dichloroethene		10	U	10	U	10	U	10	U	10	U	10	U
trans-1,3-Dichloropropene		10	U	10	U	10	U	10	U	10	U	10	U
Trichloroethene		10	U	10	U	10	U	10	U	10	U	10	U
Trichlorofluoromethane		10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
Vinyl chloride		10	U	10	U	10	U	10	U	10	U	10	U
Xylene, m/p		10	U	10	U	10	U	10	U	10	U	10	U

Notes:
Results in micrograms per liter (µg/L)
Samples analyzed for VOCs by EPA Method OLM04.3
QC Code:
FS = Field Sample
FD = Field Duplicate
TB = Trip Blank
Qualifiers:
U = Not detected at a concentration greater than the RL
J = Estimated value

Table 1.2 Groundwater VOC Results

Lab Sample Id	X4752-22		X4752-23	
Lab Sample Delivery Group	X4752		X4752	
Loc Name	GW-15		QC	
Field Sample Id	RCGW01501301XD		RCTB003XXX01XX	
Field Sample Date	9/28/2006		9/28/2006	
Qc Code	FD		TB	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**
1,1,1-Trichloroethane	10	U	10	U
1,1,2,2-Tetrachloroethane	10	U	10	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	10	U	10	U
1,1,2-Trichloroethane	10	U	10	U
1,1-Dichloroethane	10	U	10	U
1,1-Dichloroethene	10	U	10	U
1,2,4-Trichlorobenzene	10	U	10	U
1,2-Dibromo-3-chloropropane	10	U	10	U
1,2-Dibromoethane	10	U	10	U
1,2-Dichlorobenzene	10	U	10	U
1,2-Dichloroethane	10	U	10	U
1,2-Dichloropropane	10	U	10	U
1,3-Dichlorobenzene	10	U	10	U
1,4-Dichlorobenzene	10	U	10	U
2-Butanone	50	U	50	U
2-Hexanone	50	U	50	U
4-Methyl-2-pentanone	50	U	50	U
Acetic acid, methyl ester	71		10	U
Acetone	50	U	50	U
Benzene	10	U	10	U
Bromodichloromethane	10	U	10	U
Bromoform	10	U	10	U
Bromomethane	10	U	10	U
Carbon disulfide	10	U	10	U
Carbon tetrachloride	10	U	10	U
Chlorobenzene	10	U	10	U
Chlorodibromomethane	10	U	10	U
Chloroethane	10	UJ	10	U
Chloroform	10	U	10	U
Chloromethane	10	U	10	U
Cis-1,2-Dichloroethene	10	U	10	U
cis-1,3-Dichloropropene	10	U	10	U
Cyclohexane	10	U	10	U
Dichlorodifluoromethane	10	U	10	U

Table 1.2 Groundwater VOC Results

	Lab Sample Id	X4752-22		X4752-23	
	Lab Sample Delivery Group	X4752		X4752	
	Loc Name	GW-15		QC	
	Field Sample Id	RCGW01501301XD		RCTB003XXX01XX	
	Field Sample Date	9/28/2006		9/28/2006	
	Qc Code	FD		TB	
Parameter		**Result**	**Qualifier**	**Result**	**Qualifier**
Ethyl benzene		10	U	10	U
Isopropylbenzene		10	U	10	U
Methyl cyclohexane		10	U	10	U
Methyl Tertbutyl Ether		10	U	10	U
Methylene chloride		10	U	10	U
o-Xylene		10	U	10	U
Styrene		10	U	10	U
Tetrachloroethene		10	U	10	U
Toluene		1.4	J	10	U
trans-1,2-Dichloroethene		10	U	10	U
trans-1,3-Dichloropropene		10	U	10	U
Trichloroethene		10	U	10	U
Trichlorofluoromethane		10	UJ	10	U
Vinyl chloride		10	U	10	U
Xylene, m/p		10	U	10	U

Notes:
Results in micrograms per liter (µg/L)
Samples analyzed for VOCs by EPA Method OLM04.3
QC Code:
FS = Field Sample
FD = Field Duplicate
TB = Trip Blank
Qualifiers:
U = Not detected at a concentration greater than the RL
J = Estimated value

Table 1.3 Soil VOC Results

Lab Sample Id	X4707-11		X4707-13		X4707-16		X4707-17		X4707-18		X4752-01	
Lab Sample Delivery Group	X4707		X4707		X4707		X4707		X4707		X4752	
Loc Name	GS-5		GS-1		GS-2		GS-4		GS-4		GS-3	
Field Sample Id	RCGS00500201XX		RCGS00100901XX		RCGS00200801XX		RCGS00400401XX		RCGS00400401XD		RCGS00300701XX	
Field Sample Date	9/26/2006		9/27/2006		9/27/2006		9/27/2006		9/27/2006		9/28/2006	
Qc Code	FS		FS		FS		FS		FD		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
1,1,1-Trichloroethane	11	U	11	U	10	U	11	U	11	U	11	U
1,1,2,2-Tetrachloroethane	11	U	11	U	10	U	11	U	11	U	11	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	11	U	11	U	10	U	11	U	11	U	11	U
1,1,2-Trichloroethane	11	U	11	U	10	U	11	U	11	U	11	U
1,1-Dichloroethane	11	U	11	U	10	U	11	U	11	U	11	U
1,1-Dichloroethene	11	U	11	U	10	U	11	U	11	U	11	U
1,2,4-Trichlorobenzene	11	U	11	U	10	U	11	U	11	U	11	U
1,2-Dibromo-3-chloropropane	11	U	11	U	10	U	11	U	11	U	11	U
1,2-Dibromoethane	11	U	11	U	10	U	11	U	11	U	11	U
1,2-Dichlorobenzene	11	U	11	U	10	U	11	U	11	U	11	U
1,2-Dichloroethane	11	U	11	U	10	U	11	U	11	U	11	U
1,2-Dichloropropane	11	U	11	U	10	U	11	U	11	U	11	U
1,3-Dichlorobenzene	11	U	11	U	10	U	11	U	11	U	11	U
1,4-Dichlorobenzene	11	U	11	U	10	U	11	U	11	U	11	U
2-Butanone	5.2	J	53	UJ	52	UJ	54	UJ	54	UJ	54	U
2-Hexanone	55	U	53	U	52	U	54	U	54	U	54	U
4-Methyl-2-pentanone	55	U	53	U	52	U	54	U	54	U	54	U
Acetic acid, methyl ester	11	U	11	U	10	U	11	U	11	U	11	U
Acetone	55	U	53	UJ	52	UJ	54	UJ	54	UJ	12	J
Benzene	11	U	11	U	10	U	11	U	11	U	11	U
Bromodichloromethane	11	U	11	U	10	U	11	U	11	U	11	U
Bromoform	11	U	11	U	10	U	11	U	11	U	11	U
Bromomethane	11	U	11	U	10	U	11	U	11	U	11	UJ
Carbon disulfide	11	U	11	U	10	U	11	U	11	U	11	U
Carbon tetrachloride	11	U	11	U	10	U	11	U	11	U	11	U
Chlorobenzene	11	U	11	U	10	U	11	U	11	U	11	U
Chlorodibromomethane	11	U	11	U	10	U	11	U	11	U	11	U
Chloroethane	11	U	11	U	10	U	11	U	11	U	11	UJ
Chloroform	11	U	11	U	10	U	11	U	11	U	11	U
Chloromethane	11	U	11	U	10	U	11	U	11	U	11	UJ
Cis-1,2-Dichloroethene	11	U	11	U	10	U	11	U	11	U	11	U
cis-1,3-Dichloropropene	11	U	11	U	10	U	11	U	11	U	11	U
Cyclohexane	11	U	11	U	10	U	11	U	11	U	11	U
Dichlorodifluoromethane	11	U	11	U	10	U	11	U	11	U	11	UJ

Table 1.3 Soil VOC Results

Lab Sample Id	X4707-11		X4707-13		X4707-16		X4707-17		X4707-18		X4752-01	
Lab Sample Delivery Group	X4707		X4707		X4707		X4707		X4707		X4752	
Loc Name	GS-5		GS-1		GS-2		GS-4		GS-4		GS-3	
Field Sample Id	RCGS00500201XX		RCGS00100901XX		RCGS00200801XX		RCGS00400401XX		RCGS00400401XD		RCGS00300701XX	
Field Sample Date	9/26/2006		9/27/2006		9/27/2006		9/27/2006		9/27/2006		9/28/2006	
Qc Code	FS		FS		FS		FS		FD		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Ethyl benzene	2.2	J	11	U	10	U	11	U	11	U	11	U
Isopropylbenzene	11	U	11	U	10	U	11	U	11	U	11	U
Methyl cyclohexane	11	U	11	U	10	U	11	U	11	U	11	U
Methyl Tertbutyl Ether	11	U	11	U	10	U	11	U	11	U	11	U
Methylene chloride	0.99	J	11	U	10	U	11	U	11	U	1	J
o-Xylene	4	J	11	U	10	U	11	U	11	U	11	U
Styrene	11	U	11	U	10	U	11	U	11	U	11	U
Tetrachloroethene	3.5	J	5.6	J	3.2	J	1.1	J	0.63	J	11	U
Toluene	0.61	J	11	U	10	U	11	U	11	U	11	U
trans-1,2-Dichloroethene	11	U	11	U	10	U	11	U	11	U	11	U
trans-1,3-Dichloropropene	11	U	11	U	10	U	11	U	11	U	11	U
Trichloroethene	11	U	11	U	10	U	11	U	11	U	11	U
Trichlorofluoromethane	11	U	11	UJ	10	UJ	11	UJ	11	UJ	11	U
Vinyl chloride	11	U	11	U	10	U	11	U	11	U	11	U
Xylene, m/p	8.3	J	11	U	10	U	11	U	11	U	11	U
Hexachlorobutadiene												

Notes:
Results in micrograms per kilogram (µg/kg)
Samples analyzed for VOCs by EPA Method OLM04.3
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration greater than the RL
J = Estimated value

Table 1.4 Air VOC Results

Lab Sample Id	X4586-06		X4586-07		X4586-08		X4586-09	
Lab Sample Delivery Group	X4586		X4586		X4586		X4586	
Loc Name	GV-01		GV-01		GV-02		GV-03	
Field Sample Id	RCGV00101001XX		RCGV00101001XD		RCGV00201001XX		RCGV00301001XX	
Field Sample Date	9/29/2006		9/29/2006		9/29/2006		9/29/2006	
Qc Code	FS		FD		FS		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Hexachlorobutadiene	1.07	U	1.07	U	2.13	U	1.07	U
1,1,1-Trichloroethane	3.32	U	3.05		2.18	U	2.12	U
1,1,2,2-Tetrachloroethane	0.69	U	0.69	U	1.37	U	0.76	
1,1,2-Trichloro-1,2,2-Trifluoroethane	1.07		1.15		1.53	U	1.07	
1,1,2-Trichloroethane	0.54	U	0.54	U	1.09	U	0.54	U
1,1-Dichloroethane	0.81	U	0.81	U	1.62	U	0.81	U
1,1-Dichloroethene	0.79	U	0.79	U	1.59	U	0.79	U
1,2,4-Trichlorobenzene	1.26		1.48		1.48	U	1.48	
1,2,4-Trimethylbenzene	4.96		5.1		11.2		4.96	
1,2-Dibromoethane	0.77	U	0.77	U	1.54	U	0.77	U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.7	U	0.7	U	1.4	U	0.7	U
1,2-Dichlorobenzene	0.78		0.84		1.2	U	0.9	
1,2-Dichloroethane	0.4	U	0.53		0.81	U	0.4	U
1,2-Dichloropropane	0.46	U	0.46	U	0.92	U	0.46	U
1,3,5-Trimethylbenzene	1.72		1.72		4.52		1.67	
1,3-Dichlorobenzene	0.96		0.9		1.2	U	0.84	
1,4-Dichlorobenzene	0.72		0.78		1.2	U	0.84	
1,4-Dioxane	0.72	U	0.72	U	1.44	U	0.72	U
2-Butanone	6.71		5.48		1.18	U	4.15	
2-Hexanone	0.82	U	0.82	U	1.64	U	0.82	U
2-Propanol	2.82		3.44		0.98	U	4.74	
4-Ethyltoluene	1.87		1.77		4.32		1.72	
4-Methyl-2-pentanone	0.82	U	0.82	U	1.64	U	0.82	U
Acetone	0.47	U	0.47	U	152	J	79.3	D
Allyl chloride	0.63	U	15.5		1.26	U	0.63	U
Benzene	10.2		11.1		46.2		3.16	
Benzyl chloride	0.58	U	0.58	U	1.15	U	0.58	U
Bromodichloromethane	0.67	U	0.67	U	1.34	U	0.67	U
Bromoform	1.03	U	1.03	U	2.07	U	1.03	U
Bromomethane	0.78	U	0.78	U	1.55	U	0.78	U
Butadiene, 1,3-	0.44	U	0.44	U	0.88	U	0.44	U
Carbon disulfide	4.23		4.82		7.9		1.03	
Carbon tetrachloride	0.88		0.88		1.26	U	0.94	
Chlorobenzene	0.46	J	0.51		0.92	U	0.46	J

Table 1.4 Air VOC Results

Lab Sample Id	X4586-06		X4586-07		X4586-08		X4586-09	
Lab Sample Delivery Group	X4586		X4586		X4586		X4586	
Loc Name	GV-01		GV-01		GV-02		GV-03	
Field Sample Id	RCGV00101001XX		RCGV00101001XD		RCGV00201001XX		RCGV00301001XX	
Field Sample Date	9/29/2006		9/29/2006		9/29/2006		9/29/2006	
Qc Code	FS		FD		FS		FS	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Chlorodibromomethane	0.85	U	0.85	U	1.7	U	0.85	U
Chloroethane	0.53	U	0.53	U	1.06	U	0.53	U
Chloroform	0.97	U	0.97	U	1.95	U	0.97	U
Chloromethane	0.76		0.92		2.17		0.92	
Cis-1,2-Dichloroethene	0.4	U	0.4	U	0.79	U	0.4	U
cis-1,3-Dichloropropene	0.45	U	0.45	U	0.91	U	0.45	U
Cyclohexane	22.5		26.4		180	D	3.25	
Dichlorodifluoromethane	2.47		3.17		3.27		2.47	
Ethyl acetate	0.36	U	42.5		0.72	U	0.36	U
Ethyl benzene	3.29		2.69		7.46		2.73	
Heptane	26.7		30.4		198	D	2.99	
Hexane	141	D	159	D	645	D	10.9	
Isooctane	0.47	U	0.47	U	0.93	U	0.47	U
Methyl Tertbutyl Ether	0.36	U	0.36	U	0.72	U	0.36	U
Methylene chloride	1.6	J	1.36	J	6.19		1.67	J
o-Xylene	4.73		3.86		4.16		3.64	
Propylene	365	D	439	D	1.72	U	56.6	D
Styrene	0.6		0.64		0.85	U	0.64	
Tetrachloroethene	3.87		4.21		6.79		2.1	
Tetrahydrofuran	0.59	U	0.59	U	1.18	U	0.59	U
Toluene	11.5		11.1		28		10.2	
trans-1,2-Dichloroethene	0.79	U	0.79	U	1.59	U	0.79	U
trans-1,3-Dichloropropene	0.91	U	0.91	U	1.82	U	0.91	U
Trichloroethene	0.96		0.91		1.61		0.75	
Trichlorofluoromethane	1.85		2.07		2.24	U	2.19	
Vinyl acetate	0.35	U	19.9		0.7	U	0.35	U
Vinyl bromide	0.88	U	0.88	U	1.75	U	0.88	U
Vinyl chloride	0.51	U	0.51	U	1.02	U	0.51	U
Xylene, m/p	11.7		8.8		44.1		9.58	

Table 1.4 Air VOC Results

Lab Sample Id	**X4586-06**		**X4586-07**		**X4586-08**		**X4586-09**	
Lab Sample Delivery Group	**X4586**		**X4586**		**X4586**		**X4586**	
Loc Name	**GV-01**		**GV-01**		**GV-02**		**GV-03**	
Field Sample Id	**RCGV00101001XX**		**RCGV00101001XD**		**RCGV00201001XX**		**RCGV00301001XX**	
Field Sample Date	**9/29/2006**		**9/29/2006**		**9/29/2006**		**9/29/2006**	
Qc Code	**FS**		**FD**		**FS**		**FS**	
Parameter	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**

Notes:

Results in micrograms per cubic meter ($\mu g/m^3$)
Samples analyzed for VOCs by EPA Method TO-15
QC Code:
FS = Field Sample
FD = Field Duplicate
Qualifiers:
U = Not detected at a concentration greater than the RL
J = Estimated value
D = Result was reported from a diluted analytical run

Table 1.5 Groundwater TIC Results

Field Sample ID	Lab ID	SDG	Method	Chemical_name	Result	Final Qualifier	Unit
RCGW00901701XX	X4586-01	X4586	OLM04.2_SVOA	Phenol, 2,4-bis(1-phenylethyl)-	12	NJ	ug/L
RCGW00901701XX	X4586-01	X4586	OLM04.2_SVOA	2,6,10-Dodecatrien-1-ol, 3,7,11-tr	5.7	NJ	ug/L
RCGW00901701XX	X4586-01	X4586	OLM04.2_SVOA	unknown22.57	2.2	J	ug/L
RCGW00901701XX	X4586-01	X4586	OLM04.2_SVOA	Phthalic acid, bis(7-methyloctyl)	3.4	NJ	ug/L
RCGW00901701XX	X4586-01	X4586	OLM04.2_SVOA	Didodecyl phthalate	2.5	NJ	ug/L
RCGW00901701XX	X4586-01	X4586	OLM04.2_SVOA	1,2-Benzenedicarboxylic acid, buty	7.9	NJ	ug/L
RCGW00901701XX	X4586-01	X4586	OLM04.2_SVOA	Unknown23.39	22	J	ug/L
RCGW00901701XX	X4586-01	X4586	OLM04.2_SVOA	unknown23.92	3.0	J	ug/L
RCGW00901701XX	X4586-01	X4586	OLM04.2_SVOA	unknown24.54	4.1	J	ug/L
RCGW00901701XX	X4586-01	X4586	OLM04.2_SVOA	unknown24.72	2.9	J	ug/L
RCGW00903701XX	X4586-03	X4586	OLM04.2_VOA	1-Butene	7.0	NJ	ug/L
RCTB002XXX01XX	X4586-17	X4586	OLM04.2_SVOA	unknown3.29	8.8	J	ug/L
RCGW01302101XX	X4707-10	X4707	OLM04.2_VOA	1-Propene, 2-methyl-	9.0	NJ	ug/L
RCGW00101701XX	X4707-19	X4707	OLM04.2_VOA	1-Tetracosanol	4.0	NJ	ug/L
RCGW01401701XX	X4752-10	X4752	OLM04.2_SVOA	unknown1.39	5.2	J	ug/L
RCGW01501301XX	X4752-12	X4752	OLM04.2_SVOA	Phenol, 2,4-bis(1-phenylethyl)-	16	NJ	ug/L
RCGW01501301XX	X4752-12	X4752	OLM04.2_VOA	Squalene	16	NJ	ug/L
RCGW01501301XX	X4752-12	X4752	OLM04.2_SVOA	unknown24.52	16	J	ug/L
RCGW01501301XX	X4752-12	X4752	OLM04.2_SVOA	unknown24.71	12	J	ug/L
RCGW01501301XD	X4752-22	X4752	OLM04.2_VOA	Silanol, trimethyl-	30	NJ	ug/L
RCGW01501301XD	X4752-22	X4752	OLM04.2_VOA	Ethyl Acetate	18	NJ	ug/L
RCGW01501301XD	X4752-22	X4752	OLM04.2_VOA	Squalene	18	NJ	ug/L
RCTB003XXX01XX	X4752-23	X4752	OLM04.2_SVOA	unknown3.30	5.6	J	ug/L

Qualifiers:

NJ = Analyte was tenatively identified and the value is estimated

J = Estimated Value