Report for the Preliminary Site Assessment at the Abandoned Chemical Sales Facility Site, Rochester, New York

Site Number: 8-28-105

March 2002

Prepared for:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 Broadway
Albany, New York 12233

Table of Contents

Section **Page**

Table of Contents (cont.)

Section **Page**

Appendix

List of Tables

List of Tables (cont.)

Table **Page**

List of Figures

Figure **Page**

List of Abbreviations and Acronyms

ACSF	Abandoned Chemical Sales Facility
ASC	Analytical Services Center
ASP	Analytical Services Protocol
AST	aboveground storage tank
BGS	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylene
cis-1,2-DCE	cis-1,2-dichloroethene
CLP	Contract Library Program
COC	chain-of-custody
CRDL	contract required detection limit
1,1-DCA	1,1-dichloroethane
1,1-DCE	1,1-dichloroethene
DPT	direct-push technology
DUSR	data usability summary reports
E & E	Ecology and Environment Engineering, P.C.
EDD	electronic data deliverable
EPA	United States Environmental Protection Agency
GC/MS	gas chromatography/mass spectrometry
HASP	Health and Safety Plan
ID	inside diameter
IDW	investigation-derived waste
LCS	laboratory control sample
LIMS	laboratory information management system
LNAPL	light non-aqueous phase liquids

List of Abbreviations and Acronyms (cont.)

Lu Engineers	Joseph C. Lu Engineers
MS/MSD	matrix spike/matrix spike duplicate
µg/kg	microgram per kilogram
µg/L	microgram per liter
NTU	nephelometric turbidity unit
NYSDEC	New York State Department of Environmental Conservation
OVA	organic vapor analyzer
PAH	polyaromatic hydrocarbons
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
ppm	parts per million
PQL	practical quantitation limit
PSA	Preliminary Site Assessment
PVC	polyvinyl chloride
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
ROW	right-of-way
SD	sediment
SVOC	semivolatile organic compounds
SW	surface water
TAGM	Technical and Administrative Guidance Memorandum
TAL	Target Analyte List
1,1,1-TCA	1,1,1-trichloroethane
TCE	trichloroethene
TCL	Target Compound List
TIC	tentatively identified compound
TOC	total organic compound
TOGS	Technical Operational Guidance Series
VOC	volatile organic compounds

Executive Summary

Ecology and Environment Engineering, P.C. (E & E), under contract to the New York State Department of Environmental Conservation (NYSDEC) (Work Assignment No. D003493-29) performed a Preliminary Site Assessment (PSA) between April and November 2001 at the Abandoned Chemical Sales Facility (ACSF) site (NYSDEC Site No. 8-28-105) in Rochester, New York. The purpose of this investigation was to determine whether contamination is present at or beneath the site, to provide a preliminary definition of the nature and extent of contamination at the site, and to determine any potential threat to human health and the environment.

The ACSF site consists of two properties (1600 Jay Street and 105 Dodge Street), is relatively flat lying, and is covered by buildings, grassed and gravel areas, and parking lots. It is located in a mixed residential and business area. Investigation was prompted at the ACSF site by the Record of Decision (ROD) for the nearby Lee Road Chemical Sales Facility, which reported that the operators of the Lee Road facility also once worked at Jay and Dodge Streets. Significant levels of contamination had been found in soils and water at the Lee Road site. The prime contaminants discovered in the surface soil, subsurface soil, and groundwater were volatile organic compounds (VOCs), with chlorinated VOCs usually occurring at the highest concentrations, followed by aromatic hydrocarbons (benzene, toluene, ethylbenzene, xylene, etc.), and then ketones.

A review of property ownership records conducted by E & E indicated that Chemical Sales Corp. obtained 1600 Jay Street and 105 Dodge Street from the City of Rochester on April 25, 1952. Chemical Sales Corp. deeded 1600 Jay Street to Chemreal Corporation on November 13, 1952. Chemical Sales Corp. (a.k.a. Chemcore, Inc.) retained 105 Dodge Street until August 1, 1972. Chemical Sales Corp. went bankrupt on September 13, 1994. The next day, on September 14, 1994, Chemreal Corp. sold 1600 Jay Street to MA Ferrauilo Plumbing.

PSA Field Activities

In April 2001, E & E and NYSDEC performed an initial site reconnaissance. A work plan was developed by E & E and approved by NYSDEC in August 2001. The PSA fieldwork was conducted in November 2001. The PSA activities included the following tasks:

- Site reconnaissance;
- Conducting a background review of available site-specific information, including property ownership records;
- Collecting surface water, sediment, surface soil, and subsurface soil sampling;
- Installing, developing, sampling, and collecting water levels from four shallow-bedrock monitoring wells;
- Developing a site base map; and
- Completing a report summarizing all activities performed and analytical results generated during this study.

Nature and Extent of Contamination

Results of analyses from the various media sampled during this PSA indicate that there was no significant VOC contamination of the surface soil samples. However, the presence of low concentrations of tetrachloroethene (PCE) in two on-site soil samples suggests a previous spill of chlorinated solvents. Semivolatile organic compounds (SVOCs), primarily consisting of polynuclear aromatic hydrocarbons (PAHs), as well as pesticides and metals were detected above NYSDEC cleanup objectives in on-site surface and subsurface soil samples. However, similar or higher concentrations of these compounds were detected in background (off site) surface soil samples. Fifteen VOCs were detected in the subsurface soil samples with none exceeding cleanup objectives. In general, compounds detected in the highest concentrations consisted of chlorinated ethenes, aromatic hydrocarbons, and acetone. The highest concentration of total VOCs (approximately 6,200 micrograms per kilogram [µg/kg]) was detected in the west central portion of the site (1600 Jay Street). The location with the highest concentrations of SVOCs, glycols, and pesticides was near the former location of the aboveground storage tank (AST), south of the Ferrauilo Plumbing building, indicating that the former tank location is a potential source.

One surface water and one sediment sample were collected from a ditch on the northwest border of the site along a railroad right-of-way (ROW). The surface water sample contained one polychlorinated biphenyl (PCB), four pesticides, and three metals above their NYSDEC standards as well as glycol. The sediment sample had two SVOCs, four pesticides, and six metals above their standards. The concentrations of all compounds except for glycol were similar to those detected in background soil samples suggesting that the site is not the source or sole source of these compounds. Glycols, however, were historically known to be used on site.

No groundwater was encountered in the overburden. Shallow bedrock groundwater flow on-site is toward the south, apparently toward a Jay Street combined storm and sanitary sewer drain. Twenty-five VOCs were detected in shallow bedrock groundwater samples, with 18 of these detected above their standards in at least one well. The majority of the compounds detected were chlorinated ethenes and ethanes as well as aromatic hydrocarbons. No VOCs were detected in upgradient well MW-4 at 105 Dodge Street. In the remaining three wells, seven VOCs were detected above their standards in all three wells: cis-1,2-dichloroethene (which was the VOC with the highest level in each well), 1,1,1-trichloroethane, 1,1-dichloroethane, acetone, toluene, vinyl chloride, and total xylenes.

Monitoring well MW-3, which is just east of the MA Ferrauilo Plumbing building and adjacent to the residential property at 1558 Jay Street, had the highest total VOC concentration of the wells sampled (approximately 129,000 micrograms per liter [µg/L]). The presence of relatively low concentrations of tetrachloroethene and trichloroethene in several media and the relatively high concentrations of cis-1,2-dichloroethene in the groundwater suggests that a spill or spills of chlorinated solvents occurred and that anaerobic degradation of the chlorinated ethenes is occurring.

VOCs detected in on-site groundwater were consistent with those found to the west and northwest at Valeo Electrical Systems, Inc., where groundwater flow near the ACSF site is reportedly toward the south and then to the east along the Jay Street sewer line.

The main area of contamination appears to be on the 1600 Jay Street property, with lesser amounts of contamination found on the 105 and 107 Dodge Street properties. Soil and water contamination were found throughout the gravel and grassed area on the northern side of the Jay Street property, as well as near the southern end of the building. However, the presence of SVOCs, pesticides, and metals in background samples at similar or higher concentrations than on site suggests that many of these compounds are not site related. The lack of VOCs in upgradient groundwater and the presence of these compounds at significant concentrations downgradient suggest that the 1600 Jay Street property is a source of this contamination. In addition, the presence of glycols in several media and its known historical use at the site suggests that 1600 Jay Street is also a source of glycol contamination.

1 Site Assessment Summary

1.1 Introduction

Ecology and Environment Engineering, P.C. (E & E) was tasked by the New York State Department of Environmental Conservation (NYSDEC), Division of Environmental Remediation, to conduct a Preliminary Site Assessment (PSA) at the Abandoned Chemical Sales Facility (ACSF) site; (No. 8-28-105), located in the City of Rochester, Monroe County, New York.

1.2 Purpose

As described in NYSDEC's Draft PSA Guidance, the general purpose of a PSA is to "...determine whether waste has been disposed on site and, if so, whether this disposal has impacted or threatens to impact human health and/or the environment." The site-specific project objectives are to:

- Determine whether contamination is present at or beneath the site from previous operators of the site; and
- To provide a preliminary definition of the nature and extent of contamination at the site.

The investigation described herein was designed in accordance with NYSDEC's Draft PSA Guidance (undated) and NYSDEC's Draft Technical Guidance for Site Investigation and Remediation (NYSDEC 2000) in order to accomplish the project objectives.

1.3 Site Description

The ACSF site consists of two land parcels: 1600 Jay Street and 105 Dodge Street. It is bordered on the east by Dodge Street, on the southeast by private residences, on the south by Jay Street, on the west by a rail road right-of-way (ROW), and on the north by Buell Specialty Steel. The ACSF site is relatively flat lying and is covered by buildings, grassed and gravel areas, and parking lots.

A low narrow berm is present in the grassed area of the 1600 Jay Street property that is parallel to Dodge Street. A small ditch is found on the western side of the site extending behind 105 and 107 Dodge Street. It has no inlet or outlet and is fed primarily by runoff from precipitation. There are no true surface water bodies on the site and the nearest surface water is the Erie Canal, located approximately 0.5 mile to the west (see Figure 1-1).

Three residences (1540, 1548, and 1558 Jay Street) exist on the northwest corner of Jay and Dodge streets (see Figure 1-2). The 1600 Jay Street property lies adjacent to the north and west sides of these residences and is currently occupied by MA Ferrauilo Plumbing. A building and an asphalt parking lot are located in the southwestern corner of the 1600 Jay Street property, with gravel and grassed areas to the north and east.

The Monroe Extinguisher Company property, located at 105 Dodge Street, is north of 1600 Jay Street. A parking lot occupies most of the southern half of the parcel, with the Monroe Extinguisher Company building on the north side. Buell Specialty Steel is located at 107 Dodge Street, abutting the northern side of the Monroe Extinguisher Company (see Figure 1-2).

The site is located in a mixed residential and business area. In addition to the three residences discussed above, residences are located on the east side of Dodge Street, while businesses line the west side. Most of Jay Street's south side and all of its north side east of the Dodge Street intersection are residential. Figure 1-1 depicts the site location, while Figure 1-2 presents the property boundaries and physical site features.

1.4 Site History

The Record of Decision for the nearby Lee Road Chemical Sales Facility reported that an additional site was once operated by the same owners at Jay and Dodge Street (NYSDEC 2000). A review of property ownership records conducted by E & E indicated that Chemical Sales Corp. obtained 1600 Jay Street and 105 Dodge Street in Rochester, New York from the City of Rochester on April 25, 1952. Chemical Sales Corp. deeded 1600 Jay Street to Chemreal Corp. on November 13, 1952. Chemical Sales Corp. (a.k.a. Chemcore, Inc.) retained 105 Dodge Street until August 1, 1972. Chemical Sales Corp. filed for bankruptcy on September 13, 1994. The next day, on September 14, 1994, Chemreal Corp. sold 1600 Jay Street to MA Ferrauilo Plumbing.

Based on a review of historical aerial photographs and Sanborn fire insurance maps, E & E determined that there have been two structures on the 1600 Jay Street property. One structure is where the current MA Ferrauilo Plumbing building is located in the southwest portion of the property. This building was apparently constructed between 1950 and 1958. To the northeast of this building, close to Dodge Street, there was an unidentified structure present in historical maps and photos from 1951 through 1994. No buildings were constructed at 105 Dodge Street until sometime between 1971 and 1980, probably after Chemical Sales Corp. sold the property. The portions of both properties that were not historically built on appear to have been vegetated, with the exception of a cleared area that extends from the existing building at 1600 Jay Street to approximately where the current Monroe Extinguisher Company building is now located.

As reported by Michael Ferrauilo, Sr., according to Robert H. Paterson (president of Chemreal Corp. in 1994, at the time of the sale of 1600 Jay Street to MA Ferrauilo), Chemical Sales Corp. was a tenant on the 1600 Jay Street property from 1952 until the mid-1980s. Subsequent to the mid-1980s, Ontario Company also used the site, possibly for the sale of antifreeze. Chemreal Corp. sold windshield washer fluid from the site, apparently just prior to the 1994 sale of the property. Mr. Ferrauilo stated that aboveground storage tanks (ASTs) had been located near the southwestern corner of the 1600 Jay Street building and to the northeast of the building in the current grassed area near Dodge Street (Ferrauilo 2001).

At the time the property was transferred from Chemreal, an investigation was conducted by and for MA Ferrauilo Plumbing, which did not recommend further study. Methanol was detected at up to 82 parts per million (ppm) in the soil near the location of an aboveground storage tank, which was removed from the front of the Jay Street side of the building (D. J. Parone & Associates 1994a, b).

During the remedial investigation conducted at the Lee Road Chemical Sales Facility in Rochester (1 mile northeast of the 1600 Jay and 105 Dodge streets site), the prime contaminants discovered in the surface soil, subsurface soil, and groundwater were volatile organic compounds (VOCs), with chlorinated VOCs usually occurring at the highest concentrations, followed by benzene, toluene, ethylbenzene, xylene (BTEX), and then ketones. In the subsurface soils, chlorinated VOCs were detected at concentrations up to 1,047,530 micrograms per kilogram (µg/kg) and BTEX compounds up to 1,880,000 µg/kg. Chlorinated VOCs in the groundwater were found at up to 364,490 micrograms per liter (µg/L) and BTEX compounds up to 93,900 µg/L. Semivolatile organic compounds (SVOCs), pesticides and metals were also detected (URS 2000).

Environmental investigations were also conducted at Valeo Electrical Systems, the former Delco Chassis Facility, which is just west of 1600 Jay Street. Studies revealed the presence of light non-aqueous phase liquids (LNAPL) in the overburden and shallow bedrock groundwater. The predominant groundwater flow direction in the area is toward the New York State Barge Canal, which is to the west of both the Jay/Dodge streets site and Valeo Electrical. However, the studies conducted at Valeo Electrical determined that local groundwater flow is southward, toward the Jay Street sewer line, which subsequently flows to the east (H & A 2000a, b, 1996). The local sewer map shows the Jay Street sewer line is set into rock at a gradient of approximately 0.4% to 1%, dipping to the east, along the segment of Jay Street closest to the site (City of Rochester 1966). The flow continues east for at least 3,000 feet. The Dodge Street sewer system is comprised of two segments. The northern segment measures 510 feet and flows north, connecting to the Route 31 sewer line. The southern segment measures 1,269 feet long and flows south, connecting to the Jay Street sewer line (City of Rochester

1966). Figure 1-2 shows the approximate sewer line locations on both Jay and Dodge Streets in the vicinity of the ACSF site.

1.5 Summary of PSA Work Scope

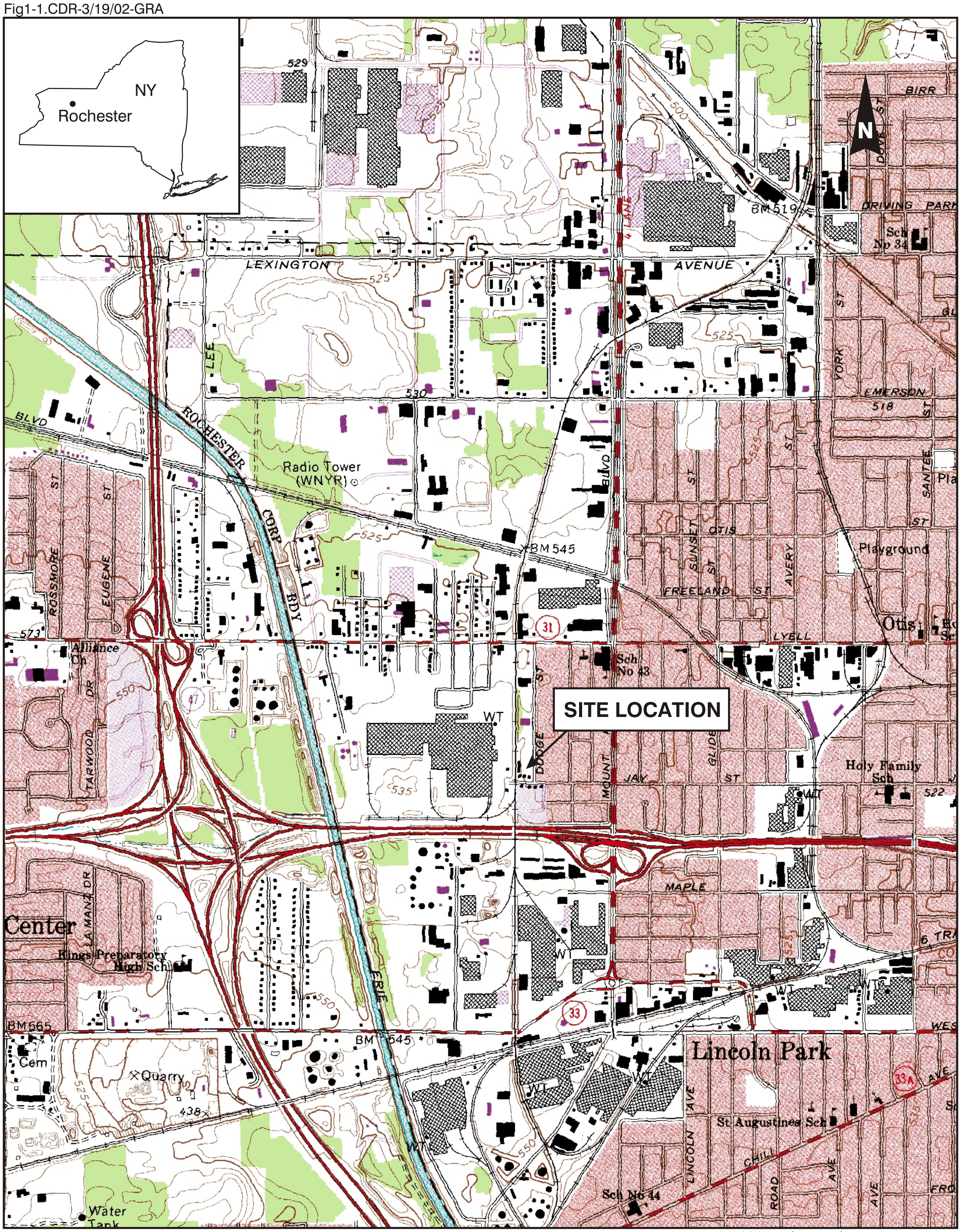
E & E implemented several investigative tools to provide the data necessary to meet project objectives. The ACSF PSA project work scope consisted of the following tasks:

- Conducting a site visit;
- Conducting a background review of available site-specific information, including property ownership records;
- Collecting one surface water (SW) and one sediment (SD) sample;
- Collecting continuous soil core samples from 25 locations using direct-push technology (DPT), and submitting one soil sample from each location for chemical analysis;
- Collecting eight on-site surface soil samples and three off-site background surface soil samples;
- Installing, developing, and sampling four shallow-bedrock monitoring wells;
- Collecting water-level measurements from each new groundwater monitoring well to determine the groundwater flow direction;
- Hiring a surveyor to survey the site and generate a site base map showing relevant site features as well as sample locations and elevations;
- Managing all wastes and hiring a subcontractor to dispose of all hazardous materials generated during the investigation (if necessary); and
- Completing a report summarizing all activities performed and analytical results generated during this study.

1.6 NYSDEC and EPA Site Forms

As required by NYSDEC's PSA guidance, E & E has completed a Site Investigation Information form for this site (see Appendix A). As per the NYSDEC project manager's request, E & E has also completed the optional United States Environmental Protection Agency (EPA) Site Inspection Questionnaire, presented in Appendix A.

02:000699_NY08_03_01-B0900
Fig1-1.CDR-3/19/02-GRA



SOURCE: USGS 7.5 Minute Series (Topo) Quadrangle: Rochester West, NY 1971

SCALE 1:24,000

0 ½ 1 Mile

0 .5 1 Kilometer

Figure 1-1 SITE LOCATION MAP
ABANDONED CHEMICAL SALES PSA SITE
ROCHESTER, NEW YORK

02:0069_NY08_03_01-B0001
BUFNT4/GIS/BUFFALO/ACSF/MXDS/FIG1-2.MXD 3/28/02-GIS

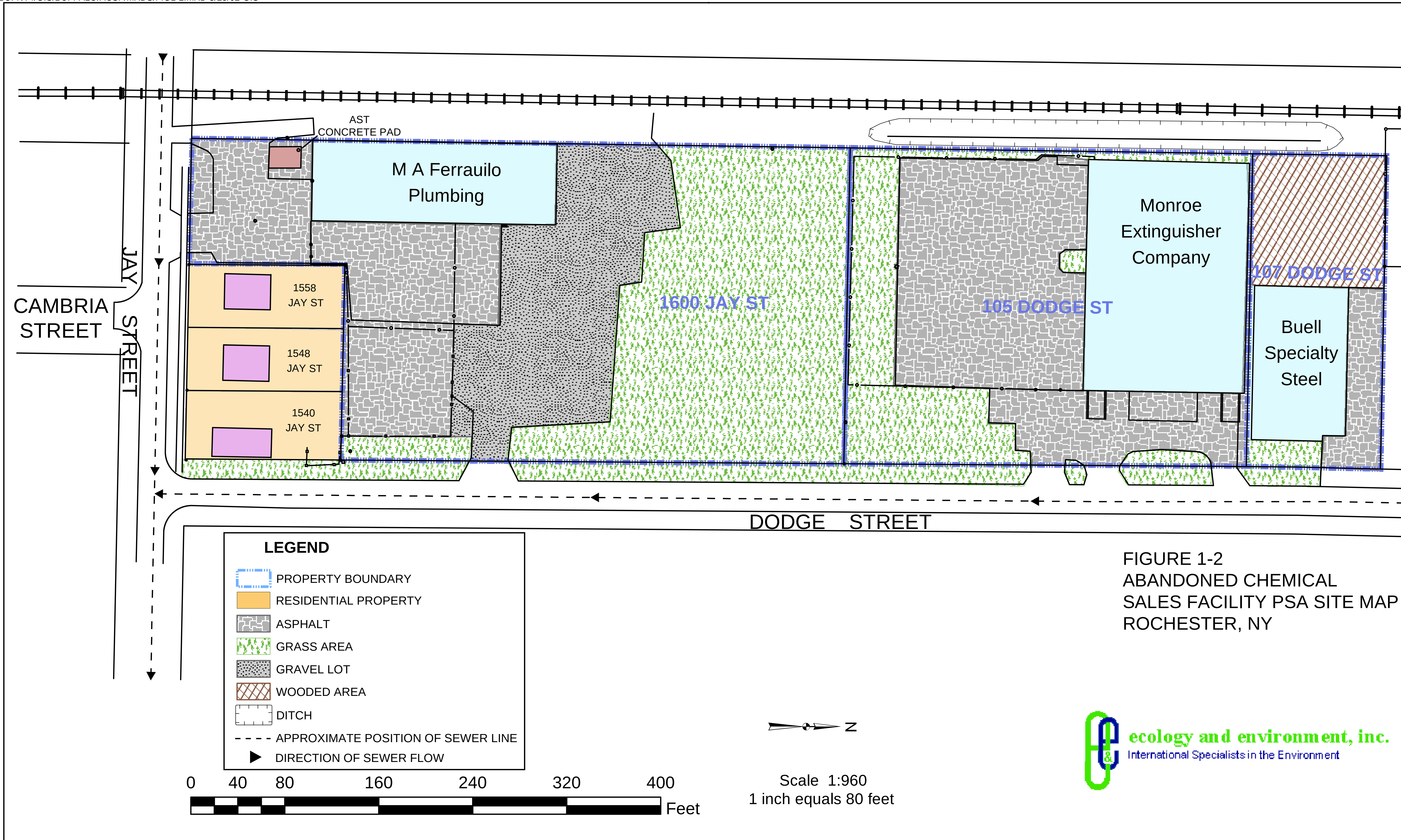


FIGURE 1-2
ABANDONED CHEMICAL SALES FACILITY PSA SITE MAP
ROCHESTER, NY

2 PSA Task Discussion

2.1 Introduction

The PSA investigation at the ACSF site consisted of several activities conducted to investigate various physical and chemical site characteristics. These activities included a site reconnaissance, records search, and groundwater well installation; and surface soil, subsurface soil, groundwater, surface water, and sediment sampling and analysis. Subsequent to completion of sample collection, a surveyor was subcontracted to survey the horizontal and vertical positions of the sampling points and wells, and to generate a site base map showing the site's physical features.

PSA activities were conducted during three efforts. The site reconnaissance was conducted on April 4, 2001. A records search was conducted between April 24 and May 14, 2001. Data from these two efforts were used to prepare the project Work Plan (E & E 2001a). Following NYSDEC's approval of the Work Plan, a field investigation was conducted from November 12 through 30, 2001 by a team consisting of an E & E geologist serving as field team leader and a subcontracted assistant geologist from Joseph C. Lu Engineers (Lu Engineers) of Penfield, New York. A Lu Engineers survey team subsequently conducted site surveying.

All field efforts were conducted in accordance with the Work Plan (E & E 2001a), which includes a Health and Safety Plan (HASP) and site-specific Quality Assurance Project Plan (QAPP). In accordance with the HASP, health and safety officer responsibilities were assigned to one of the team members throughout the field program to ensure that the personnel were protected from both physical and chemical health hazards. Appropriate protective clothing was worn by site workers while performing all intrusive activities for protection against contamination and to prevent cross-contamination between sample locations and matrices.

A Foxboro Model 128 organic vapor analyzer (OVA) was used to monitor the concentration of organic vapors in the workers' breathing zone, in boreholes during drilling and direct-push sampling, and in soil core samples. Organic vapor concentrations exceeding background concentrations were screened for methane using a carbon filter (methane passes through the carbon while most other VOCs are adsorbed). When elevated non-methane OVA readings occurred, vinyl chloride monitoring was conducted using a vinyl chloride-sensitive Sensodyne Tube. In addition to these instruments, a Gastech oxygen/explosive-gas meter were also used during intrusive activities to monitor for potentially explosive conditions. As a result of this monitoring, no impacts on worker health and safety were identified and all work was performed in "Level D" personal protective equipment (i.e., no respiratory protection was required). Screening of soil core samples with the OVA also aided in selection of samples to be submitted for chemical analysis.

The approach and specific goals of each of the aforementioned activities are described below.

2.2 Pre-Field Investigation Activities

2.2.1 Site Visit

A two-person field team from E & E conducted the site visit at the ACSF property on April 4, 2001. At that time, the site's street address was unknown. Thus, the field team started their site review by walking through Dodge and Jay Streets attempting to identify the probable location of the ACSF site. An area due south of the Monroe Extinguisher Company was identified as one possible location due to a distinctly flat area adjacent to a very low berm. The team walked this area to identify:

- Areas of visible contamination or contamination indicators, if any existed;
- Fill area locations;
- Drill rig access constraints; and
- Conditions and activities on neighboring properties.

No areas of obvious fill or contamination were observed. Photographs of the site acquired during the site visit are provided in Appendix B.

2.2.2 Background Data Search

The background data search was conducted to identify the properties and time period during which Chemical Sales Corporation utilized the site at Jay and Dodge streets. In the process, property ownership records were obtained including the current site ownership (see Tables 2-1 and 2-2). Pertinent findings are discussed in Sections 1.3 and 1.4. Methods used for obtaining this data included:

- Utilizing the Monroe County Clerk's on-line database to determine the recent ownership (database includes property records dating back to the mid-1980s) of properties along Dodge Street and nearby properties on Jay Street and Lyell Avenue in Rochester, New York.

- Searching on-line databases and corporate references such as the PACER Service Center, the Thomas Register, and Dun and Bradstreet's America's Corporate Families;

- Conducting a professional chain-of-title search on 1600 Jay Street (conducted by Ticor Title Insurance Company). This search delineated the exact ownership dates of 1600 Jay Street and 105 Dodge Street (which was formerly a portion of the 1600 Jay Street property) by Chemical Sales Corp. and Chemreal. Four further chain-of-title searches dating back to 1950 were performed on properties adjoining 1600 Jay and 105 Dodge Streets by Ticor Title to confirm that Chemical Sales Corp. and/or Chemreal did not own any of these properties; and

- Obtaining and analyzing historical aerial photographs and Sanborn Fire Insurance maps of the site.

2.2.3 Project Work Plan Preparation

Following completion of the records search, E & E prepared a project-specific Work Plan. The Work Plan was predicated on Work Assignment No. D004393-29 issued by NYSDEC on March 19, 2001, and subsequent scoping discussions with the NYSDEC project manager.

E & E submitted a draft Work Plan for NYSDEC's review and approval in June 2001. NYSDEC's comments were received and addressed and a final Work Plan was submitted in August 2001.

2.3 PSA Field Investigation

The ACSF PSA field investigation included installing DPT boreholes, drilling monitoring wells, well development, water level measurement, investigation-derived waste (IDW) management, and sampling of surface soil, sediment, surface water, subsurface soil, and groundwater. Sample locations are shown on Figure 2-1. All field activities were conducted as per the Work Plan (E & E 2001a) unless otherwise noted.

Target Compound List (TCL) VOC, SVOC, pesticide, and polychlorinated biphenyl (PCB), as well as glycol and Target Analyte List (TAL) metals analyses were conducted on samples collected at the site. E & E's Analytical Services Center (ASC) conducted all analyses with the exception of TAL metals analysis of subsurface soil from DPT boreholes GP-1, GP-4, GP-8, and GP-21, and all surface water and groundwater samples, which were performed by STL of Pittsburgh, Pennsylvania. In addition, Friend Laboratory, Inc. of Waverly, New York performed the glycol analyses. An E & E chemist reviewed the sample results. The data were reviewed for completeness; significant laboratory control problems were assessed; field and laboratory quality control (QC) samples were evaluated; and data qualifiers were assigned.

2.3.1 Geoprobe Boreholes

E & E collected subsurface soil cores at 25 locations (GP-1 through GP-25) using DPT (Geoprobe rig) (see Table 2-3). Each Geoprobe borehole was advanced to the top of bedrock, which was encountered between approximately 1.7 to 7.4 feet below ground surface (BGS). A continuous soil core was generated at each location to document the overburden lithology and determine the presence or absence of contamination or organic vapor readings. Each soil core sample was screened for organic vapors using an OVA to help select appropriate sample intervals for chemical analysis at the laboratory. Results of the headspace screening are presented in Table 2-3 and borehole logs are provided in Appendix C.

As shown in Figure 2-1, Geoprobe boreholes were installed at least every 200 feet along the eastern and western boundaries of 1600 Jay Street and 105 Dodge Street properties. Several Geoprobe boreholes were also installed along four approximately east-west transects in the interior of the properties. One transect was located near the northern extent of the property formerly owned by Chemical Sales (GP-23 through GP-25). A second transect was positioned near the 1600 Jay Street/105 Dodge Street property line (GP-15 though GP-19). A third was in the cleared area observed in historical aerial photos (GP-8, GP-13, and GP-14). The second and third transect lines were chosen because dumping may have occurred in this area. A forth transect is positioned near the unidentified structure shown on some aerial photographs (GP-3 through GP-7). Additional Geoprobe boreholes were installed in the central portion of the site: three on the 105 Dodge Street property (GP-20 through GP-22); two just north of the Jay Street residences (GP-3 and GP-11); one near the small berm that parallels Dodge Street (GP-12); two near the former AST concrete pad and the Ferrauilo Plumbing building (GP-1 and GP-2); and one in the paved area between the Ferrauilo building and Jay Street (GP-9).

The collection of subsurface soil samples for chemical analysis from the Geoprobe boreholes is discussed below in Section 2.3.4.3.

2.3.2 Groundwater Monitoring Wells

2.3.2.1 Installation

Four bedrock groundwater monitoring wells (MW-1 through MW-4) were installed at the site (see Figure 2-1). Well positions for MW-1, MW-3, and MW-4 were chosen based on relatively high OVA readings obtained down-hole and from soil cores during Geoprobe borehole installation. The location of MW-2 was selected to be upgradient, for contouring purposes (based on groundwater flow direction data from previous reports on the area [H & A 2000a, b, 1996]), and within the cleared area seen on historical aerial photos.

Monitoring wells were installed using a telescoping casing design to prevent cross-contamination between the overburden and shallow bedrock. The wells were drilled using a conventional rotary drill rig and 6-¼-inch hollow-stem augers to advance through the overburden. Since the wells were installed adjacent to

Geoprobe boreholes from which continuous soil cores were collected, split-spoon samples of the overburden were not collected during drilling. A 5 ⅞-inch roller bit was then be used to drill a 2-foot deep rock socket into the upper portion of the bedrock. A 6-inch inside diameter (ID) steel casing was then inserted into each borehole and grouted in place. Following a minimum period of 24 hours, each borehole was cored from the depth of the cement plug inside the 6–inch casing to the desired total depth using an HQ (nominal 4-inch diameter) core bit. All rock cores were described by an E & E geologist (see Appendix C). Table 2-4 summarizes the groundwater well drilling data.

All bedrock wells were constructed using 8 to 10 feet of 2-inch-ID, polyvinyl chloride (PVC), 0.010-inch-machine-slotted screen at the bottom of the corehole. Two-inch ID Schedule 40 PVC casing was installed above the screen either to grade (MW-3 and MW-4) or to approximately 2 feet above ground surface (MW-1 and MW-2). A sand filter pack consisting of Morie No. 0 sand was placed around each well screen from the bottom of the borehole to approximately 2 feet above the top of the screen. A 2-foot thick bentonite chip seal was placed on top of the sand. Following hydration of the bentonite, grout consisting of portland cement with 5% bentonite was placed from the top of the bentonite seal to the ground surface. Table 2-5 summarizes the groundwater well construction details.

2.3.2.2 Well Development

Monitoring well development was conducted no sooner than 24 hours following well construction. Development was completed using a combination of dedicated polyethylene bailers with new polypropylene rope and a Grundfos submersible pump equipped with disposable tubing. Temperature, pH, conductivity, and turbidity readings were recorded to monitor the progress of the development. Temperature, pH, and conductivity stabilized in all wells. Turbidity decreased to readings of less than 50 nephelometric turbidity units (NTUs) (the preferred quality for groundwater sampling) in all wells except MW-4. After more than 3 hours of development, the turbidity had decreased from greater than 1,000 NTUs to 198 NTUs. Since significant progress had been made as specified in the Work Plan (E & E 2001a) and development continued for more than the required time, development was considered complete. See Appendix D for the well development records.

Drilling water was lost down hole during drilling of MW-1 through MW-3. Three times the volume lost was removed for MW-1 and MW-3. As per the approval of the NYSDEC representative, only 390 gallons of the desired 750 gallons (three times the volume lost during drilling) were removed during the development of MW-2. This was permitted as pumping of the well was only possible at a very low rate (less than 1 gallon per minute), the development was performed nearly one week subsequent to drilling, and more than half of the desired volume was removed. In addition, this well was the last well sampled.

All development water was discharged to the ground near the wells because no organic vapors other than methane were detected during development.

2.3.2.3 Groundwater Level Readings

The depth to groundwater was measured in all four wells prior to sampling and several weeks after sampling. The water levels taken several weeks after sampling were utilized for the purposes of determining groundwater flow direction. Groundwater elevation data are provided in Table 2-6 and are contoured on Figure 2-2. The shallow bedrock gradient in the area of the three northernmost wells (MW-1, MW-2, and MW-4) is very flat compared to the higher gradient between MW-1 and MW-3. The groundwater elevation at MW-3 is more than 2 feet lower than that at the other wells. Therefore, in general, groundwater flow at the site is to the south toward Jay Street. In other investigations in the area (H & A 2000a, b), a combined storm and sanitary sewer drain along Jay Street has been observed to locally control shallow-bedrock groundwater flow. The sewer lines or the trenches and bedding material in which the sewers are installed may act as zones of overburden and shallow bedrock groundwater discharge, as the sewer lines are set into the top of bedrock (City of Rochester 1966). Any groundwater flowing in the sewer line or in the gravel surrounding the Jay Street sewer line flows east along Jay Street for at least 3,000 feet, according to the local sewer map (City of Rochester 1966).

2.3.4 Sampling Activities

2.3.4.1 Surface Soil

Surface soil samples were collected using the approach described in the Work Plan on November 14, 2001 (E & E 2001a). Eleven field samples (numbered ACS-SS01-O through ACS-SS11-O) were collected and submitted for full TCL/TAL analysis including: VOCs, SVOCs, pesticides, PCBs, metals, and cyanide. Samples were also analyzed for glycols and percent solids (to report results on a dry-weight basis).

E & E collected eight surface soil samples on the 1600 Jay Street property. One surface soil sample was collected approximately every 100 feet along a north-south line located in the grassed area of 1600 Jay Street (SS-5 through SS-8). A second line of samples (SS-1 through SS-5) was collected perpendicular to the initial line with a sample spacing of approximately 50 feet. These sample locations were on the interior of the property in the formerly cleared area observed on historical aerial photos. Two samples were collected in the area of the berm paralleling Dodge Street (SS-7 and SS-8). In addition to the eight on-site samples, three background surface soil samples were also collected from easements on the east side of Dodge Street (SS-9 and SS-10), and south side of Jay Street (SS-11). A summary of the collected surface soil samples is provided in Table 2-7 and the locations are shown on Figure 2-2.

In addition to the field samples, QC samples consisting of one duplicate sample (ACS-SS02-D) and matrix spike/matrix spike duplicate (MS/MSD) sample volumes were also collected. Analytical results for all samples collected are discussed in Section 3.1.

2.3.4.2 Surface Water and Sediment Sampling

One surface water sample (ACS-SW01-O) and one sediment sample (ACS-SD01-O), along with duplicate samples ACS-SW01-D and ACS-SD01-D and MS/MSD sample volumes, were collected from the north-central section of the ditch traversing the western side of the site (105 Dodge Street property). The sediment sample was collected on November 14, 2001 and the surface water sample was collected on November 30, 2001. All samples were submitted for full TCL/TAL and glycol analyses (see Table 2-8). In addition, surface water samples were submitted for hardness analysis (to calculate some ambient water quality standards) and the percent solids and total organic carbon (TOC) of the sediment was measured (to report results on a dry-weight basis and calculate some sediment criteria, respectively). Readings of temperature, pH, conductivity, and turbidity measurements were recorded from the surface water sample (see Table 2-8). Analytical results for all samples collected are discussed in Section 3.2.

2.3.4.3 Subsurface Soil Sampling

One subsurface soil sample was collected for analysis from each of the 25 Geoprobe boreholes on November 12 through 14, 2001. Soil from the most contaminated interval (based on OVA readings, color, and odor) was selected for analysis. If no contaminant indicators were identified, the soil sample was collected from just above the top of bedrock.

All 25 subsurface soil samples collected from the Geoprobe boreholes were submitted for TCL VOC analysis. In addition, five samples were submitted for full TCL/TAL, glycol, and percent solids analyses (see Table 2-3). Selection of samples to be submitted for the more extensive analytical suite was based on presence of visible contamination and/or high OVA readings relative to the other samples. Selection of glycol sampling locations was based on proximity to the location of the former ASTs. Analytical results for all samples collected are discussed in Section 3.3.

2.3.4.4 Groundwater Sampling

No groundwater was encountered in the overburden during Geoprobe borehole installation; therefore, no overburden-groundwater samples were collected. Groundwater samples were collected from the four shallow-bedrock monitoring wells on November 29 and 30, 2001. Static water levels were measured in each monitoring well prior to well sampling. Table 2-6 lists the water level readings recorded. The standing water volume in each well was then calculated, and at least three standing water volumes were removed using dedicated polyethylene bailers and polypropylene rope or a submersible pump with dedicated tubing. Temperature, pH, and conductivity became stable during purging, and turbidity measurements were below 50 NTUs at the time of sampling. Table 2-9 lists the final field chemistry measurements prior to sampling. Sampling was conducted using dedicated polyethylene bailers and polypropylene rope or a submersible pump with dedicated tubing. All sampling for VOC and SVOC analyses was conducted using the dedicated bailer only.

All groundwater samples were analyzed for TCL VOCs, SVOCs, pesticides, and PCBs; TAL metals and cyanide; and glycol. In addition to the field samples, QC samples consisting of one duplicate sample (ACS-MW1-GW-D) and MS/MSD sample volume were also collected. Table 2-10 summarizes the groundwater samples collected. Purge water was discharged to the ground near the wells because no OVA readings were detected during purging. Analytical results for all samples collected are discussed in Section 3.4.

2.3.4.5 Indoor Air Sampling

With the concurrence of the NYSDEC project manager, indoor air sampling was not conducted at this stage of investigation.

2.4 Investigation-Derived Waste Management

All soil cuttings, groundwater, and decontamination water generated during this investigation were screened for obvious signs of contamination in the field visually and by screening for organic vapors with an OVA. If no contamination was detected, or readings of 5 ppm or less were detected, the IDW was spread on site. If contamination was detected above 5 ppm with the OVA, the IDW was containerized in 55-gallon drums and stored on site. Drums of potentially contaminated material were moved to an on-site staging location north of the MA Ferrauilo Plumbing building (see Table 2-11). E & E will coordinate waste transportation and disposal following evaluation of the sample analyses associated with the drummed waste.

2.5 Site Survey

Lu Engineers performed a pre- and post-investigation survey. Pre-investigation surveys included marking the property boundaries of 1600 Jay Street, 105 Dodge Street, and 107 Dodge Street. Post-investigation surveys included establishing horizontal and vertical positions of the inner well casings at each of the four well locations, one surface water/sediment sample point, 11 surface soil samples, 25 Geoprobe borehole locations, and relevant blacktop areas.

The surveyor created a site base map based on the survey and tax map data (City of Rochester 1980a, b). This map was used to create the maps that are incorporated into this report.

Table 2-1 Current Property Ownership in the Area of the Abandoned Chemical Sales Facility Site

Tax Map No.	Street Address	Owner's Name	Owner's Address	Current Occupant/ Phone No.
105.61 – 1 – 65	1464 Lyell Ave.	Edward Koresko	1460 Lyell Ave.	Abandoned Steel Plant
105.61 – 1 – 66	1460 Lyell Ave.	Harrold Samloft and Lawrence Glazer	1 S. Washington St Rochester, NY 14614	
105.61 – 1 – 67.1	1451 Lyell Ave.	Michael Russo	62 Castle Rd. Rochester, NY 14623	Former Russo's Restaurant
105.61 – 1 – 68.1	1433 Lyell Ave.	Chiarino and Maria Direnzo	1433 Lyell Ave.	
105.61 – 1 – 69	1431 Lyell Ave.	Mary Hehn	7419 Chili Riga Center Rd., Churchville, NY 14428	
105.61 – 1 – 78	204 Dodge St.	Edward Hathaway	208 Dodge St.	Vacant Lot
105.61 – 1 – 79	208 Dodge St.	Edward Hathaway	208 Dodge St.	Residence
105.61 – 1 – 80	214 Dodge St.	Rochester HSG Authority	140 West Ave. Rochester, NY 14611	Residence
105.61 – 1 – 81	220 Dodge St.	Maryann Reimann	220 Dodge St.	Residence
105.61 – 1 – 82	226 Dodge St.	Claude Williams	224 Dodge St.	Residence
105.61 – 1 – 83	230 Dodge St.	Patrick Louis	230 Dodge St.	Residence
105.61 – 1 – 84	237 Dodge St.	Robert Russo	237 Dodge St.	Residence
105.61 – 1 – 85	231 Dodge St.	Joseph Benvenuto	163 Pebble View Dr. Rochester, NY 14612	Dee Enterprises/ LCR Performance 716-254-5540
105.61 – 1 – 86	223 Dodge St.	Joseph Benvenuto	163 Pebble View Dr. Rochester, NY 14612	
105.61 – 1 – 87	217 Dodge St.	Joseph Benvenuto	163 Pebble View Dr. Rochester, NY 14612	Residence
105.61 – 1 – 88	213 Dodge St.	Samuel and Ciprain Ognibene	207 Dodge St.	Residence
105.61 – 1 – 89	207 Dodge St.	Samuel and Ciprain Ognibene	207 Dodge St.	Residence
105.61 – 1 – 90	203 Dodge St.	Lewis Nagle	34 Parkway Dr. North Chili, NY 14514	Vacant Lot

Table 2-1 Current Property Ownership in the Area of the Abandoned Chemical Sales Facility Site

Tax Map No.	Street Address	Owner's Name	Owner's Address	Current Occupant/ Phone No.
105.61 – 1 – 91	1479 Lyell Ave.	Sellitto Inc.	1479 Lyell Ave.	Matella'a Restaurant
105.61 – 1 – 92	1485 Lyell Ave.	Mamie Nagle	1485 Lyell Ave.	Vacant Lot
105.69 – 1 – 1	193 Dodge St.	Lewis Nagle	34 Parkway Dr. North Chili, NY 14514	Residence
105.69 – 1 – 10	155 Dodge St.	Shield Properties	175 Dodge St.	
105.69 – 1 – 11	175 Dodge St.	Shield Properties	175 Dodge St.	Rochester-Davis Fetch Corp.
105.69 – 1 – 2	190 Dodge St.	Executive Board of Record et al as tr	190 Dodge St.	Teamsters Local 398
105.69 – 1 – 3.1	110 Dodge St.	Dodge St. LLC.	1000 Hylan Dr. Rochester, NY 14623	Cambridge Court Apartments
105.69 – 1 – 7	105 Dodge St.	Thomas Curtin	P.O. Box 60980 Rochester, NY 14606	Monroe Extinguisher Co., Inc. and Mood Music Co.
105.69 – 1 – 8	107 Dodge St.	Buell Specialty Steel Co. Inc.	P.O. Box 1059 Newark, NY 07101	Buell Specialty Steel Co.
105.69 – 1 – 9	135 Dodge St.	Joseph Bergstrom	170 W. Lake Rd. Penn Yan, NY 14527	Sturdell Industries, Inc. and Blanchard Grinding 716-464-0800
105.77 – 1 – 1	1600 Jay St.	Kimberly and Michael Ferrauilo	Whitney Group	MA Ferrauilo Plumbing 716-328-8910
105.77 – 1 – 20	1558 Jay St.	Kimberly and Michael Ferrauilo	Whitney Group	Residence
105.77 – 1 – 21	1548 Jay St.	Ernest and Benjamin Smith	1548 Jay St.	Residence
105.77 – 1 – 22	1540 Jay St.	Kimberly and Michael Ferrauilo	Whitney Group	Residence
105.77 – 1 – 23.1	1538 Jay St.	Harold and Jean Ellis	455 Manitou Beach Rd. Hilton, NY 14468	Residence
105.77 – 1 – 24	1534 Jay St.	Jose and Rose Batista	1534 Jay St.	Residence

Table 2-2 Selected Property Ownership History in the Area of the Abandoned Chemical Sales Facility Site

Tax Map No.	Street Address	Current Owner's Name	Previous Owner's Name	Date of Transfer	Other Previous Owner's Names and Date of Transfer
105.61 – 1 – 78	204 Dodge St.	Edward Hathaway	Helen Hemwerich	1/21/97	NA
105.61 – 1 – 79	208 Dodge St.	Edward Hathaway	Helen Hemwerich	1/21/97	NA
105.61 – 1 – 80	214 Dodge St.	Rochester HSG Authority	USA / HUD	6/14/94	
105.61 – 1 – 81	220 Dodge St.	Maryann Reimann	Eric T. Paris	4/4/00	Brenda L. Dufoe (9/7/94); Cecelia Hemmerich (7/31/91)
105.61 – 1 – 82	226 Dodge St.	Claude Williams	Keybank National	12/9/99	
105.61 – 1 – 83	230 Dodge St.	Patrick Louis	Robert and Mary Campbell	7/28/95	
105.61 – 1 – 84	237 Dodge St.	Robert Russo	Albert Neu	4/23/93	NA
105.61 – 1 – 85	231 Dodge St.	Joseph Benvenuto	City of Rochester	10/2/87	
105.61 – 1 – 86	223 Dodge St.	Joseph Benvenuto	Mamie E. Nagle	8/14/90	Gerald O'Neill (9/18/86)
105.61 – 1 – 87	217 Dodge St.	Joseph Benvenuto	Mamie E. Nagle	8/14/90	Gerald O'Neill (9/18/86); Rose J. Schramel (1/4/82)
105.61 – 1 – 88	213 Dodge St.	Samuel and Ciprain Ognibene	NA	NA	NA
105.61 – 1 – 89	207 Dodge St.	Samuel and Ciprain Ognibene	NA	NA	NA
105.61 – 1 – 90	203 Dodge St.	Lewis Nagle	NA	NA	NA
105.69 – 1 – 1	193 Dodge St.	Lewis Nagle	NA	NA	NA
105.69 – 1 – 10	155 Dodge St.	Shield Properties	RDF Associates	6/24/97	Lenhardt and Tucker Inc. (10/17/91)
105.69 – 1 – 11	175 Dodge St.	Shield Properties	RDF Associates	6/24/97	Lenhardt and Tucker Inc. (10/17/91); Carr Metals Inc. (4/5/85); Century Brass Products Inc.(1/20/81) – street number unspecified
105.69 – 1 – 2	190 Dodge St.	Executive Board of Record et al.	NA	NA	
105.69 – 1 – 3.1	110 Dodge St.	Dodge St. LLC	Charles Livecchi	12/17/98	

Table 2-2 Selected Property Ownership History in the Area of the Abandoned Chemical Sales Facility Site

Tax Map No.	Street Address	Current Owner's Name	Previous Owner's Name	Date of Transfer	Other Previous Owner's Names and Date of Transfer
105.69 – 1 – 7	105 Dodge St.	Thomas Curtin	Paul Vangellow	6/4/86	NA
105.69 – 1 – 8	107 Dodge St.	Buell Specialty Steel Co. Inc.	NA	NA	
105.69 – 1 – 9	135 Dodge St.	Joseph Bergstrom	Becker Movers, Inc.	8/10/89	Cottrone Development Co.Inc.(3/14/86)
105.77 – 1 – 1	1600 Jay St.	Kimberly A., Joseph D., Michael A. (Jr. and Sr.) Ferrauilo, and Whitney Group	Michael Anthony, Joe and Kim Ferrauilo	6/14/99	Chemreal Corp.(9/14/94)
105.77 – 1 – 20	1558 Jay St. (and1560-not necessarily part of tax map no.)	Kimberly A., Joseph D., Michael A. (Jr. and Sr.) Ferrauilo, and Whitney Group	Kimberly A. Ferrauilo and Whitney Group	6/14/99	Eleanore J. Clohessy (12/30/98); Dean N. Powley (10/4/88); Carol A. Hartle (10/4/88)
105.77 – 1 – 21	1548 Jay St.	Ernest and Benjamin Smith			
105.77 – 1 – 22	1540 Jay St.	Kimberly A., Joseph D., Michael A. (Jr. and Sr.) Ferrauilo, and Whitney Group	Kimberly A. Ferrauilo (and/or Kimberly A. Poudrier) and Whitney Group	6/14/99	Salvatore P. Sparviero (3/6/95); Kathleen A. Loewke (5/29/90)
105.77 – 1 – 23.1	1538 Jay St.	Harold and Jean Ellis			
105.77 – 1 – 24	1534 Jay St.	Jose and Rose Batista			
105.61 – 1 – 91	1479 Lyell Ave.	Sellitto Inc.	1479 Lyell Ave.	Matella'a Restaurant	
105.61 – 1 – 65	1464 Lyell Ave.	Edward Koresko	1460 Lyell Ave.	Abandoned Steel Plant	

Table 2-2 Selected Property Ownership History in the Area of the Abandoned Chemical Sales Facility Site

Tax Map No.	Street Address	Current Owner's Name	Previous Owner's Name	Date of Transfer	Other Previous Owner's Names and Date of Transfer
105.61 – 1 – 66	1460 Lyell Ave.	Harrold Samloft and Lawrence Glazer	1 S. Washington St Rochester, NY 14614		
105.61 – 1 – 67.1	1451 Lyell Ave.	Michael Russo	62 Castle Rd. Rochester, NY 14623	Former Russo's Restaurant	
105.61 – 1 – 68.1	1433 Lyell Ave.	Chiarino and Maria Direnzo	1433 Lyell Ave.		
105.61 – 1 – 69	1431 Lyell Ave.	Mary Hehn	7419 Chili Riga Center Rd., Churchville, NY 14428		

Table 2-3 Geoprobe and Subsurface Soil Sample Summary
Abandoned Chemical Sales Facility Site

Sampling Date	Geoprobe Borehole Location ID	Total Depth (feet BGS)	Maximum Downhole OVA Reading (ppm)	Maximum OVA Reading from Soil Core (ppm)	Sample Number	Sample Interval (feet BGS)	Analyses
11/12/01	GP-1	5	2.5	0	ACS-GP01-SB-3-5-O	3 - 5	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, Cyanide, Glycols, Percent Solids
					ACS-GP01-SB-3-5-D (Duplicate)	3 - 5	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, Cyanide, Glycols, Percent Solids
11/12/01	GP-2	5.2	> 100	20	ACS-GP02-SB-4-5-O	4 - 5	TCL VOCs, Glycols
11/12/01	GP-3	3.3	2	1	ACS-GP03-SB-2.3-3.3-O	2.3 - 3.3	TCL VOCs
11/12/01	GP-4	6.1	> 100	70	ACS-GP04-SB-5-5.5-O	5 - 5.5	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, Cyanide, Percent Solids
11/12/01	GP-5	6.4	> 100	100	ACS-GP05-SB-5-5.5-O	5 - 5.5	TCL VOCs, Glycols (MS/MSD glycols)
11/12/01	GP-6	4.5	5	5	ACS-GP06-SB-4-4.5-O	4 - 4.5	TCL VOCs, Glycols
11/12/01	GP-7	4.7	1	0	ACS-GP07-SB-4-4.7-O	4 - 4.7	TCL VOCs
11/12/01	GP-8	4.9	19	1	ACS-GP08-SB-4-4.9-O	4 - 4.9	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, Cyanide, Percent Solids
11/12/01	GP-9	3.4	20	7	ACS-GP09-SB-3-3.4-O	3 - 3.4	TCL VOCs, Glycols
11/13/01	GP-10	3.4	>100	50	ACS-GP10-SB-2.6 - 2.9-O	2.6 - 2.9	TCL VOCs
11/13/01	GP-11	1.7	0	0	ACS-GP11-SB-1.3-1.7-O	1.3 - 1.7	TCL VOCs
11/13/01	GP-12	3.5	0	0	ACS-GP12-SB-2.3-2.9-O	2.3 - 2.9	TCL VOCs
11/13/01	GP-13	2.9	0	0	ACS-GP13-SB-1.5-2.0-O	1.5 - 2.0	TCL VOCs
11/13/01	GP-14	6.8	0	0	ACS-GP14-SB-4-6.8-O	4 - 6.8	TCL VOCs (MS/MSD)
11/13/01	GP-15	7.4	5	2	ACS-GP15-SB-5.3-6.2-O	5.3 - 6.2	TCL VOCs
					ACS-GP15-SB-5.3-6.2-D (Duplicate)	5.3 - 6.2	TCL VOCs
11/13/01	GP-16	7.1	13	0	ACS-GP16-SB-6.1-7.1-O	6.1 - 7.1	TCL VOCs
11/13/01	GP-17	5.8	0.5	0	ACS-GP17-SB-4.0-5.8-O	4.0 - 5.8	TCL VOCs (MS/MSD)
11/13/01	GP-18	4.6	0	0	ACS-GP18-SB-4-4.6-O	4 - 4.6	TCL VOCs
11/13/01	GP-19	4.5	14	0	ACS-GP19-SB-4-4.5-O	4 - 4.5	TCL VOCs
11/13/01	GP-20	4.1	3	0.5	ACS-GP20-SB-3.5-4.1-O	3.5 - 4.1	TCL VOCs
11/13/01	GP-21	4.1	>1000	70	ACS-GP21-SB-2.8-3.5-O	2.8 - 3.5	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, Cyanide, Percent Solids
11/14/01	GP-22	4.5	>1000	120	ACS-GP22-SB-2.2-4.5-O	2.2 - 4.5	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, Cyanide, Percent Solids (MS/MSD all parameters except VOCs)
11/14/01	GP-23	4.7	1	1.5	ACS-GP23-SB-4-4.7-O	4 - 4.7	TCL VOCs
11/14/01	GP-24	6	12	8	ACS-GP24-SB-4.9-5.4-O	4.9 - 5.4	TCL VOCs
11/14/01	GP-25	3.3	22	0	ACS-GP25-SB-2-3.3-O	2 - 3.3	TCL VOCs

Key:
BGS = Below ground surface.
OVA = Organic vapor analyzer.
PCB = Polychlorinated biphenyl.
ppm = Parts per million.
SVOC = Semivolatile organic compound.
TAL = Target analyte list.
TCL = Target compound list.
VOC = Volatile organic compound.

Table 2-4 Groundwater Monitoring Well Drilling Summary, Abandoned Chemical Sales Facility Site

Monitoring Well ID	Date Started	Date Completed	Drilling Method	Total Depth (feet BGS)	Depth to Bedrock (feet BGS)	Maximum OVA Soil Reading (ppm)
MW-1	11/19/01	11/28/01	HSA and Coring	17	6.5	0
MW-2	11/19/01	11/21/01	HSA and Coring	18	6.5	0
MW-3	11/20/01	11/26/01	HSA and Coring	20.5	4	>10
MW-4	11/21/01	11/27/01	HSA and Coring	16.7	5	>100

Key:

BGS = Below ground surface.
HAS = Hollow-stem augering.
OVA = Organic vapor analyzer.
ppm = Parts per million.

Table 2-5 Groundwater Monitoring Well Construction Summary, Abandoned Chemical Sales Facility Site

Well Number	TOIC Elevation (ft AMSL)	Ground Elevation (ft AMSL)	Total Depth Drilled (feet BGS)	Depth of 6 inches Steel Surface Casing (feet BGS)	Well Casing Diameter (inches)	PVC Casing Length (feet)	PVC Screen Interval (feet BGS)	Sand Pack Interval (feet BGS)	Bentonite Seal Interval (feet BGS)
MW-1	537.34	535.21	17	8.5	2	10.5	8.3 - 16.3	5.5 - 17	3.5 - 5.5
MW-2	537.56	535.38	18	8.5	2	9.2	7 - 17	5 - 17	3 - 5
MW-3	534.15	534.5	20.5	5.5	2	9.4	9.7 - 19.7	7.1 - 20.5	5.1 - 7.1
MW-4	533.32	533.54	16.7	6.75	2	5.8	6 - 16	3.7 - 16.7	1.7 - 3.7

Key:

AMSL = Above mean sea level.
BGS = Below ground surface.
PVC = Polyvinyl chloride.
TOIC = Top of inner casing.

Table 2-6 Groundwater Elevations, Abandoned Chemical Sales Facility Site

Well Number	TOIC Elevation (ft AMSL)	Ground Elevation (ft AMSL)	11/29-11/30/01 Water Level (ft below TOIC)	11/29-11/30/01 Groundwater Elevation (ft AMSL)	2/1/02 Water Level (ft below TOIC)	2/1/02 Groundwater Elevation (ft AMSL)
MW-1	537.34	535.21	9.8	527.54	8.15	529.19
MW-2	537.56	535.38	10.37	527.19	8.22	529.34
MW-3	534.15	534.5	8.78	525.37	7.17	526.98
MW-4	533.32	533.54	5.44	527.88	3.77	529.55

Key:

AMSL = Above mean sea level.
BGS = Below ground surface.
ft = Feet.
TOIC = Top of inner casing.

Table 2-7 Surface Soil Sample Summary
Abandoned Chemical Sales Facility Site

Sample Number	Sample Date	Analyses	Location Description
ACS-SS01-O (MS/MSD)	11/14/01	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, TAL Cyanide, Glycols, percent solids	Western end of the east-west transect in formerly cleared area on the 1600 Jay Street property.
ACS-SS02-O	11/14/01	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, TAL Cyanide, Glycols, percent solids	Along east-west transect in formerly cleared area on the 1600 Jay Street property; approximatley 45 feet east of western property line.
ACS-SS02-D (Duplicate)	11/14/01	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, TAL Cyanide, Glycols, percent solids	Along east-west transect in formerly cleared area on the 1600 Jay Street property; approximatley 45 feet east of western property line.
ACS-SS03-O	11/14/01	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, TAL Cyanide, Glycols, percent solids	Along east-west transect in formerly cleared area on the 1600 Jay Street property; approximatley 100 feet east of western side of property.
ACS-SS04-O	11/14/01	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, TAL Cyanide, Glycols, percent solids	Along east-west transect in formerly cleared area on the 1600 Jay Street property; approximatley 155 feet east of western side of property.
ACS-SS05-O	11/14/01	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, TAL Cyanide, Glycols, percent solids	Eastern end of east-west transect in the formerly cleared area in the 1600 Jay Street property. Also a point in the north-south line of samples.
ASC-SS06-O	11/14/01	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, TAL Cyanide, Glycols, percent solids	Northeast corner of grassy area, northernmost point in north-south line of samples near Dodge Street.
ACS-SS07-O	11/14/01	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, TAL Cyanide, Glycols, percent solids	East side of approximate location of former structure (probably AST), along north-south lineof samples near Dodge Street, near berm paralleling Dodge Street.
ACS-SS08-O	11/14/01	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, TAL Cyanide, Glycols, percent solids	Southernmost point along north-south line of samples near Dodge Street, near berm paralleling Dodge Street.
ACS-SS09-O	11/14/01	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, TAL Cyanide, Glycols, percent solids	Background sample in easement on east side of Dodge Street, across from 107 Dodge Street property
ACS-SS10-O	11/14/01	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, TAL Cyanide, Glycols, percent solids	Background sample in easement on east side of Dodge Street, across from 1600 Jay Street property.
ACS-SS11-O	11/14/01	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, TAL Cyanide, Glycols, percent solids	Background sample in easement on south side of Jay Street, across from 1600 Jay Street property.

Key

MS/MSD = Matrix spike/matrix spike duplicate.
PCBs = Semivolitile organic compounds.
SVOCs = Semivolitile organic compounds.
TAL = Target analyte list.
TCL = Target compound list.
VOCs = Volatile organic compounds.

Table 2-8 Surface Water and Sediment Sample Summary, Abandoned Chemical Sales Facility Site

Sample Number	Matrix	Date Sampled	Analyses	pH (s.u.)	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)
ACS-SW01-O (MS/MSD)	Surface Water	11/30/01	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, TAL Cyanide, Hardness, Glycols	7.19	9	85.8	11.5
ACS-SW01-D (Duplicate)	Surface Water	11/30/01	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, TAL Cyanide, Hardness, Glycols	7.19	9	85.8	11.5
ACS-SD02-O (MS/MSD)	Sediment	11/30/01	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, TAL Cyanide, TOC, Percent Solids, Glycols	NA	NA	NA	NA
ACS-SD01-D (Duplicate)	Sediment	11/30/01	TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, TAL Metals, TAL Cyanide, TOC, Percent Solids, Glycols	NA	NA	NA	NA

Key:

°C = Degrees Celcius.
NA = Not applicable.
NTU = Nephelometric turbidity units.
MS/MSD = Matrix spike/matrix spike duplicate.
PCBs = Semivolitile organic compounds.
SVOCs = Semivolitile organic compounds.
s.u. = Standard units.
TAL = Target analyte list.
TCL = Target compound list.
TOC = Total Organic Carbon.
VOCs = Volitile organic compounds.
mS/cm = MicoSiemens per centimeter.

Table 2-9 Groundwater Field Chemistry Measurements From Monitoring Well Samples, Abandoned Chemical Sales Facility Site

Well Number	Date Sampled	pH (s.u.)	Temperature (°C)	Conductivity (mS/cm)	Turbidity (NTU)
MW-1	11/30/01	6.52	13.2	1498	4.39
MW-2	11/30/01	6.75	12.6	1242	6.86
MW-3	11/29/01	6.57	14.2	1867	23.8
MW-4	11/29/01	5.1	14.8	1028	15.3

Key:

°C = Degrees Celcius.
NTU = Nephelometric turbidity units.
s.u. = Standard units.
mS/cm = MicoSiemens per centimeter.

Table 2-10 Groundwater Sampling Summary, Abandoned Chemical Sales Facility Site

Well	Well Type	Sample Number	Date Collected	Chemical Analyses Performed
MW-1	Bedrock	ACSF-MW01-O	11/30/01	TCL VOCs, TCL SVOCs, TCL PCBs, TCL Pesticides, TAL Metals, Cyanide, and Glycols
	Bedrock	ACSF-MW01-D (Duplicate)	11/30/01	TCL VOCs, TCL SVOCs, TCL PCBs, TCL Pesticides, TAL Metals, Cyanide, and Glycols
MW-2	Bedrock	ACSF-MW02-O	11/30/01	TCL VOCs, TCL SVOCs, TCL PCBs, TCL Pesticides, TAL Metals, Cyanide, and Glycols
MW-3	Bedrock	ACSF-MW03-O	11/29/01	TCL VOCs, TCL SVOCs, TCL PCBs, TCL Pesticides, TAL Metals, Cyanide, and Glycols
MW-4	Bedrock	ACSF-MW04-O (MS/MSD)	11/29/01	TCL VOCs, TCL SVOCs, TCL PCBs, TCL Pesticides, TAL Metals, Cyanide, and Glycols

Key:

PCBs = Polychloinated biphenyls.
TAL = Target Analyte List.
TCL = Target Compound List.
VOCs = Volatile organic compounds.
SVOCs = Semivolitile organic compounds.

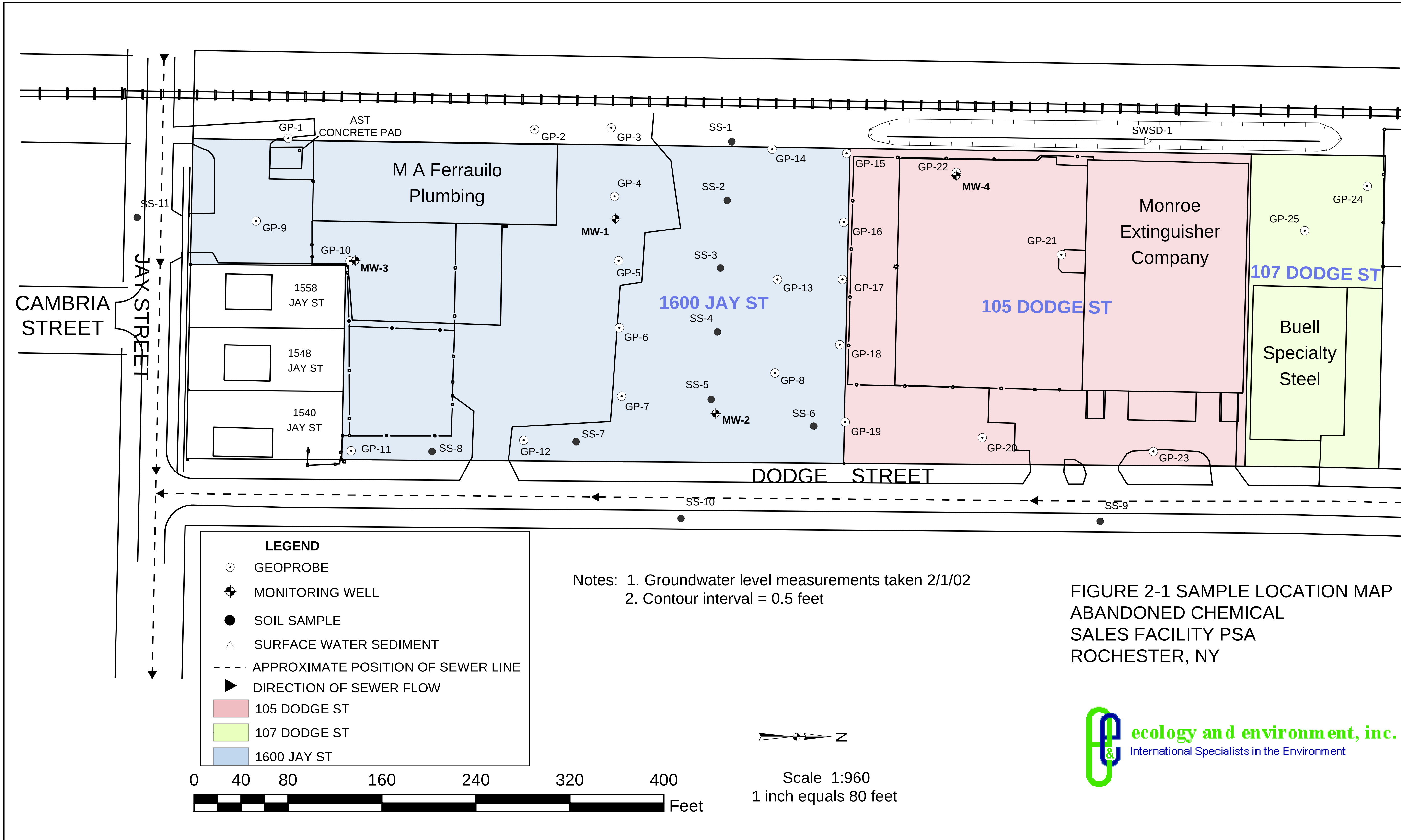
Table 2-11 Investigation-derived Waste Drum Inventory, Abandoned Chemical Sales Facility Site

Drum/ Container ID Number/ Site	Date Generated	Waste Source	Contents	Approximate Volume
ACSF- DM01	11/12-11/26/01	GP-2, GP-4, GP-5, GP-10, GP-21, GP-22, GP-24, and MW-3	Soil cuttings from Geoprobe borings and monitoring well installation	55 gallons
ACSF- DM02	11/21-11/27/01	MW-4	Soil cuttings from monitoring well installation	55 gallons

Key:

GP = Geoprobe.
MW = Monitoring well.

02:0069_NY08_03_01-B0001
BUFNT4/GIS/BUFFALO/ACSF/MXDS/FIG2-1.MXD 3/28/02-GIS



02:0069_NY08_03_01-B0001
BUFNT4/GIS/BUFFALO/ACSF/MXDS/FIG2-2.MXD 3/28/02-GIS

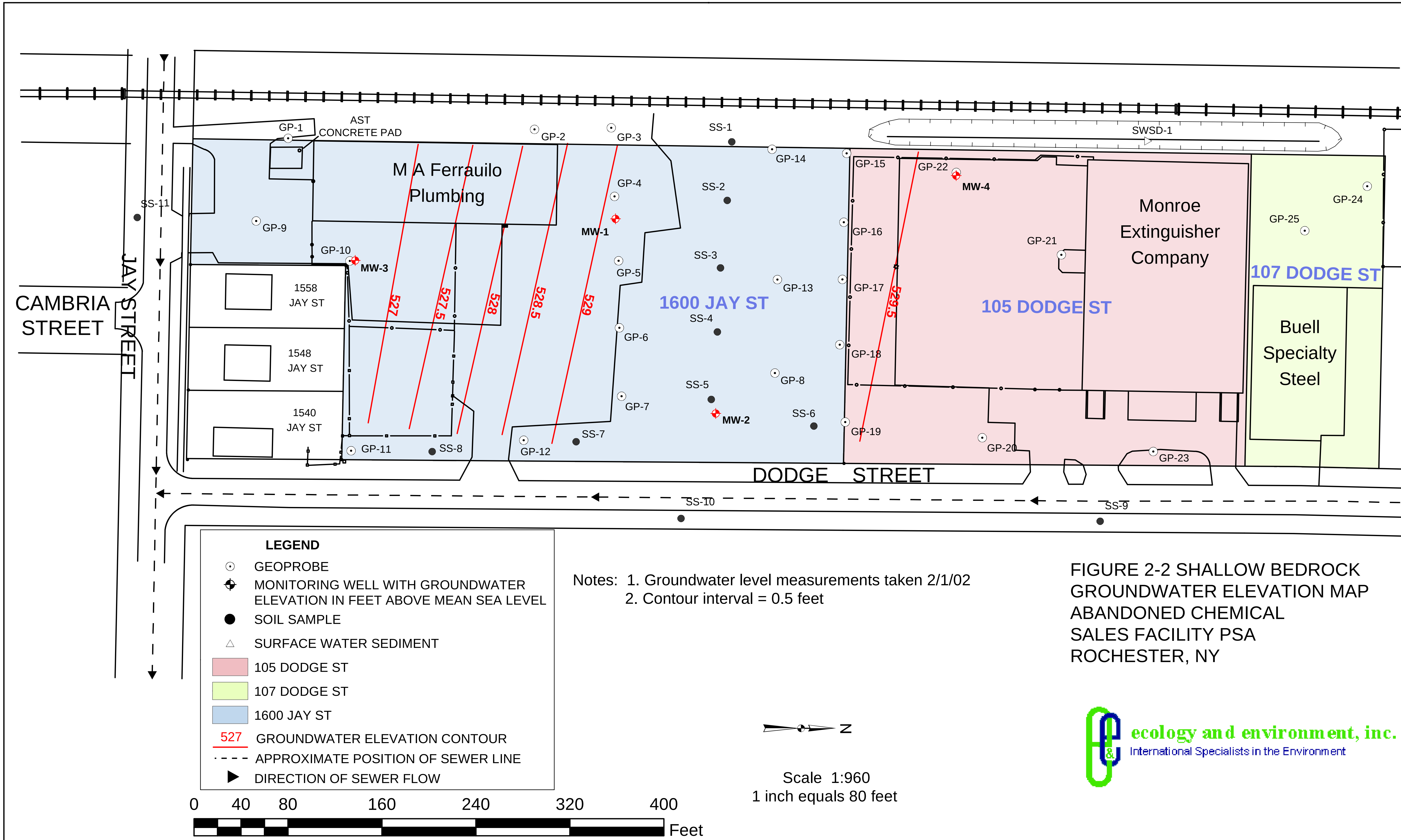


FIGURE 2-2 SHALLOW BEDROCK GROUNDWATER ELEVATION MAP
ABANDONED CHEMICAL SALES FACILITY PSA
ROCHESTER, NY

3 Analytical Results

Solid and aqueous samples were analyzed for TCL VOCs, SVOCs, pesticides/ PCBs; TAL metals; cyanide; glycols; hardness (surface water samples only); TOC (sediment samples only); and percent solids (soil and sediment samples only). Analytical methods followed the version of the EPA Contract Laboratory Program (CLP) Statement of Work. In addition, the laboratory followed the quality assurance (QA)/QC, holding time, and reporting requirements for CLP as defined in the NYSDEC Analytical Services Protocol (ASP) of June 2000. All analyses were performed by E & E's Analytical Services Center (ASC), with the exception of glycol analyses (performed by Friend Laboratory, Inc. of Waverly, New York) and metals analyses of subsurface soil, surface water, and groundwater samples discussed in Section 2 (performed by Severn Trent Laboratories of Pittsburgh, Pennsylvania). All laboratory analytical data are reported using Category B deliverables and the standard ASC laboratory electronic data deliverable (EDD). An E & E chemist reviewed all sample analytical results used for site characterization. Analytical data were reviewed for completeness; field and laboratory QC sample results were evaluated; significant laboratory control problems were assessed; and data qualifiers were assigned. Data usability summary reports (DUSRs) are presented in Appendix E. In the following discussions, the higher of the individual compound results was used when original and duplicate sample analyses were performed.

All sample collection, shipping, handling, and analytical procedures were performed in accordance with the Work Plan (E & E 2001a).

During VOC and SVOC analyses, tentatively identified compounds (TICs) were identified. TICs are chromatographic peaks in gas chromatography/mass spectrometry (GC/MS) analyses for volatile and semivolatile organics that are not target compounds, system monitoring compounds, or internal standards. TICs were qualitatively identified through a mass spectral library search, and a qualified data reviewer estimated the identifications. No standard response factor is used in the quantitation of TIC compounds; therefore, all TIC concentrations are estimated values. This process is used to identify and estimate concentrations of any potential unknown contaminants at the site. A summary of TICs is provided at the end of Appendix E. There are significant uncertainties in identification and quantitation of TICs as well as a lack of specific toxicological information for many TIC compounds.

3.1 Surface Soil Samples

Eight on-site surface soil samples (SS01 through SS08), one duplicate (SS02-D), and three background surface soil samples (SS09 through SS11) were collected in November 2001 and were submitted for laboratory analyses. Summaries of the analytical results for these samples and a comparison with NYSDEC Technical and Administrative Guidance Memorandum (TAGM) 4046 soil cleanup objectives (NYSDEC 1994) are presented in Table 3-1.

Volatile Organics

Two VOCs were detected in surface soil samples, with none above cleanup objectives. In the central portion of the site, PCE was detected at low levels at SS03 and SS04. Methylene chloride was also detected at low levels at SS04 as well as at SS07, which is on the east central portion of the site near Dodge Street. However, laboratories commonly use methylene chloride during sample preparation and its presence in the samples is considered suspect. No VOCs were detected at other surface soil locations.

Semivolatile Organics

There were 27 SVOCs detected in surface soil samples including a phenol, four phthalates, and numerous polyaromatic hydrocarbons (PAHs). SVOCs exceeding cleanup objectives included several PAHs and 4-methylphenol. Benz(a)anthracene and benzo(a)pyrene were detected above their standards in all samples, including the background locations. Also including the background locations, chrysene and dibenz(a,h)anthracene were found above their standards in all but one sample (SS01). Two additional PAHs were detected above their standards, in at least five samples (including all background locations): benzo(b)fluoranthene and benzo(k)fluoranthene. 4-methylphenol was found above its standard in SS02 and SS03. In general, the concentrations of SVOCs detected on site were similar to those detected in the background sample locations. The two on-site locations with the highest total SVOC concentrations are SS02 (approximately 18,500 μg/kg total SVOCs) and SS03 (approximately 74,400 μg/kg total SVOCs). These locations are both in the central area of the site. The maximum total SVOC concentration detected in the three background samples was approximately 61,200 μg/kg.

PCBs

The only PCB detected in the surface soil samples was Aroclor 1254, detected below its cleanup objective in background sample SS10. No PCBs were detected in on-site surface soil samples.

Pesticides

Seventeen pesticides were detected in surface soil samples. Dieldrin and heptachlor epoxide were detected above their cleanup objectives on site in sample

SS03. Heptachlor epoxide was also found above its cleanup objective on site at SS02 as well as in background samples SS09 and SS11. As with the SVOCs, the concentration of total pesticides detected in the background samples was similar to or higher than the on-site locations (maximum background concentration approximately 113 μg/kg). Also like the SVOCs, the on-site surface soil locations with the highest total pesticide concentrations are SS02 (138 μg/kg) and SS03 (343 μg/kg).

Glycols

No glycols were detected in the surface soil samples.

TICs

No VOC TICs were detected in surface soil samples. Ninety-seven SVOC TICs were found (see Table E-1 in Appendix E). These include PAHs, organic acids, and hydrocarbons. Estimated concentrations range up to approximately 61,200 μg/L. The highest concentrations of TICs were found at SS03.

Inorganics

There were 22 metals detected in surface soil samples. Zinc and iron were found above their cleanup objectives in all on-site background samples. In addition, chromium, copper, and mercury exceeded their standards in at least three samples. For all metals exceeding cleanup objectives on site, these same metals also exceeded cleanup objectives in at least two of the three background locations. Concentrations of these metals were higher in the background samples than on site.

Cyanide was detected in all samples, except SS06, at low levels, with the maximum concentration detected in the background locations.

3.2 Surface Water/Sediment Samples

One sediment and one surface water sample were collected in November 2001 and were submitted for laboratory analyses. Additionally, duplicate samples SD01-D and SW01-D were collected. Summaries of the analytical results for the surface water and sediment samples and a comparison with the appropriate state standards, criteria, and guidance values are presented in Tables 3-2 and 3-3, respectively. The results for the surface water sample were compared to the NYSDEC Technical Operational Guidance Series (TOGS) 1.1.1 ambient water quality standards for Class D surface water (NYSDEC 1998). The analytical results for the sediment samples were compared to the NYSDEC sediment screening criteria (NYSDEC 1999). The sediment criteria for organic compounds are calculated based on TOC. The NYSDEC guidance specifies four categories of sediment criteria, including human health bioaccumulation (tends to be the most stringent when available), wildlife bioaccumulation, and benthic life chronic and acute toxicity. Although all categories may not be available for each compound, the most stringent criterion available was selected for each parameter.

3.2.1 Surface Water Sample

Volatile Organics
No VOCs were detected in the surface water sample.

Semivolatile Organics
No SVOCs were detected in the surface water sample.

PCBs
The only PCB detected in the surface water sample was Aroclor 1254 at 1.3 μg/L, which is above the total PCB standard of 10^{-6} μg/L.

Pesticides
Four pesticides were detected above their standards in the surface water sample: aldrin, dieldrin, gamma-chlordane, and heptachlor epoxide.

Glycols
Glycol was detected below the guidance value for ethylene glycol in the surface water sample at 310 μg/L. The sample results were compared to the guidance value for ethylene glycol because the reported total glycol result was quantified as ethylene glycol (though other related glycol compounds also may be present).

TICs
No VOC TICs were detected in the surface water sample. Seven SVOC TICs were found in the surface water sample ranging in estimated concentrations from 2 to 63 μg/L and were mostly hydrocarbons (see Table E-2 in Appendix E).

Inorganics
Twenty metals were detected in the surface water sample, including copper, iron, and mercury above their respective standards. Cyanide was detected below its standard in the surface water at 1.5 mg/L.

3.2.2 Sediment Sample

Volatile Organics
No VOCs were detected in the sediment sample.

Semivolatile Organics
Seventeen SVOCs (primarily PAHs) were detected in the sediment sample, including benz(a)anthracene and benzo(a)pyrene, which were detected above their respective criteria. The concentration of total PAHs detected in the sediment sample was approximately 7,410 μg/kg.

PCBs
No PCBs were detected in the sediment sample.

Pesticides

Thirteen pesticides were detected in the sediment sample. 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, and heptachlor epoxide were detected above the NYSDEC sediment criteria. The total concentration of pesticides detected in the sediment sample was 31 μg/kg.

Glycols

No glycols were detected in the sediment sample.

TICs

No VOC TICS were found in the sediment sample. There were 32 SVOC TICs detected (see Table E-3 in Appendix E) including PAHs and hydrocarbons.

Inorganics

There were 21 metals detected in the sediment sample. Of these 21, six were found above their NYSDEC standards including: antimony, arsenic, cadmium, copper, lead, and mercury. Cyanide was also detected in the sediment sample.

3.3 Subsurface Soil Samples

During Geoprobe borehole installation, 25 subsurface soil samples were collected in November 2001. Each sample was submitted for VOC analysis, and five were also submitted for TCL SVOC, TCL pesticide, TCL PCB, TAL metals, and glycols analyses (see Table 2-3). Two duplicate samples (GP01-D and GP15-D) were collected for VOC analysis and one duplicate sample (GP01-D) was collected for the remaining analyses. Summaries of the analytical results for these samples and a comparison with NYSDEC TAGM 4046 soil cleanup levels (NYSDEC 1994) are presented in Tables 3-4A, B, and C.

Volatile Organics

No VOCs were detected in nine of 25 subsurface soil samples: GP03, GP07, GP11, GP12, GP15, GP19, GP20, GP23, and GP24 (see Table 3-4A). These locations are all near the boundaries of the site. In the remaining locations, 15 VOCs were detected with no concentrations exceeding their cleanup objectives. Overall, compounds detected in the highest concentrations include chlorinated ethenes as well as aromatic and other fuel-related compounds. Chlorinated ethanes and ketones were also detected, but at lower concentrations. By far, the highest total VOC concentration in the subsurface soil samples was at GP04. GP04 is located in the west central portion of the site, just west of MW01. The total VOC concentration at this location was approximately 6,200 μg/kg, of which 5,100 μg/kg was isopropylbenzene. Methylcyclohexane, total xylenes, and ethylbenzene were also detected at over 100 μg/kg each at this location. Other significant detections in the central portion of the site included 41 μg/kg total VOCs at GP02 (with the largest fraction of this being cis-1,2-dichloroethene [cis-1,2-DCE]); 59 μg/kg 1,1-dichloroethane (1,1-DCA) and 19 μg/kg acetone at GP05;

200 μg/kg trichloroethene (TCE) at GP06; 24μg/kg PCE at GP08; 190 μg/kg PCE at GP13; 17μg/kg PCE at GP14; and 21 μg/kg acetone at GP16.

On the southern side of the site, GP01 is located near the former location of the aboveground storage tank. 1,1,1-trichloroethane (1,1,1-TCA) and TCE were both detected here at approximately 15 μg/kg. East of this location, acetone was detected in both GP09 and GP10, with 2-butanone also found in GP10.

Acetone, at approximately 77 μg/kg, was detected on the northern side of the site at GP21 and GP22. 2-Butanone was also found at GP22 at 23 μg/kg.

Semivolatile Organics

Five of the 25 subsurface soil samples were analyzed for SVOCs (see Table 3-4B). Twenty-one SVOCs were detected, mostly PAHs. Cleanup objectives were exceeded at GP01 (located near the former AST and railroad ROW) for benz(a)anthracene, benzo(a)pyrene, chrysene, and dibenz(a,h)anthracene. These compounds were also present at concentrations exceeding cleanup objectives at surface soil locations across the site. GP01 has the highest total SVOC concentration (approximately 11,300 μg/kg) and the highest number of SVOCs of all the subsurface soil samples analyzed for SVOCs.

GP04 contained the second highest SVOC concentration and number of SVOCs, with only benzo(a)pyrene exceeding its cleanup objective. No SVOCs were detected at GP08. Eight SVOCs were detected at GP22, with fluoranthene and phenanthrene detected at the highest levels in this sample (both 130 μg/kg). Finally, only one phthalate was detected in GP21 at 230 μg/kg.

PCBs

Five of the 25 subsurface soil samples were analyzed for PCBs. No PCBs were detected in these samples.

Pesticides

Five of the 25 subsurface soil samples were analyzed for pesticides. Twelve pesticides were detected below cleanup objectives in subsurface soil samples (see Table 3-4B). All 12 were found in GP01. No more than two pesticides were detected in each of GP08, GP21, and GP22. No pesticides were found in GP04.

Glycols

Five of the 25 subsurface soil samples were analyzed for glycols. GP01 was the only sample with glycols detected at 4,700 μg/kg (see Table 3-4C). There is no NYSDEC cleanup objective for glycol.

TICs

Twenty-eight VOC TICs were detected in the subsurface soil samples (Table E-4 in Appendix E). All of these, except one, were found only in GP04. The majority of the VOC TICs were aromatic hydrocarbon compounds. No VOC TICs were identified in GP01, GP08, or GP21. Only one unknown TIC was found in GP22.

There were 47 SVOC TICs detected in the subsurface soil samples. Most of these were either in GP01 or GP04. Several PAHs were detected in GP01 and several aromatic hydrocarbon compounds were found in GP04.

Inorganics

Five of the 25 subsurface soil samples were analyzed for inorganics. Twenty metals were detected in these five subsurface soil samples (see Table 3-4B). Iron and zinc exceeded their respective cleanup objectives at each location. Arsenic, chromium, copper, nickel, and mercury also exceeded their NYSDEC soil cleanup objectives at least one location each.

Cyanide was detected at low levels in three of the five subsurface soil sample locations.

3.4 Groundwater Samples

Four groundwater samples and one duplicate (MW01-D) were collected in November 2001 and were submitted for laboratory analyses. Summaries of the analytical results for these samples and a comparison with NYSDEC Class GA ambient water standards for groundwater (NYSDEC 1998) are presented in Table 3-5.

Volatile Organics

Twenty-five VOCs were detected in groundwater samples, with 18 of these detected above standards or guidance values in at least one well. The majority of the compounds detected were chlorinated ethenes and ethanes, as well as BTEX and related compounds. No VOCs were detected in upgradient well MW-4 on the 105 Dodge Street property. In the remaining three wells, seven VOCs were detected above standards in all three wells: cis-1,2-DCE (which was the VOC with the highest concentration in each well), 1,1,1-TCA, 1,1-DCA, acetone, toluene, vinyl chloride, and total xylenes.

At approximately 129,100 μg/L, monitoring well MW-3, which is just east of the MA Ferrauilo Plumbing building and adjacent to the residential property at 1558 Jay Street, had the highest total VOC concentration of all four wells sampled. Eight VOCs were detected above their standards. Listed in decreasing order of concentration, they were: cis-1,2-DCE, vinyl chloride, 1,1-DCA, toluene, acetone, 1,1,1-TCA, total xylenes, and 1,1-dichloroethene (1,1-DCE). It is possible that other VOCs were also present, but were masked by the elevated detection limits caused by the high dilutions needed to analyze this relatively high concentration sample.

The well with the next highest VOC concentration was MW-1, which is on the west-central portion of the 1600 Jay Street property. This well had 37,600 μg/L of total VOCs. With 25 VOCs detected (18 above standards), this well had the highest number of individual compounds detected. Relatively low levels of several VOCs were detected in the duplicate sample that were not detected in the original sample. This difference is seen because the original sample was analyzed at a much higher dilution than the duplicate. There were seven individual VOCs detected at or above 1,000 µg/L (and above their respective standards). These were the same VOCs detected above their standards in MW-1, MW-2, and MW-3.

Monitoring well MW-2, located on the east central portion of the 1600 Jay Street property, had 5,770 µg/L of total VOCs. Nineteen VOCs were detected with 14 above their standards. The three highest VOC concentrations were cis-1,2-DCE, total xylenes, and toluene.

Semivolatile Organics

Eight SVOCs, including primarily four phenols with lower concentrations of 1,1'-biphenyl, naphthalene, benzylaldehyde, and bis(2-ethylhexyl)phthalate, were detected in groundwater, with at least one SVOC detected in each well (see Table 3-5). The SVOCs detected above their standards were phenols in MW-1 though MW-3 and bis(2-ethylhexyl)phthalate in MW-4. The highest individual SVOC detected was 350 µg/L of 4-methylphenol in MW-1.

PCBs

One PCB was detected in the groundwater samples. Aroclor 1254 was detected above its standard in MW-4. No PCBs were detected in the other wells.

Pesticides

Four pesticides were detected in groundwater samples: gamma-BHC in MW-1, alpha-BHC (above its standard) and gamma-chlordane in MW-3, and aldrin (above its standard) in MW-4. No pesticides were detected in MW-2.

Glycols

Glycol was detected above the guidance value (for ethylene glycol) in all four wells and ranged from 400 to 980 µg/L. The sample results were compared to the guidance value for ethylene glycol because the reported glycol result was quantified as ethylene glycol (though other related glycol compounds also may be present). The highest level was detected at MW-1 (980 µg/L). Concentrations at MW-2 and MW-3 were similar (approximately 600 µg/L). The lowest concentration was detected at MW-4.

TICs

Nineteen VOC TICs were detected in the sample from MW-1 and 17 were found in MW-2 (see Table E-5 in Appendix E). The majority of these TICs in both samples were aromatic hydrocarbon compounds. Estimated concentrations ranged from 5 to 10,700 µg/L. No VOC TICs were identified in samples from MW-3 or MW-4.

Fifty-seven SVOC TICs were detected in the groundwater samples. With 42 SVOC TICs, MW-1 had the highest number of TICs. Only one SVOC TIC, a straight-chain alkane, was identified at low levels in MW-4. Overall, the SVOC groundwater TICs included primarily aromatic hydrocarbons and estimated concentrations ranged from 4 to over 43,000 μg/L.

Inorganics

Nineteen metals were detected in groundwater samples. Iron, magnesium, and sodium were detected above their standards in all wells; manganese and thallium were detected above standards in all but one well; and antimony was detected above its standard in MW-1 only.

Cyanide was detected below its standard in all groundwater samples at levels ranging from 1.1 to 1.4 μg/L.

3.5 QA/QC Samples

This section summarizes the QA/QC procedures used and the results for the samples collected. Field QC samples include field duplicates, trip blanks, and rinsate blanks. Laboratory QC samples include method blanks, laboratory control samples, and MS/MSD sets. All sampling and analytical procedures were consistent with the Work Plan (E & E 2001a) and the master NYSDEC QAPP (E & E 2001b). The master QAPP was developed in accordance with the NYSDEC QA/QC requirements. Site-specific QA/QC requirements are reflected in the site-specific QAPP that was included as Appendix B of the Work Plan.

Data collection, data reduction, and data handling procedures are presented in the QAPP. Sample collection data were indicated on the field chain-of-custody (COC) and entered by the laboratory into the laboratory management information system (LIMS). The laboratory analytical reports were received in both electronic and hard copy formats and the data were reviewed for usability concerns. DUSR checklists were completed to document the data evaluation (see Appendix E). The DUSR checklists summarize results of field and laboratory QC samples that are outside QC limits. QA/QC concerns that may affect data usability are presented below, along with appropriate data qualifiers and a discussion of potential impacts.

Trip Blanks

Trip blanks check for the possible introduction of VOCs from the time the samples are collected to the time they are analyzed. Trip blanks were prepared at the ASC laboratory by filling 40-milliliter glass vials with organic-free deionized water. They were handled like field samples; however, they were not opened in the field. One trip blank was taken to the sample locations and returned in the cooler to be shipped to the laboratory. All sample portions for VOCs collected on a single day were transported in the same cooler. There were no positive hits detected in either of the trip blanks.

Duplicate Samples
Consistency in both sample collection and sample analysis is checked through analysis of duplicate samples. Duplicate samples consist of aliquots of sample media placed in separate sample containers and labeled as separate samples. Duplicate samples were collected at a rate of approximately one per 20 field samples per matrix analyzed. Table 7 of the DUSRs (Appendix E) lists the duplicate samples and the original samples that they duplicated. Duplicate sample analytical data are presented in the data summary tables (Tables 3-1 through 3-5). The duplicate precision is summarized in Table 7 of the DUSRs. Overall the precision was good except for those noted in Table 7 of the DUSRs. Results are flagged “J” as estimated in cases of poor precision.

Rinsate Samples
Rinsate samples are collected from any non-dedicated or non-disposal sampling equipment to check on the effectiveness of the decontamination process on sampling equipment. Since no non-dedicated sampling equipment was utilized, no rinsate samples were needed.

Method Blanks
Quality checks on the laboratory instrumentation and methods are conducted by analysis of method blanks. Method blanks consist of organic-free deionized water subjected to every step of the analytical process to determine possible points of organic laboratory contaminant introduction. Method blanks were analyzed one per 20 samples and the only contamination of the blanks found was TICs or target compounds below the practical quantitation limit (PQL). As a result, some sample results were qualified “U” for method blank contamination as indicated on Table 2A of the DUSRs (see Appendix E).

Surrogate Standards
All samples, including the laboratory method blanks and standards, are spiked with a set of specific surrogate standards to monitor the accuracy of the analytical determination. Surrogate spikes are added at the start of the laboratory preparation process. Surrogate compounds are not typically found in environmental samples. QC criteria for surrogate recoveries are method- and matrix-specific. Most surrogate recoveries were acceptable indicating good overall accuracy. Some surrogates were high, however, no sample qualification was required.

Matrix Spike/Matrix Spike Duplicate
Spike samples simulate the background effect and interferences found in the actual samples, and the calculated percent recovery of the spike is used as a measure of the accuracy of the total analytical method. If matrix spike samples indicated a potential matrix effect, matrix spike blanks were evaluated to verify the problems were not due to an analytical concern. MS/MSD samples were collected at a rate of one per 20 field samples or batch MS/MSD samples were analyzed at a rate of one per day per matrix. MS/MSD data were evaluated as part of the data review process and specific sample results that may have been affected by matrix are

flagged "J" as estimated or "R" as rejected, as reported on Table 4 of the DUSRs (see Appendix E). The rejected samples are limited to the selenium results for the surface soil samples. These were rejected due to low matrix spike recoveries. See the DUSR for lab work order 0111178 for more details

Laboratory Control Samples

The laboratory control sample (LCS) is spiked with the analytes of interest near the midpoint of the calibration range as defined by the NYSDEC ASP approved method. The LCS is processed by the same sample preparation, standard addition, and analysis as project samples. LCSs are analyzed at the frequency of one per batch of every 20 samples or fewer. The recovery of target analytes in the LCS is an estimation of method accuracy. All LCS recoveries, except for one pesticide, were within acceptable limits for ACSF site samples. Results for one pesticide was slightly high; however, all the impacted results were already flagged "J" as estimated.

3.6 Data Review, Validation, and Verification

Analytical data reports generated by E & E's ASC were reviewed by the laboratory and were checked to verify that the data reported is consistent with the laboratory QA Manual and standard operating procedures. The laboratory review is summarized in the case narrative provided with the analytical data report.

In addition to the laboratory review, an E & E chemist processed the electronic data and performed an evaluation of the QC outliers for potential impacts on data usability. Results for the original field samples, field duplicates, and trip blanks in the laboratory electronic data were matched to data on the field COC and in the Work Plan. Results for surrogate parameters for all samples were included for applicable tests. Data review qualifiers were added to the sample results in the database and the data were sorted to generate data summary tables. The tables were checked against the hard copy data package. Laboratory QC results, including MS/MSDs and laboratory blanks are reported and reviewed electronically, but the QC results are not stored in the project database. Field QC results are summarized in the DUSRs and discussed in Section 3.5. Glycol data was not available in the proper electronic format to be incorporated into the DUSR; however it was fully reviewed in hardcopy by an E & E chemist. No QA/QC problems were found in the glycol data.

Any deviations from acceptable QC specifications were summarized in the DUSRs in Appendix E. The E & E chemist added appropriate qualifiers to the data to indicate potential concerns with data usability. These qualifiers were transferred to the data presented on summary tables in Sections 3.1 through 3.4. The following qualifiers were added:

J - This qualifier indicates an estimated value because the associated QC data indicated a potential laboratory or matrix problem. In addition, J flags indicate the results are below the contract required detection limit (CRDL), but above the instrument detection limit or method detection limit. For inorganic data, a B flag on the laboratory report in Appendix E indicates these results. The J flag also may indicate potential interference. For inorganic data, an E flag on the laboratory report in Appendix E indicates these results.

R - The data are rejected. The spike recoveries are low, indicating a matrix effect. This qualifier was applied only to surface soil selenium data.

U - The result is considered non-detect at the CRDL. The result also may be flagged "U" due to blank contamination. If the result is above the CRDL, the CRDL is considered elevated due to blank contamination.

Table 3-1
Summary of Positive Analytical Results for Surface Soil Samples
Abandoned Chemical Sales Facility Site

Analyte	NYSDEC TAGM 4046 Soil Cleanup Objectives[1]	Sample ID: / Date:	SS01 11/14/01	SS02 11/14/01	SS02-D 11/14/01	SS03 11/14/01	SS04 11/14/01	SS05 11/14/01
VOCs by Method OLM04.2 (µg/Kg)								
Methylene chloride	100		11 U	13 U	12 U	13 U	**1 J**	13 U
Tetrachloroethene	1400		11 U	13 U	12 U	**5 J**	**7 J**	13 U
Semivolatile Organics by Method OLM04.2 (µg/Kg)								
1,1´-Biphenyl	NA		730 U	420 U	2400 U	**110 J**	420 U	440 U
2-Methylnaphthalene	36400		730 U	**70 J**	2400 U	**550**	420 U	440 U
4-Methylphenol	0.9		730 U	**76 J**	2400 U	**47 J**	420 U	440 U
Acenaphthene	50000		730 U	**64 J**	2400 U	**1600**	420 U	440 U
Acenaphthylene	41000		**150 J**	**2200**	**1500 J**	**710**	**900**	**300 J**
Acetophenone	NA		730 U	**93 J**	2400 U	**64 J**	**45 J**	**45 J**
Anthracene	50000		**79 J**	**630**	**710 J**	**3600 J**	**380 J**	**150 J**
Benz(a)anthracene	224		**260 J**	**1200**	**1300 J**	**4500 J**	**510**	**840**
Benzaldehyde	NA		730 U	420 U	2400 U	400 U	420 U	**48 J**
Benzo(a)pyrene	61		**370 J**	**2000**	**1700 J**	**4300 J**	**830**	**1100**
Benzo(b)fluoranthene	1100		**460 J**	**960 J**	**1300 J**	**8200 J**	**1000**	**320 J**
Benzo(g,h,i)perylene	50000		**120 J**	**350 J**	**2200 J**	**380 J**	**200 J**	**310 J**
Benzo(k)fluoranthene	1100		**450 J**	**2300**	**1300 J**	**3900 J**	**790**	**970**
Bis(2-ethylhexyl)phthalate	50000		**190 J**	420 U	2400 U	400 U	420 U	440 U
Butyl benzyl phthalate	50000		730 U	420 U	2400 U	400 U	420 U	440 U
Carbazole	NA		730 U	**150 J**	2400 U	**3900 J**	**87 J**	**68 J**
Chrysene	400		**400 J**	**1600**	**1400 J**	**4000 J**	**650**	**1200**
Dibenz(a,h)anthracene	14		730 U	**210 J**	**880 J**	**330 J**	**110 J**	**210 J**
Dibenzofuran	6200		730 U	**55 J**	2400 U	**1600**	420 U	440 U
Di-n-butyl phthalate	8100		730 U	420 U	2400 U	400 U	420 U	440 U
Di-n-octyl phthalate	50000		730 U	420 U	2400 U	400 U	420 U	440 U
Fluoranthene	50000		**610 J**	**3300**	**1700 J**	**14000 J**	**1100**	**1100**
Fluorene	50000		730 U	420 U	2400 U	**2800**	420 U	440 U
Indeno(1,2,3-cd)pyrene	3200		**130 J**	**510**	**2300 J**	**680**	**280 J**	**450**

Source: Ecology and Environment, Inc., 2000

Table 3-1
Summary of Positive Analytical Results for Surface Soil Samples
Abandoned Chemical Sales Facility Site

Analyte	NYSDEC TAGM 4046 Soil Cleanup Objectives[1]	Sample ID: / Date:	SS01 11/14/01	SS02 11/14/01	SS02-D 11/14/01	SS03 11/14/01	SS04 11/14/01	SS05 11/14/01
Naphthalene	13000		730 U	**98 J**	2400 U	**490**	420 U	440 U
Phenanthrene	50000		**240 J**	**680**	**590 J**	**13000 J**	**310 J**	**310 J**
Pyrene	50000		**680 J**	**1900**	**1600 J**	**5600 J**	**430**	**390 J**
Glycols by Method NYSDEC ASP 89-9 (µg/Kg)								
Glycols were not detected in surface soil samples.								
Pesticide/PCB by Method OLM04.2 (µg/Kg)								
4,4´-DDD	2900		**1.6 J**	**2.7 J**	**2.4 J**	3.7 U	1.9 U	**1.2 J**
4,4´-DDE	2100		3.5 U	4.1 U	4.0 U	**3.9 J**	4.2 U	4.1 U
4,4´-DDT	2100		**4.5**	**8.6 J**	**9.3 J**	**8.0**	**2.3 J**	**3.1 J**
Aldrin	41		**0.44 J**	2.1 U	**1.4 J**	**1.5 J**	**0.52 J**	**0.51 J**
alpha-Chlordane	540		**8.6 J**	**1.6 J**	**2.4 J**	**100 J**	**1.2 J**	**1.5 J**
Aroclor 1254	1000		35 U	41 U	40 U	37 U	42 U	41 U
delta-BHC	300		**0.37 J**	0.54 U	0.83 U	1.9 U	2.1 U	2.1 U
Dieldrin	44		**3.5 J**	1.7 U	2.1 U	**140 J**	0.79 U	**0.65 J**
Endosulfan I	900		1.8 U	**0.99 J**	**1.7 J**	1.9 U	**0.44 J**	**0.64 J**
Endosulfan II	900		2.7 U	4.1 U	4.0 U	3.7 U	4.2 U	1.8 U
Endosulfan sulfate	1000		3.5 U	**7.9**	**8.5 J**	3.7 U	**2.1 J**	**0.86 J**
Endrin	100		0.89 U	4.1 U	4.0 U	**0.81 J**	**1.4 J**	0.77 U
Endrin aldehyde	NA		**0.47 J**	**5.0 J**	**6.2 J**	3.7 U	**0.87 J**	**0.91 J**
Endrin ketone	NA		**5.1 J**	**6.5 J**	**15 J**	**3.9 J**	**4.4 J**	**1.3 J**
gamma-Chlordane	540		**5.1**	**1.0 J**	**0.94 J**	**47 J**	**0.20 J**	2.1 U
Heptachlor	100		0.54 U	0.41 U	0.44 U	**0.96 J**	0.21 U	0.22 U
Heptachlor epoxide	20		**11**	**18 J**	**28 J**	**22 J**	**10 J**	**6.5**
Methoxychlor	NA		**18 J**	**43**	**62 J**	**15 J**	**24**	**14 J**
TAL Metals by Method ILM04.0 (mg/Kg)								
Aluminum	NA		**3950**	**3520**	**5040**	**5210**	**4520**	**4320**
Antimony	NA		**2.3 J**	**2.2 J**	**2.6 J**	**3.9 J**	**2.5 J**	**3.3 J**
Arsenic	7.5		**5.8**	**5.0**	**4.6**	**5.4**	**3.0**	**5.1**

Table 3-1
Summary of Positive Analytical Results for Surface Soil Samples

Abandoned Chemical Sales Facility Site

Analyte	NYSDEC TAGM 4046 Soil Cleanup Objectives[1]	Sample ID: / Date:	SS01 11/14/01	SS02 11/14/01	SS02-D 11/14/01	SS03 11/14/01	SS04 11/14/01	SS05 11/14/01
Barium	300		**33.1 J**	**32.5 J**	**40.9 J**	**40.0 J**	**38.4 J**	**36.5 J**
Beryllium	NA		0.23 U	0.27 U	0.34 U	**0.35 J**	0.26 U	0.28 U
Cadmium	1		**0.37 J**	**0.35 J**	**0.50 J**	**0.45 J**	**0.38 J**	**0.40 J**
Calcium	NA		**95100**	**19400**	**23300**	**20700**	**25900**	**25200**
Chromium	10		**7.3**	**6.4**	**8.8**	**9.0**	**7.7**	**7.1**
Cobalt	30		**3.0 J**	**3.6 J**	**4.6 J**	**4.9 J**	**4.3 J**	**3.7 J**
Copper	25		**10.5**	**16.7**	**22.6**	**22.3**	**18.6**	**17.9**
Iron	2000		**6170**	**7270**	**10000**	**10800**	**9700**	**8470**
Lead	NA		**71.5**	**42.9**	**49.4**	**44.7**	**38.3**	**43.8**
Magnesium	NA		**12900**	**8870**	**9390**	**8910**	**11000**	**10500**
Manganese	NA		**232 J**	**308 J**	**402 J**	**435 J**	**289 J**	**276 J**
Nickel	13		**5.0 J**	**6.5 J**	**9.0 J**	**9.0 J**	**8.5**	**6.8 J**
Potassium	NA		**348 J**	**415 J**	**757 J**	**830 J**	**648 J**	**597 J**
Selenium	2		**3.7 R**	**3.6 R**	1.1 UR	**1.3 R**	**3.2 R**	**1.1 R**
Silver	NA		**1.1 J**	**0.67 J**	**0.68 J**	**0.84 J**	**0.68 J**	**0.58 J**
Sodium	NA		**187 J**	**187 J**	**262 J**	**96.8 J**	**108 J**	**84.1 J**
Vanadium	150		**6.9 J**	**7.8 J**	**11.3 J**	**11.4 J**	**9.1 J**	**8.5 J**
Zinc	20		**37.6 J**	**62.5 J**	**76.3 J**	**68.9 J**	**57.1 J**	**56.5 J**
Mercury	0.1		**0.096 J**	**0.075 J**	**0.093 J**	**0.30 J**	**0.27 J**	**0.40 J**
Total Cyanide by ILM04.0 (mg/Kg)								
Cyanide	NA		**0.087 J**	**0.16 J**	**0.15 J**	**0.14 J**	**0.17 J**	**0.17 J**

Table 3-1
Summary of Positive Analytical Results for Surface Soil Samples
Abandoned Chemical Sales Facility Site

Analyte	NYSDEC TAGM 4046 Soil Cleanup Objectives[1]	Sample ID: / Date:	SS06 11/14/01	SS07 11/14/01	SS08 11/14/01	SS09 11/14/01	SS10 11/14/01	SS11 11/14/01
VOCs by Method OLM04.2 (µg/Kg)								
Methylene chloride	100		13 U	**3 J**	13 U	12 U	11 U	12 U
Tetrachloroethene	1400		13 U	12 U	13 U	12 U	11 U	12 U
Semivolatile Organics by Method OLM04.2 (µg/Kg)								
1,1´-Biphenyl	NA		440 U	410 U	440 U	400 U	380 U	390 U
2-Methylnaphthalene	36400		440 U	410 U	440 U	400 U	380 U	**63 J**
4-Methylphenol	0.9		440 U	410 U	440 U	400 U	380 U	390 U
Acenaphthene	50000		440 U	410 U	440 U	**260 J**	380 U	**110 J**
Acenaphthylene	41000		**67 J**	**420**	**410 J**	**180 J**	**81 J**	**350 J**
Acetophenone	NA		440 U	**44 J**	**48 J**	**51 J**	380 U	390 U
Anthracene	50000		**55 J**	**250 J**	**210 J**	**990**	**140 J**	**420**
Benz(a)anthracene	224		**630**	**590**	**550**	**4500 J**	**820**	**1900**
Benzaldehyde	NA		440 U	410 U	440 U	400 U	380 U	**43 J**
Benzo(a)pyrene	61		**860**	**700**	**770**	**5800 J**	**1100**	**2600**
Benzo(b)fluoranthene	1100		**1400**	**880**	**1200**	**13000 J**	**1700**	**4900 J**
Benzo(g,h,i)perylene	50000		**240 J**	**130 J**	**140 J**	**1000**	**240 J**	**890**
Benzo(k)fluoranthene	1100		**890**	**860**	**970**	**4900 J**	**1300**	**2800**
Bis(2-ethylhexyl)phthalate	50000		440 U	**55 J**	**150 J**	**520**	**110 J**	**210 J**
Butyl benzyl phthalate	50000		440 U	410 U	440 U	**870**	**44 J**	**130 J**
Carbazole	NA		**45 J**	**99 J**	**81 J**	**1000**	**160 J**	**440**
Chrysene	400		**930**	**720**	**750**	**4200 J**	**1200**	**3100**
Dibenz(a,h)anthracene	14		**150 J**	**88 J**	**81 J**	**540**	**140 J**	**410**
Dibenzofuran	6200		440 U	410 U	440 U	**150 J**	380 U	**78 J**
Di-n-butyl phthalate	8100		440 U	410 U	440 U	**64 J**	380 U	390 U
Di-n-octyl phthalate	50000		440 U	410 U	440 U	**140 J**	380 U	390 U
Fluoranthene	50000		**810**	**1600**	**1600**	**9300 J**	**2900**	**7200 J**
Fluorene	50000		440 U	**46 J**	440 U	**370 J**	**39 J**	**130 J**
Indeno(1,2,3-cd)pyrene	3200		**320 J**	**210 J**	**200 J**	**1500**	**360 J**	**1200**

Table 3-1
Summary of Positive Analytical Results for Surface Soil Samples
Abandoned Chemical Sales Facility Site

Analyte	NYSDEC TAGM 4046 Soil Cleanup Objectives[1]	Sample ID: / Date:	SS06 11/14/01	SS07 11/14/01	SS08 11/14/01	SS09 11/14/01	SS10 11/14/01	SS11 11/14/01
Naphthalene	13000		440 U	410 U	440 U	400 U	380 U	**55 J**
Phenanthrene	50000		**200 J**	**500**	**320 J**	**5200 J**	**740**	**2200**
Pyrene	50000		**280 J**	**490**	**610**	**6700 J**	**790**	**4300 J**
Glycols by Method NYSDEC ASP 89-9 (µg/Kg)								
Glycols were not detected in surface soil samples.								
Pesticide/PCB by Method OLM04.2 (µg/Kg)								
4,4´-DDD	2900		1.4 U	**1.8 J**	**2.8 J**	**2.7 J**	0.93 U	**1.3 J**
4,4´-DDE	2100		1.8 U	**4.0 J**	**8.7 J**	**4.5 J**	3.5 U	**3.6 J**
4,4´-DDT	2100		2.4 U	**5.8 J**	**5.1 J**	**9.0 J**	**2.5 J**	**4.1 J**
Aldrin	41		**0.51 J**	**0.49 J**	**2.4 J**	**1.7 J**	**1.9 J**	**0.93 J**
alpha-Chlordane	540		2.3 U	**2.8 J**	**4.4 J**	**1.6 J**	**0.96 J**	**1.4 J**
Aroclor 1254	1000		44 U	35 U	43 U	38 U	**140**	34 U
delta-BHC	300		2.3 U	**2.2 J**	2.2 U	0.61 U	1.8 U	0.64 U
Dieldrin	44		4.4 U	**3.1 J**	**21**	1.8 U	**1.6 J**	**1.5 J**
Endosulfan I	900		0.72 U	**1.7 J**	**1.3 J**	**1.4 J**	**2.2**	**0.42 J**
Endosulfan II	900		**0.71 J**	3.2 U	1.9 U	3.8 U	2.8 U	3.4 U
Endosulfan sulfate	1000		1.9 U	**1.1 J**	4.3 U	8.0	**2.3 J**	**3.8 J**
Endrin	100		**0.69 J**	3.3 U	2.9 U	3.8 U	3.5 U	2.9 U
Endrin aldehyde	NA		**0.63 J**	**1.5 J**	**1.1 J**	**3.1 J**	**1.2 J**	**1.1 J**
Endrin ketone	NA		**3.6 J**	**2.2 J**	**3.2 J**	**15**	**2.6 J**	**9.1 J**
gamma-Chlordane	540		2.3 U	**0.99 J**	**3.2 J**	**1.8 J**	**1.6 J**	**0.49 J**
Heptachlor	100		0.20 U	1.8 U	**1.6 J**	0.30 U	0.22 U	0.30 U
Heptachlor epoxide	20		**6.2 J**	**9.5**	**14 J**	**37 J**	**14 J**	**26 J**
Methoxychlor	NA		**13 J**	**14 J**	**9.2 J**	**35 J**	**14 J**	**26 J**
TAL Metals by Method ILM04.0 (mg/Kg)								
Aluminum	NA		**5810**	**4320**	**5050**	**4950**	**5390**	**5860**
Antimony	NA		**2.8 J**	**2.4 J**	**3.3 J**	**4.2 J**	**2.4 J**	**4.3 J**
Arsenic	7.5		**5.1**	**4.9**	**5.9**	**1.6 J**	**2.9**	**5.0**

Source: Ecology and Environment, Inc., 2000

Table 3-1
Summary of Positive Analytical Results for Surface Soil Samples

Abandoned Chemical Sales Facility Site

Analyte	NYSDEC TAGM 4046 Soil Cleanup Objectives[1]	Sample ID: Date:	SS06 11/14/01	SS07 11/14/01	SS08 11/14/01	SS09 11/14/01	SS10 11/14/01	SS11 11/14/01
Barium	300		**48.5**	**43.3**	**41.5 J**	**42.2 J**	**38.6**	**44.8**
Beryllium	NA		0.33 U	0.28 U	0.34 U	0.27 U	0.29 U	**0.37 J**
Cadmium	1		**0.43 J**	**0.50 J**	**0.69 J**	**0.92 J**	**0.58 J**	**0.80 J**
Calcium	NA		**58000**	**22200**	**32900**	**34600**	**12700**	**21900**
Chromium	10		**9.3**	**7.6**	**10.1**	**19.0**	**9.7**	**15.1**
Cobalt	30		**4.1 J**	**3.8 J**	**3.4 J**	**4.2 J**	**3.8 J**	**4.3 J**
Copper	25		**16.3**	**20.8**	**32.5**	**54.8**	**40.8**	**165**
Iron	2000		**10100**	**8190**	**9260**	**14500**	**8880**	**13300**
Lead	NA		**42.8**	**67.1**	**92.5**	**111**	**73.5**	**120**
Magnesium	NA		**13700**	**8690**	**16800**	**11900**	**5680**	**9850**
Manganese	NA		**300 J**	**301 J**	**249 J**	**332 J**	**251 J**	**317 J**
Nickel	13		**7.8 J**	**7.0 J**	**6.2 J**	**10.4**	**7.3**	**9.5**
Potassium	NA		**723 J**	**672 J**	**750 J**	**343 J**	**302 J**	**498 J**
Selenium	2		**1.7 R**	**2.0 R**	1.0 UR	**1.4 R**	**1.6 R**	**3.0 R**
Silver	NA		**1.0 J**	**0.60 J**	**1.2 J**	**0.98 J**	**0.48 J**	**0.70 J**
Sodium	NA		**111 J**	**71.7 J**	**74.8 J**	**123 J**	**104 J**	**164 J**
Vanadium	150		**10.6 J**	**8.4 J**	**10.2 J**	**9.3 J**	**10**	**13.0**
Zinc	20		**49.8 J**	**65.1 J**	**108 J**	**149 J**	**106 J**	**136 J**
Mercury	0.1		**0.13 J**	**0.21 J**	**0.88 J**	**0.45 J**	**0.37 J**	**0.15 J**
Total Cyanide by ILM04.0 (mg/Kg)								
Cyanide	NA		0.066 U	**0.21 J**	**0.25 J**	**0.29 J**	**0.21 J**	**0.76**

Table 3-1 Summary of Positive Analytical Results for Surface Soil Samples (cont.)

Key:

D = Duplicate sample.

ft = Feet.

J = Estimated value.

U = Non detected.

R = The data are rejected.

mg/L = Milligrams per liter.

µg/L = Micrograms per liter.

Notes: Shaded cells exceed the screening value.

Bolded values represent positive detections.

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

Table 3-2 Summary of Positive Analytical Results for Surface Water Samples

Abandoned Chemical Sales Facility Site

Analyte	NYSDEC Class D Surface Water Criteria [1]	Sample ID: Date:	SW01 11/30/01	SW01-D 11/30/01
VOCs by Method OLM04.2 (µg/L)				
No VOCs were detected in surface water samples.				
Semivolatile Organics by Method OLM04.2 (µg/L)				
No SVOCs were detected in surface water samples.				
Glycols by Method NYSDEC ASP 89-9 (µg/L)				
Glycol	1,000,000 [2,3]		310	250
Pesticide/PCB by Method OLM04.2 (µg/L)				
Aldrin	0.001 sum of dieldrin and aldrin		**0.022 J**	0.050 U
Aroclor 1254	0.000001(sum of PCBs)		**1.3**	1.0 U
Dieldrin	0.0000006		**0.015 J**	0.0060 U
gamma-Chlordane	0.00002 (standard for chlordane)		**0.0090 J**	0.0055 U
Heptachlor epoxide	0.0003		**0.017 J**	0.050 U
TAL Metals by Method ILM04.0 (µg/L)				
Aluminum	NA		**1590**	**2010**
Arsenic	340		**2.5 J**	**2.5 J**
Barium	NA		**17.6 J**	**21.6 J**
Beryllium	NA		**0.78 J**	5 U
Calcium	NA		**11500**	**12300**
Chromium	362		**3.3 J**	**3.8 J**
Cobalt	1102		**1.9 J**	**2.1 J**
Copper	8		**7.6 J**	**10.4 J**
Iron	300		**2450 J**	**3260 J**
Lead	53		**6.6**	**9.1**
Magnesium	NA		**3740 J**	**4060 J**
Manganese	NA		**54.1**	**68.7**
Mercury	0.0007		0.10 U	**0.12 J**
Nickel	293		**3.1 J**	**4.4 J**
Potassium	NA		**3650 J**	**3830 J**
Silver	2		10 U	0.39 J
Sodium	NA		**2630 J**	**2680 J**
Thallium	20		**3.1 J**	10 U
Vanadium	190		**3.9 J**	**4.7 J**
Zinc	73		**54.2**	**69.2**
Total Cyanide by ILM04.0 (µg/L)				
Cyanide	22		**1.0 J**	**1.5 J**
Total Hardness by Method EPA 130.2 (mg/L)				
Hardness (As CaCO3)	NA		**75.2**	**57.4**

Key:

D = Duplicate sample.

J = Estimated value.

NA = Standard not available.

U = Non detected.

mg/L = Milligrams per liter.

µg/L = Micrograms per liter.

Notes: Shaded cells exceed the screening value.

Bolded values represent positive detections.

(1) New York State Department of Environmental Conservation, Technical and Operational Guidance #1.1.1: Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, 1998.

(2) Guidance Value.

(3) The listed glycol standard is a guidance value for ethylene glycol. The reported glycol result has been quantitated as ethylene glycol but other related glycol compounds also may be presented.

Table 3-3
Summary of Positive Analytical Results for Sediment Samples
Abandoned Chemical Sales Facility Site

Analyte	NYSDEC Sediment Screening Criteria [1]	Sample ID: / Date:	SD01 / 11/14/01	SD01-D / 11/14/01
Semivolatile Organics by Method OLM04.2 (µg/Kg)				
Acenaphthylene	NA		**83 J**	**84 J**
Acetophenone	NA		**53 J**	490 U
Anthracene	5232		**100 J**	**96 J**
Benz(a)anthracene	587		**600**	**570**
Benzo(a)pyrene	64		**730**	**710**
Benzo(b)fluoranthene	NA		**850**	**830**
Benzo(g,h,i)perylene	NA		**490**	**530**
Benzo(k)fluoranthene	NA		**610**	**540**
Bis(2-ethylhexyl)phthalate	9756		470 U	**56 J**
Carbazole	NA		**91 J**	**85 J**
Chrysene	NA		**920**	**860**
Dibenz(a,h)anthracene	NA		**270 J**	**290 J**
Fluoranthene	49878		**940**	**890**
Indeno(1,2,3-cd)pyrene	NA		**620**	**650**
Pentachlorophenol	5868		1200 U	**200 J**
Phenanthrene	5868		**330 J**	**320 J**
Pyrene	46993		**630**	**630**
Glycols by Method NYSDEC ASP 89-9 (µg/Kg)				
Glycol	NA		370 U	340 U
Pesticide/PCB by Method OLM04.2 (µg/Kg)				
4,4´-DDD	0.489		**0.59 J**	**0.83 J**
4,4´-DDE	0.489		**1.7 J**	4.2 U
4,4´-DDT	0.489		**1.4 J**	1.4 U
Aldrin	4.89		**0.45 J**	**0.51 J**
alpha-Chlordane	NA		**1.2 J**	**1.3 J**
Dieldrin	4.89		**0.24 J**	0.88 U
Endosulfan I	1.5		**0.38 J**	0.89 U
Endrin	39		**0.44 J**	**1.1 J**
Endrin aldehyde	NA		**0.74 J**	1.0 U
Endrin ketone	NA		**4.1 J**	**4.9 J**
gamma-Chlordane	NA		**0.53 J**	0.68 U
Heptachlor epoxide	0.039		**1.6 J**	**3.1 J**
Methoxychlor	29		**13 J**	**15 J**
TAL Metals by Method ILM04.0 (mg/Kg)				
Aluminum	NA		**6750**	**6470**
Antimony	2		**3.6 J**	**3.3 J**
Arsenic	6		**6.7**	**4.0**
Barium	NA		**50.7 J**	**47.3 J**
Beryllium	NA		**0.44 J**	**0.39 J**
Cadmium	0.6		**0.68 J**	**0.66 J**
Calcium	NA		**10600**	**8640**
Chromium	26		**11.0**	**10.8**

Source: Ecology and Environment, Inc., 2000

Table 3-3
Summary of Positive Analytical Results for Sediment Samples
Abandoned Chemical Sales Facility Site

Analyte	NYSDEC Sediment Screening Criteria [1]	Sample ID: / Date:	SD01 11/14/01	SD01-D 11/14/01
Cobalt	NA		**4.1 J**	**3.8 J**
Copper	16		**22.6**	**20.3**
Iron	20000		**10800**	**11100**
Lead	31		**43.8**	**40.8**
Magnesium	NA		**4890**	**3660**
Manganese	460		**212 J**	**182 J**
Nickel	16		**7.6 J**	**7.3 J**
Potassium	NA		**344 J**	**350 J**
Silver	1		**0.25 J**	0.20 U
Sodium	NA		**103 J**	**74.5 J**
Vanadium	NA		**12.8 J**	**12.8 J**
Zinc	120		**111 J**	**119 J**
Mercury	0.15		**0.18 J**	**0.12 J**
Total Cyanide by ILM04.0 (mg/Kg)				
Cyanide	NA		**0.17 J**	**0.22 J**
Total Organic Carbon by Method Lloyd Kahn (mg/Kg)				
Total Organic Carbon	NA		**48900**	**70600**

Key:

D = Duplicate sample.

J = Estimated value.

NA = Standard not available.

U = Non detected.

mg/Kg = Milligrams per kilogram.

µg/kg = Micrograms per kilogram.

Notes: Shaded cells exceed the screening value.

Bolded values represent positive detections.

[1] New York State Department of Environmental Conservation, Guidance for Screening Contaminated Sediments, 1999. The criteria for organic compounds are calculated based on the average TOC of 48900 mg/kg. The lowest value from the available criteria was used (lowest effect level for the metals, and the lowest of human health bioaccumulation, wildlife bioaccumulation, benthic life chronic and acute toxicity).

Table 3-4A
Summary of Positive Volatile Analytical Results for Subsurface Soil Samples

Abandoned Chemical Sales Facility Site

Analyte	NYSDEC TAGM 4046 Soil Cleanup Objectives[1]	Sample ID: / Depth (ft): / Date:	GP01 / 3 - 5 / 11/12/01	GP01-D / 3 - 5 / 11/12/01	GP02 / 4 - 5 / 11/12/01	GP03 / 2.3 - 3.3 / 11/12/01	GP04 / 5 - 5.5 / 11/12/01	GP05 / 5 - 5.5 / 11/12/01
VOCs by Method OLM04.2 (µg/Kg)								
1,1,1-Trichloroethane	800		**15**	**24**	**4 J**	12 U	65 U	12 U
1,1-Dichloroethane	200		11 U	11 U	**8 J**	12 U	65 U	**59**
2-Butanone	300		11 U	11 U	11 U	12 U	65 U	12 U
Acetone	200		11 U	11 U	11 U	12 U	65 U	**19**
Chloroethane	1900		11 U	11 U	11 U	12 U	65 U	**5 J**
cis-1,2-Dichloroethene	NA		11 U	**2 J**	**13**	12 U	65 U	12 U
Cyclohexane	NA		11 U	11 U	11 U	12 U	**50 J**	12 U
Ethylbenzene	5500		11 U	11 U	11 U	12 U	**120**	**1 J**
Isopropylbenzene	NA		11 U	11 U	11 U	12 U	**5100 J**	**1 J**
Methylcyclohexane	NA		11 U	11 U	11 U	12 U	**530**	12 U
Tetrachloroethene	1400		**2 J**	**3 J**	**6 J**	12 U	**7 J**	12 U
Toluene	1500		11 U	11 U	**1 J**	12 U	**20 J**	**4 J**
Trichloroethene	700		**14**	**34**	**9 J**	12 U	65 U	12 U
Vinyl chloride	200		11 U	11 U	11 U	12 U	65 U	**8 J**
Xylenes, Total	1200		11 U	11 U	11 U	12 U	**330**	12 U

Key:

D = Duplicate sample.

ft = Feet.

J = Estimated value.

U = Non detected.

mg/L = Milligrams per liter.

µg/L = Micrograms per liter.

Notes: Shaded cells exceed the screening value.

Bolded values represent positive detections.

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

Table 3-4A
Summary of Positive Volatile Analytical Results for Subsurface Soil Samples
Abandoned Chemical Sales Facility Site

Analyte	NYSDEC TAGM 4046 Soil Cleanup Objectives[1]	Sample ID: / Depth (ft): / Date:	GP06 / 4.4 - 5 / 11/12/01	GP07 / 4 - 4.7 / 11/12/01	GP08 / 4 - 4.9 / 11/12/01	GP09 / 3 - 3.4 / 11/13/01	GP10 / 2.6 - 2.9 / 11/13/01
VOCs by Method OLM04.2 (µg/Kg)							
1,1,1-Trichloroethane	800		11 U	11 U	13 U	11 U	13 U
1,1-Dichloroethane	200		11 U	11 U	13 U	11 U	13 U
2-Butanone	300		11 U	11 U	13 U	11 U	**19**
Acetone	200		11 U	11 U	13 U	**25**	**67**
Chloroethane	1900		11 U	11 U	13 U	11 U	13 U
cis-1,2-Dichloroethene	NA		**2 J**	11 U	13 U	11 U	13 U
Cyclohexane	NA		11 U	11 U	13 U	11 U	13 U
Ethylbenzene	5500		11 U	11 U	13 U	11 U	13 U
Isopropylbenzene	NA		11 U	11 U	13 U	11 U	13 U
Methylcyclohexane	NA		11 U	11 U	13 U	11 U	13 U
Tetrachloroethene	1400		11 U	11 U	**24**	11 U	13 U
Toluene	1500		11 U	11 U	**1 J**	11 U	13 U
Trichloroethene	700		**200**	11 U	13 U	11 U	13 U
Vinyl chloride	200		11 U	11 U	13 U	11 U	13 U
Xylenes, Total	1200		11 U	11 U	13 U	11 U	13 U

Key:

D = Duplicate sample.

ft = Feet.

J = Estimated value.

U = Non detected.

mg/L = Milligrams per liter.

µg/L = Micrograms per liter.

Notes: Shaded cells exceed the screening value.

Bolded values represent positive detections.

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

Table 3-4A
Summary of Positive Volatile Analytical Results for Subsurface Soil Samples

Abandoned Chemical Sales Facility Site

Analyte	NYSDEC TAGM 4046 Soil Cleanup Objectives[1]	Sample ID:	GP11	GP12	GP13	GP14	GP15	GP15-D
		Depth (ft):	1.3 - 1.7	2.3 - 2.9	1.5 - 2.0	4 - 6.8	5.3 - 6.2	5.3 - 6.2
		Date:	11/13/01	11/13/01	11/13/01	11/13/01	11/13/01	11/13/01
VOCs by Method OLM04.2 (µg/Kg)								
1,1,1-Trichloroethane	800		11 U	10 U	11 U	12 U	15 U	13 U
1,1-Dichloroethane	200		11 U	10 U	11 U	12 U	15 U	13 U
2-Butanone	300		11 U	10 U	11 U	12 U	15 U	13 U
Acetone	200		11 U	10 U	11 U	12 U	15 U	13 U
Chloroethane	1900		11 U	10 U	11 U	12 U	15 U	13 U
cis-1,2-Dichloroethene	NA		11 U	10 U	11 U	12 U	15 U	13 U
Cyclohexane	NA		11 U	10 U	11 U	12 U	15 U	13 U
Ethylbenzene	5500		11 U	10 U	11 U	12 U	15 U	13 U
Isopropylbenzene	NA		11 U	10 U	11 U	12 U	15 U	13 U
Methylcyclohexane	NA		11 U	10 U	11 U	12 U	15 U	13 U
Tetrachloroethene	1400		11 U	10 U	**190**	**17**	15 U	13 U
Toluene	1500		11 U	10 U	11 U	12 U	15 U	13 U
Trichloroethene	700		11 U	10 U	**14**	**2 J**	15 U	13 U
Vinyl chloride	200		11 U	10 U	11 U	12 U	15 U	13 U
Xylenes, Total	1200		11 U	10 U	11 U	12 U	15 U	13 U

Key:

D = Duplicate sample.

ft = Feet.

J = Estimated value.

U = Non detected.

mg/L = Milligrams per liter.

µg/L = Micrograms per liter.

Notes: Shaded cells exceed the screening value.

Bolded values represent positive detections.

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

Table 3-4A
Summary of Positive Volatile Analytical Results for Subsurface Soil Samples

Abandoned Chemical Sales Facility Site

Analyte	NYSDEC TAGM 4046 Soil Cleanup Objectives[1]	Sample ID: / Depth (ft): / Date:	GP16 / 6.1 - 7.1 / 11/13/01	GP17 / 4.0 - 5.8 / 11/13/01	GP18 / 4 - 4.6 / 11/13/01	GP19 / 4 - 4.5 / 11/13/01	GP20 / 3.5 - 4.1 / 11/13/01
VOCs by Method OLM04.2 (μg/Kg)							
1,1,1-Trichloroethane	800		11 U	11 U	11 U	11 U	11 U
1,1-Dichloroethane	200		11 U	11 U	11 U	11 U	11 U
2-Butanone	300		11 U	11 U	11 U	11 U	11 U
Acetone	200		**21**	11 U	11 U	11 U	11 U
Chloroethane	1900		11 U	11 U	11 U	11 U	11 U
cis-1,2-Dichloroethene	NA		11 U	11 U	11 U	11 U	11 U
Cyclohexane	NA		11 U	11 U	11 U	11 U	11 U
Ethylbenzene	5500		11 U	11 U	11 U	11 U	11 U
Isopropylbenzene	NA		11 U	11 U	11 U	11 U	11 U
Methylcyclohexane	NA		11 U	11 U	11 U	11 U	11 U
Tetrachloroethene	1400		11 U	**5 J**	**5 J**	11 U	11 U
Toluene	1500		11 U	11 U	11 U	11 U	11 U
Trichloroethene	700		11 U	11 U	11 U	11 U	11 U
Vinyl chloride	200		11 U	11 U	11 U	11 U	11 U
Xylenes, Total	1200		11 U	11 U	11 U	11 U	11 U

Key:

D = Duplicate sample.

ft = Feet.

J = Estimated value.

U = Non detected.

mg/L = Milligrams per liter.

μg/L = Micrograms per liter.

Notes: Shaded cells exceed the screening value.

Bolded values represent positive detections.

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

Table 3-4A

Summary of Positive Volatile Analytical Results for Subsurface Soil Samples

Abandoned Chemical Sales Facility Site

Analyte	NYSDEC TAGM 4046 Soil Cleanup Objectives[1]	Sample ID:	GP21	GP22	GP23	GP24	GP25
		Depth (ft):	2.8 - 3.5	2.2 - 4.5	4 - 4.7	4.9 - 5.4	2 - 3.3
		Date:	11/13/01	11/14/01	11/14/01	11/14/01	11/14/01
VOCs by Method OLM04.2 (µg/Kg)							
1,1,1-Trichloroethane	800		12 U	11 U	12 U	11 U	11 U
1,1-Dichloroethane	200		12 U	11 U	12 U	11 U	11 U
2-Butanone	300		12 U	**23**	12 U	11 U	11 U
Acetone	200		**75**	**79**	12 U	11 U	11 U
Chloroethane	1900		12 U	11 U	12 U	11 U	11 U
cis-1,2-Dichloroethene	NA		12 U	11 U	12 U	11 U	11 U
Cyclohexane	NA		12 U	11 U	12 U	11 U	11 U
Ethylbenzene	5500		12 U	11 U	12 U	11 U	11 U
Isopropylbenzene	NA		12 U	11 U	12 U	11 U	11 U
Methylcyclohexane	NA		12 U	11 U	12 U	11 U	11 U
Tetrachloroethene	1400		12 U	11 U	12 U	11 U	**2 J**
Toluene	1500		12 U	11 U	12 U	11 U	11 U
Trichloroethene	700		12 U	11 U	12 U	11 U	11 U
Vinyl chloride	200		12 U	11 U	12 U	11 U	11 U
Xylenes, Total	1200		12 U	11 U	12 U	11 U	11 U

Key:

D = Duplicate sample.

ft = Feet.

J = Estimated value.

U = Non detected.

mg/L = Milligrams per liter.

µg/L = Micrograms per liter.

Notes: Shaded cells exceed the screening value.

Bolded values represent positive detections.

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

Table 3-4B
Summary of Positive Analytical Results for Subsurface Soil Samples

Abandoned Chemical Sales Facility Site

Analyte	NYSDEC TAGM 4046 Soil Cleanup Objectives[1]	Sample ID: / Depth (ft): / Date:	GP01 3 - 5 11/12/01	GP01-D 3 - 5 11/12/01	GP04 5 - 5.5 11/12/01	GP08 4 - 4.9 11/12/01	GP21 2.8 - 3.5 11/12/01	GP22 2.2 - 4.5 11/12/01
Semivolatile Organics by Method OLM04.2 (µg/Kg)								
2-Methylnaphthalene	36400		360 U	**51 J**	420 U	410 U	420 U	380 U
Acenaphthene	50000		**96 J**	**180 J**	420 U	410 U	420 U	380 U
Acenaphthylene	41000		**55 J**	**39 J**	**68 J**	410 U	420 U	380 U
Acetophenone	NA		**47 J**	**40 J**	420 U	410 U	420 U	380 U
Anthracene	50000		**260 J**	**450**	420 U	410 U	420 U	380 U
Benz(a)anthracene	224		**550**	**860**	**75 J**	410 U	420 U	**45 J**
Benzo(a)pyrene	61		**580**	**860**	**66 J**	410 U	420 U	**39 J**
Benzo(b)fluoranthene	1100		**320 J**	**740**	**50 J**	410 U	420 U	**39 J**
Benzo(g,h,i)perylene	50000		**91 J**	**260 J**	**43 J**	410 U	420 U	380 U
Benzo(k)fluoranthene	1100		**570**	**660**	**59 J**	410 U	420 U	380 U
Bis(2-ethylhexyl)phthalate	50000		360 U	**380**	**63 J**	410 U	**230 J**	**46 J**
Carbazole	NA		**76 J**	**140 J**	420 U	410 U	420 U	380 U
Chrysene	400		**530**	**870**	**73 J**	410 U	420 U	**50 J**
Dibenz(a,h)anthracene	14		**51 J**	**140 J**	420 U	410 U	420 U	380 U
Dibenzofuran	6200		**46 J**	**120 J**	420 U	410 U	420 U	380 U
Fluoranthene	50000		**2300**	**2300**	**110 J**	410 U	420 U	**130 J**
Fluorene	50000		**79 J**	**190 J**	420 U	410 U	420 U	380 U
Indeno(1,2,3-cd)pyrene	3200		**140 J**	**350 J**	**46 J**	410 U	420 U	380 U
Naphthalene	13000		360 U	**76 J**	420 U	410 U	420 U	380 U
Phenanthrene	50000		**900**	**1600**	**100 J**	410 U	420 U	**130 J**
Pyrene	50000		**770**	**1000**	**100 J**	410 U	420 U	**93 J**
Pesticide/PCB by Method OLM04.2 (µg/Kg)								
4,4´-DDD	2900		**1.0 J**	1.1 U	0.38 U	0.46 U	0.51 U	**0.32 J**
4,4´-DDT	2100		**2.6 J**	0.82 U	0.46 U	1.1 U	0.58 U	0.57 U
Aldrin	41		**0.52 J**	**0.90 J**	0.12 U	2.0 U	0.19 U	0.60 U
alpha-Chlordane	540		**0.96 J**	**0.64 J**	2.0 U	0.42 U	2.0 U	0.64 U

Table 3-4B
Summary of Positive Analytical Results for Subsurface Soil Samples

Abandoned Chemical Sales Facility Site

Analyte	NYSDEC TAGM 4046 Soil Cleanup Objectives[1]	Sample ID: Depth (ft): Date:	GP01 3 - 5 11/12/01	GP01-D 3 - 5 11/12/01	GP04 5 - 5.5 11/12/01	GP08 4 - 4.9 11/12/01	GP21 2.8 - 3.5 11/12/01	GP22 2.2 - 4.5 11/12/01
Endosulfan I	900		1.8 U	**0.48 J**	2.0 U	0.13 U	2.0 U	1.9 U
Endosulfan II	900		**0.54 J**	3.3 U	0.21 U	0.25 U	3.8 U	3.6 U
Endosulfan sulfate	1000		**0.67 J**	1.8 U	3.9 U	3.8 U	3.8 U	3.6 U
Endrin aldehyde	NA		**0.50 J**	1.7 U	0.22 U	0.23 U	0.26 U	0.22 U
Endrin ketone	NA		**2.4 J**	**7.7**	2.6 U	3.8 U	3.8 U	3.6 U
gamma-Chlordane	540		1.3 U	**0.32 J**	2.0 U	0.37 U	0.23 U	0.12 U
Heptachlor epoxide	20		0.69 U	**0.77 J**	1.3 U	**0.30 J**	**0.27 J**	**0.61 J**
Methoxychlor	NA		**7.4 J**	**17**	1.2 U	20 U	2.4 U	2.8 U
TAL Metals by Method ILM04.0 (mg/Kg)								
Aluminum	NA		**3800**	**2340**	**6090**	**4610**	**2660**	**5680**
Antimony	NA		**0.95 J**	**0.62 J**	15.7 U	**0.70 J**	**0.74 J**	**3.5 J**
Arsenic	7.5		**4.8**	**3.5**	**3.4**	**4.9**	**9.7**	**4.2**
Barium	300		**34.4 J**	**25.3 J**	**60.2**	**55.6**	**44.4 J**	**37.8 J**
Cadmium	1		**0.67 J**	**0.52 J**	**0.54 J**	**0.79 J**	**0.90 J**	**0.31 J**
Calcium	NA		**70800**	**83200**	**9120**	**90000**	**32500**	**40100**
Chromium	10		**8.2**	**6.7**	**13.3**	**11.8**	**11.7**	**7.8**
Cobalt	30		**5.0 J**	**3.9 J**	**4.7 J**	**6.4 J**	**7.0 J**	**4.0 J**
Copper	25		**27.3**	**25.3**	**14.7**	**23.1**	**9.5**	**6.8**
Iron	2000		**12900**	**10300**	**14800**	**17500**	**23400**	**10200**
Lead	NA		**22.3**	**20.4**	**8.1**	**8.7**	**24.5**	**12.4**
Magnesium	NA		**25200 J**	**31900 J**	**3310 J**	**20700 J**	**18400 J**	**16600**
Manganese	NA		**481**	**378**	**149**	**556**	**253**	**319 J**
Nickel	13		**11.8**	**9.4**	**11.3**	**13.5**	**12.8**	**5.8 J**
Potassium	NA		**1300 J**	**961 J**	**349 J**	**1040 J**	**1480 J**	**451 J**
Silver	NA		**0.099 J**	2.3 U	2.6 U	2.5 U	2.6 U	**0.15 J**
Sodium	NA		**299 J**	**381 J**	**86.3 J**	**159 J**	**183 J**	**151 J**
Vanadium	150		**12.9**	**9.0 J**	**25.3**	**19.5**	**16.6**	**11.1 J**
Zinc	20		**62.3**	**48.7**	**31.3**	**43.6**	**36.0**	**30.8 J**
Mercury	0.1		**0.22**	**0.23**	**0.056 J**	**0.087 J**	**0.082 J**	**0.082 J**

Table 3-4B
Summary of Positive Analytical Results for Subsurface Soil Samples

Abandoned Chemical Sales Facility Site

Analyte	NYSDEC TAGM 4046 Soil Cleanup Objectives[1]	Sample ID: Depth (ft): Date:	GP01 3 - 5 11/12/01	GP01-D 3 - 5 11/12/01	GP04 5 - 5.5 11/12/01	GP08 4 - 4.9 11/12/01	GP21 2.8 - 3.5 11/12/01	GP22 2.2 - 4.5 11/12/01
Total Cyanide by ILM04.0 (mg/Kg)								
Cyanide	NA		0.055 U	**0.062 J**	**0.071 J**	0.064 U	0.063 U	**0.058 J**

Key:

D = Duplicate sample.

ft = Feet.

J = Estimated value.

U = Non detected.

mg/L = Milligrams per liter.

µg/L = Micrograms per liter.

Notes: Shaded cells exceed the screening value.

Bolded values represent positive detections.

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

Table 3-4C
Summary of Positive Volatile Analytical Results for Subsurface Soil Samples
Abandoned Chemical Sales Facility Site

Analyte	NYSDEC TAGM 4046 Soil Cleanup Objectives[1]	Sample ID: / Depth (ft): / Date:	GP01 / 3 - 5 / 11/12/01	GP01-D / 3 - 5 / 11/12/01	GP02 / 4 - 5 / 11/12/01	GP05 / 5 - 5.5 / 11/12/01	GP06 / 4.4 - 5 / 11/12/01	GP09 / 3 - 3.4 / 11/13/01
Glycols by Method NYSDEC ASP 89-9 (µg/Kg)								
Glycol	NA		**4700**	290 U	270 U	280 U	320 U	280 U

Key:

D = Duplicate sample.

ft = Feet.

J = Estimated value.

NA = Standard not available.

U = Non detected.

mg/L = Milligrams per liter.

µg/L = Micrograms per liter.

Notes: Shaded cells exceed the screening value.

Bolded values represent positive detections.

(1) New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1994.

Table 3-5
Summary of Positive Analytical Results for Groundwater Samples
Abandoned Chemical Sales Facility Site

Analyte	NYSDEC Class GA Groundwater Criteria [1]	Sample ID: Date:	MW01 11/30/01	MW01-D 11/30/01	MW02 11/30/01	MW03 11/29/01	MW04 11/29/01
VOCs by Method OLM04.2 (µg/L)							
1,1,1-Trichloroethane	5		**720**	**1000 J**	**11**	**1900 J**	10 U
1,1,2-Trichloroethane	1		500 U	**5 J**	10 U	2000 U	10 U
1,1-Dichloroethane	5		**3300**	**2700 J**	**630 J**	**22000**	10 U
1,1-Dichloroethene	5		500 U	**94**	10 U	**290 J**	10 U
1,2-Dichlorobenzene	3		500 U	**3 J**	10 U	2000 U	10 U
1,2-Dichloroethane	0.6		500 U	**8 J**	10 U	2000 U	10 U
2-Butanone	50 g		500 U	**380 J**	**250 J**	2000 U	10 U
4-Methyl-2-pentanone	NA		**100 J**	**120**	**81**	2000 U	10 U
Acetone	50 g		**1100**	**1100 J**	**620 J**	**2600**	10 U
Benzene	1		500 U	**12**	**4 J**	2000 U	10 U
Chloroethane	5		**570**	**720 J**	**100**	2000 U	10 U
Chloroform	7		500 U	**1 J**	10 U	2000 U	10 U
cis-1,2-Dichloroethene	5		**18000**	**7700 J**	**900 J**	**68000 J**	10 U
Cyclohexane	NA		500 U	**10**	**3 J**	2000 U	10 U
Ethylbenzene	5		**360 J**	**420 J**	**250 J**	2000 U	10 U
Isopropylbenzene	NA		500 U	**110**	**35**	2000 U	10 U
Methyl acetate	NA		500 U	**160**	10 U	2000 U	10 U
Methylcyclohexane	NA		500 U	**11**	**3 J**	2000 U	10 U
Methylene chloride	5		500 U	**40**	**2 J**	2000 U	10 U
Tetrachloroethene	5		500 U	**14**	**630 J**	2000 U	10 U
Toluene	5		**7300**	**3000 J**	**750 J**	**11000**	10 U
trans-1,2-Dichloroethene	5		500 U	**42**	**33**	2000 U	10 U
Trichloroethene	5		**370 J**	**460 J**	**210 J**	2000 U	10 U
Vinyl chloride	2		**1900**	**2400 J**	**490 J**	**23000**	10 U
Xylenes, Total	5		**1900**	**1500 J**	**770 J**	**300 J**	10 U
Semivolatile Organics by Method OLM04.2 (µg/L)							
1,1´-Biphenyl	NA		**36**	**34**	**4 J**	10 U	10 U
2,4-Dimethylphenol	1 s		10 U	10 U	10 U	**6 J**	10 U

Table 3-5
Summary of Positive Analytical Results for Groundwater Samples
Abandoned Chemical Sales Facility Site

Analyte	NYSDEC Class GA Groundwater Criteria [1]	Sample ID: / Date:	MW01 11/30/01	MW01-D 11/30/01	MW02 11/30/01	MW03 11/29/01	MW04 11/29/01
2-Methylphenol	1 s		10 U	10 U	10 U	**14**	10 U
4-Methylphenol	1 s		**350 J**	**310 J**	**46**	**100 J**	10 U
Benzaldehyde	NA		10 U	10 U	10 U	**3 J**	10 U
Bis(2-ethylhexyl)phthalate	5		10 U	10 U	10 U	10 U	**7 J**
Naphthalene	10 g		**4 J**	**3 J**	10 U	10 U	10 U
Phenol	1 s		10 U	10 U	10 U	**13**	10 U
Glycols by Method NYSDEC ASP 89-9 (µg/L)							
Glycol	50 [2]		**890**	**980**	**600**	**610**	**400**
Pesticide/PCB by Method OLM04.2 (µg/L)							
Aldrin	ND		0.0015 U	0.050 U	0.050 U	0.050 U	**0.0029 J**
alpha-BHC	0.01		0.050 U	0.050 U	0.050 U	**0.033 J**	0.0026 U
Aroclor 1254	0.09 s		1.0 U	1.0 U	1.0 U	1.0 U	**0.41 J**
gamma-BHC	0.05		**0.0033 J**	0.0034 U	0.050 U	0.050 U	0.050 U
gamma-Chlordane	0.05 (standard for chlordane)		0.050 U	0.050 U	0.050 U	**0.0068 J**	0.0029 U
TAL Metals by Method ILM04.0 (µg/L)							
Aluminum	NA		**50.0 J**	**50.5 J**	**74.8 J**	**354**	**64.1 J**
Antimony	3		**5.3 J**	60 U	60 U	60 U	60 U
Arsenic	25		**10.2**	**9.9 J**	**2.9 J**	**14.6**	**4.8 J**
Barium	1000		**81.9 J**	**78.8 J**	**94.1 J**	**339**	**153 J**
Cadmium	5		**0.87 J**	**0.88 J**	5 U	**1.2 J**	5 U
Calcium	NA		**237000**	**228000**	**210000**	**265000**	**141000**
Chromium	50		**1.1 J**	**0.74 J**	**1.4 J**	**1.5 J**	10 U
Cobalt	NA		**1.2 J**	**1.2 J**	**0.72 J**	**1.4 J**	**1.8 J**
Copper	200		**1.8 J**	**7.3 J**	**0.84 J**	**2.0 J**	**1.2 J**
Iron	300		**25300 J**	**24300 J**	**4250 J**	**3820 J**	**3220 J**
Lead	25		3 U	**2.2 J**	3 U	3 U	3 U
Magnesium	35,000 g		**56400**	**54200**	**42600**	**77100**	**53000**

Table 3-5
Summary of Positive Analytical Results for Groundwater Samples
Abandoned Chemical Sales Facility Site

Analyte	NYSDEC Class GA Groundwater Criteria [1]	Sample ID: / Date:	MW01 11/30/01	MW01-D 11/30/01	MW02 11/30/01	MW03 11/29/01	MW04 11/29/01
Manganese	300		**1080**	**1040**	**545**	**222**	**374**
Nickel	100		**11.1 J**	**10.9 J**	**5.6 J**	**18.2 J**	**2.4 J**
Potassium	NA		**1370 J**	**1320 J**	**1690 J**	**4290 J**	**2480 J**
Sodium	20000		**46600**	**44900**	**30700**	**58900**	**36500**
Thallium	0.5		10 U	**2.9 J**	**2.7 J**	**5.9 J**	**3.3 J**
Vanadium	NA		**3.7 J**	**3.8 J**	**2.2 J**	**2.1 J**	50 U
Zinc	2,000 g		**4.7 J**	**23.6**	**27.5**	**23.7**	**3.5 J**
Total Cyanide by ILM04.0 (µg/L)							
Cyanide	200		**1.2 J**	**1.1 J**	**1.4 J**	**1.2 J**	**1.4 J**

Key:

D = Duplicate sample.

J = Estimated value.

NA = Standard not available.

s = Standard applies to sum of related compounds (i.e. total aroclors or phenols).

U = Non detected.

mg/L = Milligrams per liter.

µg/L = Micrograms per liter.

Notes: Shaded cells exceed the screening value.

Bolded values represent positive detections.

(1) New York State Department of Environmental Conservation, Technical and Operational Guidance #1.1.1: Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, 1998.

(2) The listed glycol standard is a guidance value for ethylene glycol. The reported glycol result has been quantitated as ethylene glycol but other related glycol compounds also may be presented.

4 Investigation Findings

Contamination is present at the ACSF site in all matrices tested, including: surface soil, surface water, sediment, subsurface soil, and groundwater. The highest concentrations of contaminants were detected in the shallow-bedrock groundwater. Due to the presence and concentrations of contaminants present in several matrices, the environment has been impacted and potential threats to human health may exist.

There was no significant VOC contamination of the surface soil samples. However, the presence of PCE in surface soil from the central portion of the site (1600 Jay Street) indicates that a chlorinated solvent spill occurred in that area and that all of the material has not had the time to volatilize or degrade from the surface. SVOCs (especially PAHs) and pesticides were detected throughout the site in the surface soil, and were highest in the west central portion of the site. Some metals were also detected above screening criteria in surface soil throughout the site. However, the background concentrations of SVOCs, pesticides, and metals were generally higher than those detected on site, suggesting that this contamination is not directly site related, but present throughout the area due to its industrial nature.

One surface water and one sediment sample were taken from a ditch on the northwest border of the site. The surface water sample contained one PCB, four pesticides, and three metals above their respective NYSDEC standards. The sediment sample had two SVOCs, four pesticides, and six metals above their criteria. The ditch that was sampled is adjacent to a railroad ROW and similar levels of these contaminants were also detected in background surface soil samples, suggesting that the presence of these contaminants is not directly site related. However, glycols were also present in the surface water and there is historical evidence to suggest that the presence of these compounds is site related.

Fifteen VOCs were detected in the subsurface soil samples with none exceeding the applied screening criteria. In general, compounds detected in the highest concentrations consisted of chlorinated ethenes, aromatic hydrocarbons, and acetone. The highest concentration of total VOCs (approximately 6,200 µg/kg) was detected at GP04 in the west-central portion of the site. The presence of PCE and TCE in subsurface soil in the same area that PCE was detected in surface soil samples suggests that the open area in the central portion of the site was the location of a spill or spills. VOCs detected in subsurface soil in other portions of the site, especially near the former AST at the southwest corner of the Ferrauilo Plumbing building, may also represent spills or may be residual from fluctuating groundwater levels where groundwater is contaminated with these compounds. Similar to the surface soil samples, the SVOCs that exceeded cleanup objectives most frequently in the subsurface soil were PAHs. The highest concentration of SVOCs in the subsurface soil (11,300 µg/kg) was found at GP01, near the former location of the AST, south of the Ferrauilo Plumbing building. Each pesticides detected in subsurface soil was found at GP01, below the screening criteria. The only glycols found in subsurface soil were also found at GP01. Seven metals were found above their standards in subsurface soils throughout the site. The types of SVOCs and pesticides detected in the subsurface soil samples were generally similar to those detected in surface soil samples and concentrations were lower in subsurface soils compared to surface soil, including background samples.

No groundwater was encountered in the overburden. Shallow bedrock groundwater flow on-site is toward the south, apparently toward a Jay Street combined sanitary/storm sewer drain. Twenty-five VOCs were detected in shallow bedrock groundwater samples, with 18 of these detected above standards in at least one well. The majority of the compounds detected were chlorinated ethenes and ethanes, as well as BTEX and related compounds. No VOCs were detected in upgradient well MW-4 near Monroe Extinguisher Company. In the remaining three wells, seven VOCs were detected above their standards in all three wells: cis-1,2-DCE (which was the VOC with the highest level in each well), 1,1,1-TCA, 1,1-DCA, acetone, toluene, vinyl chloride, and total xylenes.

Monitoring well MW-3, which is just east of the MA Ferrauilo Plumbing building and adjacent to the residential property at 1558 Jay Street, had the highest total VOC concentration of all four wells sampled (approximately 129,000 µg/L). The well with the next highest VOC concentration was MW-1, which is on the west-central portion of the 1600 Jay Street property. This well contained over 37,600 µg/L of total VOCs. Monitoring well MW-2, located in the east central portion of the 1600 Jay Street property, contained approximately 5,770 µg/L of total VOCs.

At all three wells in which VOCs were detected in the groundwater, it appears that the anaerobic degradation of chlorinated ethenes occurs. The general process of reductive dechlorination of ethenes is for PCE to break down into TCE, then cis-1,2-DCE, and finally vinyl chloride. Eventually vinyl chloride will degrade into ethene or carbon dioxide. At the ACSF site, PCE is only present in significant quantities at MW-2. TCE levels are relatively low in general. In each well with positive detections, cis-1,2-DCE is the VOC present at the highest concentration. Significant levels of vinyl chloride are also present, especially in MW-3 where the vinyl chloride concentration was 23,000 µg/L. Thus, it appears that the source of PCE and/or TCE is not recent and that reductive dechlorination has progressed to the stage where PCE and TCE have been largely degraded into its daughter products.

Groundwater VOC contaminants are consistent with those found just across the railroad tracks to the west and northwest at Valeo Electrical Systems, Inc., where groundwater flow near the Abandoned Chemical Sales Facility site is reportedly toward the south and then to the east along the Jay Street sewer line.

In addition to the VOCs discussed above, six SVOCs, one PCB, two pesticides, and six metals were detected above their standards in the groundwater samples.

The main area of contamination appears to be on the 1600 Jay Street property, with lesser amounts of contamination found on the 105 and 107 Dodge Street properties. Soil and water contamination were found throughout the gravel and grassed area on the northern side of the Jay Street property, as well as near the southern end of the building. However, as previously discussed, the presence of SVOCs, pesticides, and metals in background samples at similar or higher concentrations than on site suggests that many of these compounds are not site related. The lack of VOCs in upgradient groundwater and the presence of these compounds at significant concentrations downgradient suggest that the 1600 Jay Street property is a source of this contamination. In addition, the presence of glycols in several media and its known historical use at the site suggests that 1600 Jay Street is also a source of glycol contamination.

Environmental impacts associated with impairment of soil and water exist due to the concentrations of various contaminants detected in these media. Potential threats to human health exist including direct contact with surface soils, sediment, and surface water by site workers and local residents (site is not entirely fenced and no other institutional controls have been implemented). Although groundwater is not used as a potable source, off-gassing of volatile compounds from the groundwater in enclosed spaces (such as residential basements) is a concern. In addition, contaminated groundwater is flowing off site, likely through the bedding material surrounding a combined sanitary/storm sewer drain set in the top of rock along Jay and Dodge Streets. Flow in the Dodge Street sewer line adjacent to the site flows south, connecting to the Jay Street line. The Jay Street line flows to the east. Therefore, if contaminants are migrating along these lines, they would ultimately be flowing to the east as they leave the site area.

5 References

City of Rochester, October 3, 1980, Tax Map 105.69 for the City of Rochester, Monroe County, New York.

City of Rochester, October 3, 1980, Tax Map 105.77 for the City of Rochester, Monroe County, New York.

City of Rochester Department of Public Works, Division of Engineering, 1966, Revised 1971, *Sewer Design Section 92*, Rochester, New York

Ecology and Environment, Inc., 2001a, *Work Plan for Preliminary Site Assessment at the Abandoned Chemical Sales Facility Site, Rochester, New York*, Lancaster, New York.

__________, 2001b, *Quality Assurance Project Plan (QAPP) for New York State Department of Environmental Conservation Superfund Projects*, Lancaster, New York.

Ferrauilo, Sr., Michael, 2001, Personal Conservation with Stephanie Reynolds Smith of Ecology and Environment Engineering, P.C., November 12, 2001.

Haley & Aldrich of New York (H & A), 2000a, Supplement to the *Baseline Study Report, Former GM - Delco Chassis Facility, Rochester, New York*, prepared for General Motors Corporation, Detroit, Michigan.

__________, 2000b, *RI/FS Work Plan Valeo Former GM - Delco Chassis Facility Site, Rochester, New York*, prepared for General Motors Corporation, Detroit, Michigan.

__________, 1996, *Baseline Study Report, Former Delco Chassis Facility, Rochester, New York*, prepared for General Motors Corporation, Detroit, Michigan.

New York State Department of Environmental Conservation Division of Environmental Remediation, 2000, *Record of Decision, Chemical Sales Site, Operable Unit No. 1 (On-Site), Town of Gates, Monroe County, Site Number 8-28-086.*

___________, undated, *Draft Preliminary Site Assessment (PSA) Guidance*, issued by Division of Environmental Remediation Eastern Investigation Section.

___________, 1999, *Guidance for Screening Contaminated Sediments*.

___________, 1998, Division of Water Technical and Operational Guidance Series (1.1.1): *Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations*, Division of Water, Albany, New York.

___________, 1994, *Technical and Administrative Guidance Memorandum (TAGM) No. 4046, Determination of Soil Cleanup Objectives and Soil Cleanup Levels*, prepared by M.J. O'Toole, Jr. Division of Hazardous Waste Remediation, NYSDEC, Albany, New York.

D.J. Parone & Associates, June 24, 1994a, Letter to Mr. Robert Patterson (President of Chemreal Corporation).

D.J. Parone & Associates, September 6, 1994b, Letter to Mr. Robert Patterson (President of Chemreal Corporation).

URS Greiner Consultants, Inc. (URS), 2000, *Remedial Investigation Data Summary Report, Chem Sales Site, Town of Gates*, Prepared for the NYSDEC Division of Environmental Remediation.

United States Geological Survey (USGS), 1971 (with 1978 photorevision), *7.5 Minute Topographic Map, Rochester West, New York Quadrangle*.

A Forms: PSA Site Inspection Information and EPA Site Inspection Questionnaire

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION

SITE INVESTIGATION INFORMATION

1. SITE NAME	2. SITE NUMBER	3. TOWN/CITY/VILLAGE	4. COUNTY
Abandoned Chemical Sales Facility	8-28-105	Rochester, NY	Monroe

5. REGION 8

6. CLASSIFICATION CURRENT [ ] PROPOSED [ ] MODIFICATION [ ]

7. LOCATION OF SITE (Attach U.S.G.S. Topographic Map showing site location)

a. Quadrangle Rochester West b. Site Latitude 43° 09' 35" N Site Longitude 77° 39' 50"W
c. Tax Map Number(s) 105.69-1-8 (107 Dodge Street); 105.69-1-7 (105 Dodge Street); 105.77-1-1 (1600 Jay Street)
d. Site Street Address: 1600 Jay Street; 105 Dodge Street; 107 Dodge Street

8. BRIEFLY DESCRIBE THE SITE (Attach site map showing disposal/sampling locations)

The ACSF site consists of an "L"-shaped, relatively flat property consisting of two land parcels in Rochester, NY: 1600 Jay Street and 105 Dodge Street. It is bordered on the east by Dodge Street, on the southeast by private residences, on the south by Jay Street, on the west by a railroad right-of-way, and on the north by Buell Specialty Steel. Chemical Sales Corporation and/or Chemreal Corporation owned 1600 Jay Street from 1952 until 1994, and 105 Dodge Street from 1952 until 1972. Reported site activities include sale of windshield washer fluid and antifreeze. One building currently exits on each site with MA Ferrauilo Plumbing occupying 1600 Jay Street and Monroe Extinguisher at 105 Dodge Street. See Figure 2-1 of the PSA report.

a. Area: Approx. 5.4 acres b. Completed: ( ) Env. Property Assessment (X) PSA ( ) SI ( ) ESI ( ) IRM ( )RI/FS ( ) Construction ( ) O&M ( )Other________________

9. HAZARDOUS WASTE DISPOSED (Include EPA Hazardous Waste Numbers)

Unknown.

10. ANALYTICAL DATA AVAILABLE

a. ( )Air (x)Groundwater (x)Surface Water (x)Sediment (x)Soil ( )Waste ( )Leachate ( )EPTox ( )TCLP
b. Contravention of Standards or Guidance Values
Polynuclear aromatic hydrocarbons (PAHs) and pesticides in surface soil; PAHs in subsurface soil; pesticides in surface water; PAHs and pesticides in sediment; volatile organic compounds (VOCs), phenol, pesticide, PCB, metals in groundwater.
See Section 3, Table 3-1 through 3-5 of the PSA report for details.

11. CONCLUSION

Contamination is present at the ACSF Site in all matrices tested, including: surface soil, surface water, sediment, subsurface soil, and groundwater. The highest levels of contaminants were detected in the shallow-bedrock groundwater. Total VOCs in groundwater near the 1600 Jay Street building ranged up to 129,000 µg/L. VOCs detected in groundwater include chlorinated alkanes and alkenes, aromatic hydrocarbons, and ketones. Environmental impacts associated with impairment of soil and water exist. Potential human health impacts exist including direct contact with surface soils, sediment, and surface water by site workers and local residents (site is not entirely fenced). Although groundwater is not used as a potable source, off-gassing of volatile compounds from the groundwater in enclosed spaces (such as residential basements) is a concern. In addition, contaminated groundwater is flowing off site, likely via a sewer drain along Jay Street. The destination of this off-site migration is unknown.

a. Institutional Controls (IC) Required? ( )Y ( )N b. If yes, identify:
c. Are these ICs in place and verified? ( ) Y ( )N

12. SITE IMPACT DATA

a. Nearest Surface Water: Distance 2640 ft. Direction: West Class: C
b. Groundwater: Depth: 5 – 10 ft. below ground surface Flow Direction: South ( ) Sole Source ( )Primary ( )Other High-Yield Aquifer
c. Water Supply: Distance: 7.5 mi. Direction: North Active: ( )Yes (x)No
d. Nearest Building: Distance: 0 ft. Direction: ____ Use: ____________

e. Documented fish or wildlife mortality? ( )Y (X)N
f. Impact on special status fish or wildlife resource? ( )Y (X)N
g. Controlled Site Access? ( )Y (X)N
h. Exposed hazardous waste? ( )Y (X)N
i. If proposed Classification is 2, Priority? ( ) 1 ( ) 2 ( ) 3
j. EPA ID# __________ HRS Score ________

13. SITE OWNER'S NAME	14. ADDRESS	15. TELEPHONE NUMBER
1600 Jay Street: Ferrauilo: Michael A, Joe, and Kim 105 Dodge Street: Curtin, Thomas	Ferrauilo: 1600 Jay Street, Rochester, NY 14611 Curtin: P.O. 60980 Rochester, NY 14606	Ferrauilo: 585-328-8910 Curtin: 585-235-3310

16. PREPARER		17. APPROVED	
Ecology and Environment Engineering, P.C.			
Signature	Date 3/15/02	Signature	Date
Name, Title, Organization		Name, Title, Organization	

SITE SUMMARY

Provide a brief description of the site and its operational history. State the site name, owner, operator, type of facility and operations, size of property, active or inactive status, and years of waste generation. Summarize waste treatment, storage, or disposal activities that have or may have occurred at the site; note whether these activities are documented or alleged. Identify all source types and prior spills, floods, or fires. Summarize highlights of the PA and other investigations if available. Follow the outline on the next page:

SITE CONDITIONS AND BACKGROUND

1. PHYSICAL LOCATION (Address, Lat-Long, Map Ref.)
1600 Jay Street, Rochester, NY 14611
105 Dodge Street, Rochester, NY 14606

Site Latitude 43° 09' 45"N   Site Longitude 77° 39' 20"W

See Figures 1-1 and 1-2 in Ref. 1 for site maps

2. SITE CHARACTERISTICS (include a description of the buildings or structures on site and their physical condition).
The Abandoned Chemical Sales Facility (ACSF) site consists of two land parcels: 1600 Jay Street, and 105 Dodge Street. A small ditch is found on the western side of the site extending behind the 105 and 107 Dodge Street properties. There are no true surface water bodies on the site and the nearest surface water is the Erie Canal, located approximately 0.5 miles to the west.

MA Ferrauilo Plumbing currently occupies 1600 Jay Street, which straddles the corner of Jay and Dodge Streets in Rochester, New York. A building is found on the southwestern side of the site with gravel and grassed areas to the north. The building was constructed in the 1950s. A concrete pad for a removed (in 1994) above ground storage tank is located just south of the building.

The Monroe Extinguisher Company property, located at 105 Dodge Street, is north of 1600 Jay Street. A parking lot occupies the southern half of the parcel, with the Monroe Extinguisher Company building on the northern side. This building was constructed in the 1970s.
Ref. No. 2

3. RELEASE OR THREATENED RELEASE INTO THE ENVIRONMENT OF A HAZARDOUS SUBSTANCE, OR POLLUTANT OR CONTAMINANT (be certain to indicate whether this is a release from a facility as defined in 40 CFR 300.5)

Based on analytical results, it appears that a release of contaminants occurred at this site.
Ref. No. 1

4. SITE ASSESSMENT ACTIVITIES / OBSERVATIONS
This site was investigated in November 2001 as part of a New York State Department of Environmental Conservation Preliminary Site Assessment. Sampling performed includes subsurface soil, surface soil, surface water, sediment, and groundwater. Groundwater samples were collected from four shallow bedrock wells installed during the investigation. All samples were analyzed for TCL volatile organic compounds and selected samples were analyzed for TCL semivolatile organic compounds, TCL pesticides, TCL polychlorinated biphenols (PCBs), TAL metals, cyanide, and glycols.

No signs of visual contamination were noted during the investigation. Several of the subsurface soil samples were collected from intervals in which elevated (> 5 ppm) flame-ionization detector (FID) readings were observed.
Ref. No. 1

5. CERCLA STATUS
None.

6. OTHER ACTIONS TO DATE (e.g., Federal removal, Federal remedial or pre-remedial actions, State actions, other legal violations)

A Phase I Environmental Site Assessment, dated May 4, 1994, was conducted by D.J. Parrone & Associates, P.C. of Penfield, NY at the time that 1600 Jay Street passed from Chemreal Corporation to the current owner. It concluded site was not contaminated with hazardous substances or petroleum products that would require remediation or removal.
Ref No. 3

7. STATE AND LOCAL AUTHORITIES ROLE (Intervention)
The NYSDEC is overseeing the preliminary site assessment. The NYSDOH will review all documents.
Ref No. 1

POSSIBLE THREAT TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES (permits - local, state, and federal)
1. POSSIBLE THREATS TO THE PUBLIC HEALTH AND WELFARE
There are possible threats to public health and welfare if the public comes in direct contact with contaminated soils and surface water on-site. However, the site is private property and not subject to public usage. Off-gassing of volatile organic compounds from groundwater into residential basements is a concern; however, the threat from direct usage of groundwater is limited because groundwater is not known to be used as a potable source in the area.
Refs. 1, 4-6

2. POSSIBLE THREATS TO THE ENVIRONMENT
There are no new threats to the environment. Existing threats are from contaminants in soils, sediment, surface water, and groundwater.
Ref. No. 1

EXPECTED CHANGE IN THE ENVIRONMENTAL CONDITIONS SHOULD ACTION BE DELAYED OR NOT TAKEN AS CONSISTENT WITH REPORT INFORMATION AND RECOMMENDATION
None. If existing contamination is a result of Chemical Sales/Chemreal activities, contamination has already existed for several years. Therefore, no significant changes are expected as a result of delay or no action at the site.
Ref. No. 1

ENFORCEMENT HISTORY OF THE SITE

1. Is there an organization taking appropriate, timely action?
The New York State Department of Environmental Conservation is overseeing the Preliminary Site Assessment.
Ref. No. 1

CONCLUSIONS *
Contamination is present at the ACSF Site in all matrices tested, including: surface soil, surface water, sediment, subsurface soil, and groundwater. The highest levels of contaminants were detected in the shallow-bedrock groundwater. Total VOCs in groundwater near the 1600 Jay Street building ranged up to 129,000 μg/L. VOCs detected in groundwater include chlorinated alkanes and alkenes, aromatic hydrocarbons, and ketones. Environmental impacts associated with impairment of soil and water exist. Potential human health impacts exist including direct contact with surface soils, sediment, and surface water by site workers and local residents (site is not entirely fenced). Although groundwater is not used as a potable source, off-gassing of volatile compounds from the groundwater in enclosed spaces (such as residential basements) is a concern. In addition, contaminated groundwater is flowing off site, likely via a sewer drain along Jay Street. The destination of this off-site migration is unknown.

RECOMMENDATIONS *

Based on contaminants observed during this site assessment, further investigation is warranted at this site.

1= Short term or emergency action
2= Long term cleanup action
*= Confidential

CITE REFERENCES

1. Ecology & Environment, Inc., 2002, Preliminary Site Assessment Report for the Abandoned Chemical Sales Facility in Rochester, New York.

2. Ecology & Environment, Inc., 5 April 2001, Site visit observations.

3. Harter, Secrest & Emery, 25 May 1994, letter to Michael A. Ferrauilo, Re: Environmental Site Assessment of Chemreal Site.

4. Marling, Greg, City of Rochester Water Works, Engineer,31 January 2002, Personal conversation with Stephanie Reynolds Smith of Ecology & Environment, Inc.

5. Monroe County Water Authority web site, 30 January 2002, http://www.mcwa.com/srvceara.htm

6. Pienting, Susan, Monroe County Department of Health, 31 January 2002, Personal conversation with Stephanie Reynolds Smith of Ecology & Environment, Inc.

SITE SKETCH

Provide a sketch of the site with available information. Indicate all pertinent features of the site and nearby environments including: delineation of site boundary, land cover/trees and other vegetation, utilities (water, electrical, gas, sewage, storm drains), sources of wastes, areas of visible and buried wastes, buildings, residences, access roads, parking areas, fences or other barriers restricting access to the site, fields, drainage channel or pathways, water bodies, wells, sensitive environments and other features such as hills and valleys. Be certain to indicate a north arrow.

See Figures 1-1, 1-2, and 2-1 in Ref. No. 1

PART I: SITE INFORMATION

1. Site Name/Alias: Abandoned Chemical Sales Facility (ACSF)

Street Address: 1. 1600 Jay Street
2. 105 Dodge Street

City: Rochester State: NY Zip Code:
1. 14611
2. 14606

Describe Site Boundaries (North, South, East, West):
North: property line of 107 Dodge St and 105 Dodge St. Buell Specialty Steels to the north at 107 Dodge St.
South: Jay Street. On the southeast corner of the site there are three residential properties. Additional residences across Jay Street.
East: Dodge Street with residences across the street.
West: Railroad right-of-way and industrial facilities.

2. County: Monroe County Code* Federal information processing standard (FIPS) code: 36055 Cong. Dist.: 28th

3.CERCLIS ID No. Region

4. Block No.: Section 29 105.69- Lot No.: 1-1 and 1-7

5. Latitude: 43°09'35"N Longitude: 77°39'50"W

USGS Quads.: Rochester West

6. Approximate size of site: 5.4 acres

7. Owners:
1. 1600 Jay Street: Micheal A, Joe, & Kim Ferrauilo
2. 105 Dodge Street: Thomas Curtin

Telephone Numbers:
1. 585-328-8910
2. 585-235-3310

Street: 1. 1600 Jay Street
2. P.O. Box 60980

City: Rochester State: New York Zip Code
1. 14611
2. 14606

8. Operators:
1. 1600 Jay Street: Micheal A, Joe, & Kim Ferrauilo
2. 105 Dodge Street: Thomas Curtin

Telephone Number
1. 585-328-8910
2. 585-235-3310

Street: 1. 1600 Jay Street
2. P.O. Box 60980

City: Rochester State: New York Zip Code
1. 14611
2. 14606

9. Type of Ownership

Private(x) Federal( ) State( ) County( ) Municipal ( )
Unknown( ) Other ( )

10. Owner/Operator Notification on File

RCRA 3001 Date ________________	CERCLA 103c Date________________		
Other *(Specify, Date)*	None	Unknown	
11. Permit Information			
Permit	Permit No.	Date Issued	Expiration Date
Comments:			
12. Site Status			
Active( )	Inactive(x)		Unknown

13. Years of Operation: 1952 to 1994 (1600 Jay Street)
1952 to 1972 (105 Dodge Street)

Years of operation based on dates property was owned by Chemical Sales Corporation or Chemreal Corporation, as given by property deeds.
Ref. Nos. 2-5 /Pg. Nos. for all refs. 1-2

14. Identify the types of waste sources (e.g., landfill, surface impoundment, piles, stained soil, above- or below-ground tanks or containers, land treatment, etc.) on site. Initiate as many waste unit numbers as needed to identify all waste sources on site.

(a) Waste Sources: All possible waste sources not known at this time.

Waste Unit No.	Waste Source Type	Facility Name for Unit
1.	Above-ground tanks	ASTs
2.	Possible dumping	--

(b) Other Areas of Concern: All possible areas of concern not known at this time.

Identify any miscellaneous spills, dumping, etc. on site; describe the materials and identify their locations on site.

Only known reported spill was on May 24, 1994. The spill was reported (by an anonymous caller) to occur as trucks were pumping out 3,000 to 4,000 gallon aboveground storage tanks located just south of 1600 Jay Street building. When a NYSDEC representative visited the site on June 15, 1994, there was no evidence of a spill (NYSDEC 1994).
Ref. Nos. 6 /Pg. Nos. 1

15. Describe the regulatory history of the site, including the scope and objectives of any previous response actions, investigations and litigation by State, Local and Federal agencies (indicate type, affiliation, date of investigations).

Only known response action at 1600 Jay Street was a NYSDEC visit to the site after a reported spill on May 24, 1994. The spill was reported to occur as trucks were pumping out 3,000 to 4,000 gallon aboveground storage tanks

located on the south side of building. When a NYSDEC representative visited the site on June 15, 1994, there was no evidence of a spill.
Ref. Nos. 6 /Pg. Nos. 1

A Phase I Environmental Site Assessment, dated May 4, 1994, was conducted by D.J. Parrone & Associates, P.C. of Penfield, NY at the time that 1600 Jay Street passed from Chemreal Corporation to the current owner. The assessment reportedly concluded that the site was not contaminated with hazardous substances or petroleum products that would require remediation or removal.
Ref. Nos. 7 /Pg. Nos. 1

a) Is the site or any waste source subject to Petroleum Exclusion? Identify petroleum products and by products that justify this decision.
No.
Ref. Nos./Pg. Nos.

b) Are pesticides produced and stored on site? No. Does the facility apply pesticides (FIFRA or Federal Insecticide, Fungicide, and Rodenticide Act) to any part of the property?
Unlikely.
Ref. Nos./Pg. Nos.

c) Is the site or any waste source subject to RCRA Subtitle C (briefly explain)?
No.
Ref. Nos. /Pg. Nos.

d) Is the site or any waste source maintained under the authority of the Nuclear Regulatory Commission (NRC)?
No.
Ref. Nos. Pg. Nos.

16. Information available from:

Contact: Joseph White Agency: NYSDEC Telephone Number: (518) 402-9564

Preparer: Ecology and Environment Engineering, P.C.	Agency/Company: Same
Date: January 29, 2002	Telephone Number: 716-684-8060

PART II: WASTE SOURCE INFORMATION

For each of the waste units (sources) identified in Part I, complete the following items.

Waste Unit (#) 1 - Above-ground tanks (removed from site in 1994)

Source Type

__ Constituent	__ Wastestream
__ Landfill	__ Contaminated Soil
__ Surface Impoundment (buried/backfilled)	__ Pile(Specify type: chemical, junk, trash, tailings, etc.)
__ Drums	__ Land Treatment
_x_ Tanks/Containers	__ Other (Specify)

Description:

1. Describe the types of containers, impoundments or other storage systems (i.e. concrete lined surface impoundment) and any labels that may be present.

The above ground storage tanks (ASTs) are not currently present on site. They were reportedly removed in 1994. One AST was on the south side of the building at 1600 Jay Street. This tank was reported to be 3,000 to 4,000 gallons. Three additional ASTs were located closer to Dodge Street on the 1600 Jay Street property.
Ref. Nos. 6 & 8 /Pg Nos. 1

2. Describe the physical condition of the containers or storage systems (i.e. rusted and/or bulging metal drums).

Condition at time of removal unknown. An inspector from the City Of Rochester Fire Department observed the removal of the tanks and observed no spills or soil contamination.
Ref. Nos. 9 /Pg Nos. 1

3. Describe any secondary containment that may be present (e.g. drums on concrete pad in building or above ground tank surrounded by berm).

The AST near the 1600 Jay Street building was reported to be within concrete secondary confinement.
Ref. Nos. 8 /Pg Nos. 1

The ASTs closer to Dodge Street on the 1600 Jay Street property were reported to be within secondary earthen berm containment.
Ref. Nos. 8 /Pg Nos. 1

Hazardous Waste Quantity - for each source, evaluate waste quantity by as many tiers (a-d) as you have information to support.
Unknown.

Hazardous Substances/Physical State
See Section 3 of Ref. 1 for all known contaminants at the site./Physical State unknown.

Waste Unit (#) 2 - Possible dumping

Source Type

__ Constituent

__ Wastestream

__ Landfill

__ Contaminated Soil

__ Surface Impoundment (buried/backfilled)

__ Pile(Specify type: chemical, junk, trash, tailings, etc.)

__ Drums

__ Land Treatment

__ Tanks/Containers

_x_ Other (Specify) (unknown)

Description:

1. Describe the types of containers, impoundments or other storage systems (i.e. concrete lined surface impoundment) and any labels that may be present.

Not applicable.

2. Describe the physical condition of the containers or storage systems (i.e. rusted and/or bulging metal drums).

Not applicable.

3. Describe any secondary containment that may be present (e.g. drums on concrete pad in building or above ground tank surrounded by berm).

Not applicable.

Ref. Nos./Pg Nos.

Hazardous Waste Quantity - for each source, evaluate waste quantity by as many tiers (a-d) as you have information to support.

Unknown.

Hazardous Substances/Physical State
See Section 3 of Ref. 1 for all known contaminants at the site./Physical State unknown

PART III: SAMPLING RESULTS

EXISTING ANALYTICAL DATA

Review and summarize any previously existing groundwater, soil, sediment, surface water, air, or waste sample analyses. Discuss the precision, accuracy, representativeness and completeness of previous sampling efforts. Describe the concentrations of chemicals of concern based on available data and media impacted. These parameters should be evaluated by examining the results of routine quality control procedures. Any suspected problems with this data should be identified. This is especially if the data cannot be used for HRS purposes. Any problems should receive the immediate attention of the work assignment manager. Identify data gaps.

Prior to the NYSDEC Preliminary Site Assessment, the only known sample analyses were of glycols in near surface soil. Several samples were taken in the areas of the ASTs just prior to the transfer of 1600 Jay Street from Chemreal Corp. to the Ferrauilos in September 1994. No cohesive report exists summarizing this data, results were given in letters between the involved parties, sometimes with lab data sheets attached. Quality control procedures are not reported in any of the correspondence. Results of the soil testing indicate methanol in the soil at concentrations of 1 to 82 ppm in the area of the ASTs at 1600 Jay Street. Ethylene glycol was also detected in this area at 60 to 69 ppm. Just after the tanks were removed and the soil was mixed to a depth of two feet, no methanol was detected in the soil.
Ref. Nos. 10-11 /Pg. Nos. 2

SITE INSPECTION RESULTS

As appropriate to the particular site collect samples from air, drainage ditches, soil (surface and subsurface), standing pools of liquids, storage containers, stream and pond surface water, sediments (upgradient, at suspected source and downgradient) and ground water (upgradient, beneath site and downgradient). Samples are to be used for NPL listing purposes or to support an EE/CA (Engineering Evaluation/Cost Analysis) (as opposed to sampling used to determine immediate fire, explosion or direct contact hazards), and should go through CLP for full TAL and TCL analysis. Background samples are always necessary to document an observed release. Those samples that are considered background samples should be clearly identified.

Contaminants contravening standards include polynuclear aromatic hydrocarbons (PAHs) and pesticides in surface soil; PAHs in subsurface soil; pesticides in surface water; PAHs and pesticides in sediment; volatile organic compounds (VOCs), phenol, pesticide, PCB, metals in groundwater. Groundwater contained VOCs to a maximum concentration of 129,000 μg/L. Analytical results from the current preliminary site assessment are extensive and contained in Ref. No. 1 /Section. No. 3

PART IV: HAZARD ASSESSMENT

GROUNDWATER ROUTE

1. Describe the likelihood of a release of contaminant(s) to groundwater as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release, define the supporting analytical evidence and relationship to background.

Release of contaminants to groundwater is documented based on analytical results. See section 3 of reference 1 for further details.
Ref. No. 1/Section. No. 3

2. Describe the aquifer of concern; include information such as stratigraphy, depth, thickness, geologic composition, areas of karst terrain, permeability, overlying strata, confining layers, interconnections, discontinuities, depth to water table, groundwater flow direction. Attach a sketch of stratigraphic column.

The overburden at the ACSF site was dry across the site. It ranged in thickness from 1.7 to 7.4 feet. Water was encountered in the shallow bedrock at 5.7 to 9.1 feet below ground surface.

The shallow bedrock aquifer is the middle Silurian Lockport Dolostone. It is fractured and at the site and consists of only the lowermost member, the

Penfield Dolostone. The Penfield Dolostone is characterized as medium-gray, hard, and thin- to medium-bedded. It's thickness was not penetrated at the site, but in general it ranges from 29 to 39 feet. The DeCew Dolostone of the Clinton Group underlies the Penfield Dolostone. It is a hard, dark gray to olive gray, variably bedded, argillaceous to sandy, fine-grained dolostone. The DeCew was not reached in drilling at the ACSF site, but is 11 to 15 feet thick at a site less than 1.5 miles to the northwest. At another nearby site, a former Delco-GM Site (less than 1,000 feet away), the hydraulic conductivity of the overburden, and shallow and intermediate bedrock, consisting of the Penfield and the DeCew, was reported to range from 1 x 10-2 centimeters per second (cm/sec) to 1 x 10-5 cm/sec. The Gates Dolostone and Rochester Shale of the Rochester Formation underlie the DeCew. To a depth of 100 feet at the Delco site, the Rochester Formation generally exhibited low permeability, with some higher permeability zones. Rochester Shale hydraulic conductivity was generally less than 1 x 10-6 cm/sec.

Local groundwater flow is generally toward the Barge Canal, which is to the west. However, on-site flow is southward apparently toward a sewer line along Jay Street.

See Attachment 1 to this form for a stratigraphic column.

Ref. No. 12/Pg. Nos. 3-4 to 3-10; Ref. No. 13/Pg. Nos. 8-9; Ref No. 14/ Pg No. 44

3. What is the depth from the lowest point of waste disposal/storage to the highest seasonal level of the saturated zone of the aquifer(s) of concern?

The lowest point of waste disposal/storage is not known at this time. Contaminants were detected in wells that were as deep as 20.5 feet below ground surface. At the time of groundwater sampling (November 2001), the maximum water column in a well with contaminated water was 11.5 feet. It is possible that contamination resulting from former waste disposal is found deeper in the aquifer and that the water table is higher during other seasons of the year. From what is known of the site, wastes were not stored underground, but spills or dumping may have occurred.

Ref. Nos. 1

4. What is the permeability value of the least permeable continuous intervening stratum between the ground surface and the top of the aquifer of concern?

The aquifer of concern at this time is the shallow bedrock aquifer, which is in direct hydraulic contact with the overburden, and therefore with the ground surface. The overburden and the shallow bedrock in the area have been observed to act as a single hydrologic unit.

Ref. No. 13/Pg. Nos. 9

5. What is the net precipitation at the site (inches)?

The average annual precipitation at the Rochester International Airport (approximately 2 miles south of site) is 31.96 inches. In 2001, there were 29.17 inches of precipitation.

Ref. Nos. 15 /Pg. Nos.(see references)

6. What is the distance to and depth of the nearest well that is currently used for drinking purposes?

There are no known wells currently within 4 miles of the site that are used for drinking purposes. Water is supplied to these areas by the City of Rochester or the Monroe County Water Authority. There are Monroe County DOH records of bacteria tests on some wells within four miles, however, the most

recent two tests were performed in 1992. It is not known whether these wells still exist. However, since water is currently supplied to the area, it is assumed that these wells are not operational.
Ref. Nos. 16-18 / Pg. Nos. 1

7. If a release to groundwater is observed or suspected, determine the number of people that obtain drinking water from wells that are documented or suspected to be actually contaminated by hazardous substance(s) attributed to an observed release from the site.

None.
Ref. Nos. 16-18 / Pg. Nos. 1

8. Identify the population served by wells (private + municipal) located within 4 miles of the site that draw from the aquifer(s) of concern.

	Population		
Distance	Aquifer A	Aquifer B	Aquifer C
0 - 1/4 mi	0	0	0
>1/4 - 1/2 mi	0	0	0
>1/2 - 1 mi	0	0	0
>1 - 2 mi	0	0	0
>2 - 3 mi	0	0	0
>3 - 4 mi	0	0	0

Ref. Nos. 16-18 / Pg. Nos. 1

State whether groundwater is blended with surface water, groundwater, or both before distribution.
Not applicable.
Ref. Nos. /Pg. Nos.

Is a designated wellhead protection area within 4 miles of the site?
No, since there is no municipal or private drinking water supply from the groundwater, there should not be a wellhead protection area.
Ref. Nos. 16-18 / Pg. Nos. 1

Does a waste source overlie a designated or proposed wellhead protection area? If a release to groundwater is observed or suspected. Does a designated or proposed wellhead protection area lie within the contaminant boundary of the release?
No.
Ref. Nos. 16-18 / Pg. Nos. 1

9. Identify one of the following resource uses of groundwater within 4 miles of the site (i.e., commercial livestock watering, ingredient in commercial food preparation, supply for commercial aquaculture, supply for major, or designated water recreation area, excluding drinking water use, irrigation (5-acre minimum) of commercial food or commercial forage crops, unusable).

There are no known uses of groundwater for the above listed uses within 4 miles of the site. Agriculture in this primarily urban and suburban area is unlikely. The only open land seen on a recent map of Rochester with the possibility of agricultural use is a box with Straub Rd on the north, Elmgrove Rd on the west, Long Pond Rd on the east, and to the south extending about 1/3 mile south of the Erie Canal.
Ref. Nos. 19/Pg. Nos.

SURFACE WATER ROUTE

10. Describe the likelihood of a release of contaminant(s) to surface water

as follows: release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release, define the supporting analytical evidence and relationship to background.

The likelihood of a release of contaminants to surface water is very low. The only surface water on site is a small north-south ditch on the western side of 105 and 107 Dodge Street. This surface water does not discharge to or from any other surface water body. See section 3 of reference 1 for more details.
Ref. Nos. 1/Sect. Nos. 2 and 3

11. Identify the nearest down slope surface water. Include a description of possible surface drainage patterns from the site.

The New York State Barge Canal/Erie Canal. The topography in between the site and the canal is very flat. The surface drainage pattern would generally be from the site west to the canal. The sizable Valeo Electrical Systems building just to the west of the site would be an obstacle to surface water flow.
Ref. Nos. 20/Pg. Nos. 1

12. What is the distance to the nearest down slope surface water? Measure the distance along a course that runoff can be expected to follow.

The New York State Barge Canal/Erie Canal is approximately 3,000 feet to the west of the site.
Ref. Nos. 17/Pg. Nos. 1

13. Identify all surface water body types within 15 downstream miles.

Name	Water Body Type	Flow	Saline/Fresh/Brackish
Erie Canal	Canal	South-South East	Fresh
Genesee River	River	North	Fresh
Lake Ontario	Lake	Generally east	Fresh

Ref. Nos. 19/Pg. Nos.

14. Determine the 2 yr, 24 hr rainfall (inches) for the site?
For Rochester, in any given 2 year period, the maximum possible rainfall over 2 days is 2.5 inches.
Ref. Nos. 21/Pg. Nos. 1

15. Determine size of drainage area (Acres) for the sources at the site?
The sources at the site are unknown at this stage of investigation. Therefore, the size of the drainage area for the source is also unknown.
Ref. Nos./Pg. Nos.

16. Describe the predominant soil group in the drainage area?
The majority of the land in the area of the site is given as "Urban land" in the Monroe County Soil Survey. Land in the area not labeled as urban or "Made land" is silty loam or loam.
Ref. Nos. 22/Sheet. Nos. 38, 39, 47, and 48

17. Determine the floodplain (1 yr., 10 yr., 100 yr., 500 yr., none) that the site is within.
None.
Ref. Nos. 23/Pg. Nos. 1

18. Identify drinking water intakes in surface waters within 15 miles downstream of the point of surface water entry. For each intake identify:

the name of the surface water body in which the intake is located, the distance in miles from the point of surface water entry, population served, and stream flow at the intake location.

Intake	WB Type	Distance From PPE	Pop. Served	Flow (cfs)
Lake Ontario	Lake	Approx. 14.5 mi*	650,000	No aplicable

(* More precise distance not available because the exact location of intake is not currently a piece of information that is usually supplied to the general public.)

Ref. Nos. 16 & 19/Pg. Nos.

19. Identify fisheries that exist within 15 miles downstream of the point of surface water entry. For each fishery specify the following information:

Fishery	WB	Distance From PPE	Flow (cfs)	Saline/Fresh/Brackish

The New York State Natural Heritage Program (NYSNHP) and the U.S. Fish and Wildlife Service were contacted in regards to this question. See Attachment 2 to this form for the information obtained from the NYSNHP, and Attachment 3 for U.S. Fish and Wildlife Service data.

Ref. Nos./Pg. Nos.

20. Identify surface water sensitive environments that exist within 15 miles of the point of surface water entry.

Environment	WB Type	Distance from PPE	Flow (cfs)	Wetland Frontage (miles)

The New York State Natural Heritage Program (NYSNHP) and the U.S. Fish and Wildlife Service were contacted in regards to this question. Information is pending from the U.S. Fish and Wildlife Service. Please see Attachment 2 to this form for the information obtained from the NYSNHP.

Ref. Nos./Pg Nos.

21. If a release to surface water is observed or suspected, identify any intakes, fisheries, and sensitive environments from question Nos. 18-20 that are or may be actually contaminated by hazardous substance(s) attributed to an observed release from the site.

Release to surface water not suspected.

Intake:

Fishery:

Sensitive Environment:

Ref. Nos./Pg. Nos.

22. Identify whether the surface water is used for any of the following purposes, such as: irrigation (5 acre minimum) of commercial food or commercial forage crops, watering of commercial livestock, commercial food preparation, recreation, potential drinking water supply?

Release to surface water not suspected.

Ref. Nos./Pg. Nos.

SOIL EXPOSURE PATHWAY

23. Determine the number of people that occupy residences or attend school or day care on or within 200 feet of an area of observed contamination.

An estimated 200 people live within 200 feet of 1600 Jay Street and 105 Dodge Street. This is an approximation based on calculations from population density of census blocks.

Ref. Nos. 24/Pg. Nos.

24. Determine the number of people that regularly work on or within 200 feet of an area of observed or suspected contamination.

The area of possible contamination is considered to be 1600 Jay Street and 105 Dodge Street. Workplaces on or within 200 feet of this is MA Ferrauilo Plumbing, Monroe Extinguisher Company, Buell Specialty Steel, Sturdell Industries, and an apartment complex on the east side of Dodge Street. Estimates of number of workers, based on observations made during the PSA field investigation, are as follows:

MA Ferrauilo Plumbing	12
Monroe Extinguisher Company	20
Buell Specialty Steel	20
Sturdell Industries	20
Apartment Complex	5
ESTIMATATED TOTAL	77

Ref. No. 25

25. Identify terrestrial sensitive environments on or within 200 feet of an area of observed or suspected contamination.

The New York State Natural Heritage Program (NYSNHP) and the U.S. Fish and Wildlife Service were contacted in regards to this question. No terrestrial sensitive environments were identified by the NYSNHP (see Attachment 2 to this form). Also, no federally listed or proposed endangered or threatened species under the jurisdiction of the U.S. Fish and Wildlife Service are known to exist in the project impact area (see Attachment 3 of this form).

Ref. Nos./Pg. Nos.

26. Identify whether there are any of the following resource uses, such as commercial agriculture, silviculture, livestock production or grazing within an observed or suspected contamination boundary?

None of these activities occur on site.

Ref. Nos. 25

AIR ROUTE

27. Describe the likelihood of release of contaminants to air as follows: observed release, suspected release, or none. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed release define the supporting analytical evidence and relationship to background.

Release to air is considered unlikely. During the November 2001 PSA, air monitoring was performed using an explosimeter and an Organic Vapor Analyzer (OVA). No explosive gases were detected and no volatile organics were detected above background levels in ambient air. However, off-gassing of volatile organic compounds from groundwater into enclosed spaces such as residential basements is a possibility.

Ref. Nos.1 /Sect. Nos. 2

28. Determine populations that reside within 4 miles of the site.

Distance	Population
0 (on-site)	0
0 - 1/4 mi	1,049
>1/4 - 1/2 mi	1,820
>1/2 - 1 mi	7,923
>1 - 2 mi	52,167
>2 - 3 mi	65,446
>3 - 4 mi	93,135

The population is an approximation based on calculations from population density of census blocks.
Ref. No. 24

29. Identify sensitive environments and wetlands acreage (wetland acreage only for wetlands sensitive environment) within 4 miles of the site.

The New York State Natural Heritage Program (NYSNHP) and the U.S. Fish and Wildlife Service were contacted to identify sensitive environments. See Attachment 2 to this form for the information obtained from the NYSNHP, and Attachment 3 for U.S. Fish and Wildlife Service threatened or endangered species.
Ref. Nos./Pg. Nos.

Distance	Type of Sensitive Environment	Actual Distance from site (miles)	Wetland Acreage
0 (on-site)	NWI Wetland		0
0-1/4 mi.	NWI Wetland		0
>1/4-1/2 mi.	NWI Wetland		1.1
>1/2-1 mi.	NWI Wetland		50.4
>1-2 mi.	NWI Wetland		147.2
>2-3 mi.	NWI Wetland		497.8
>3-4 mi.	NWI Wetland		738.6

NWI=National Wetland Inventory

Ref. Nos. 26 /Pg. Nos.

Distance	Type of Sensitive Environment	Actual Distance from site (miles)	Wetland Acreage
0 (on-site)	DEC Wetland		0
0-1/4 mi.	DEC Wetland		0
>1/4-1/2 mi.	DEC Wetland		0
>1/2-1 mi.	DEC Wetland		15.5
>1-2 mi.	DEC Wetland		58.7
>2-3 mi.	DEC Wetland		194.8
>3-4 mi.	DEC Wetland		382.2

DEC=New York State Department of Environmental Conservation
Ref. Nos. 27 /Pg. Nos.

30. If a release to air is observed or suspected, determine the number of people that reside or are suspected to reside within the area of air

contamination (might be actual contamination) from the release.

No release suspected.

Ref. Nos. /Pg. Nos.

31. If a release to air is observed or suspected, identify any sensitive environments, listed in question No. 46, that are or may be located within the area of air contamination from the release.

No release suspected.

Ref. Nos./Pg. Nos.

REFERENCES

1. Ecology & Environment, Inc., 2002, Preliminary Site Assessment Report for the Abandoned Chemical Sales Facility in Rochester, New York.

2. Monroe County Clerk, 25 April 1952, Property deed for 1600 Jay Street and 105 Dodge Street (Lots 1, 2, K, L, M, and N in Section 29) passing from the City of Rochester to Chemical Sales Corporation.

3. Monroe County Clerk, 13 November 1952, Property deed for 1600 Jay Street (Lots 1, 2, M, and N in Section 29) passing from Chemical Sales Corporation to Chemreal Corporation.

4. Monroe County Clerk, 1 August 1972, Property deed for 105 Dodge Street (Lots K and L in Section 29) passing from Chemical Sales Corporation to Paul S. Vangellow.

5. Monroe County Clerk, 14 September 1994, Property deed for 1600 Jay Street (Lots 1, 2, M, and N in Section 29) passing from Chemreal Corporation to Michael Anthony, Joe, and Kim Ferrauilo.

6. New York State Department of Environmental Conservation, 1994, NYS DEC Region 8 Oil & Hazardous Material Spill - Fact Sheet.

7. Harter, Secrest & Emery, 25 May 1994, letter to Michael A. Ferrauilo, Re: Environmental Site Assessment of Chemreal Site.

8. D.J. Parone & Associates, 13 June 1994, Letter to Mr. Robert Patterson (President of Chemreal Corporation).

9. City of Rochester, 24 June 1994, Letter to Whom it May Concern, written by Stephen Trenton, Battalion Chief and Acting Fire Marshal.

10. D.J. Parone & Associates, 24 June 1994, Letter to Mr. Robert Patterson (President of Chemreal Corporation).

11. D.J. Parone & Associates, 6 September 1994, Letter to Mr. Robert Patterson (President of Chemreal Corporation).

12. URS Greiner Consultants, Inc., 2000, Remedial Investigation Data Summary Report, Chem Sales Site, Town of Gates, Prepared for the NYSDEC Division of Environmental Remediation.

13. Haley & Aldrich of New York, 2000, RI/FS Work Plan Valeo Former GM - Delco Chassis Facility Site, Rochester, New York, prepared for General Motors Corporation, Detroit, Michigan.

14. Brett, C.E., et al., 1995, Revised Stratigraphy and Correlation of the Niagaran Provincial Series (Medina, Clinton, and Lockport Groups) in the Type Area of Western New York, U.S. Geological Survey Bulletin 2086

15. National Weather Service web site, 29 January 2002, including the following pages:
    http://tgsv5.nws.noaa.gov/er/buf/ROCpcpn.htm
    http://tgsv5.nws.noaa.gov/er/buf/climate/rocprecli1101.htm
    http://tgsv5.nws.noaa.gov/er/buf/climate/rocprecli1201.htm

16. Marling, Greg, City of Rochester Water Works, Engineer, 31 January 2002, Personal conversation with Stephanie Reynolds Smith of Ecology & Environment, Inc.

17. Monroe County Water Authority web site, 30 January 2002, http://www.mcwa.com/srvceara.htm

18. Pienting, Susan, Monroe County Department of Health, 31 January 2002, Personal conversation with Stephanie Reynolds Smith of Ecology & Environment, Inc.

19. American Automobile Association, 1999, Map of Buffalo/Rochester/Niagara Falls, New York, Downtown and Vicinity.

20. United States Geological Survey, 1971 (with 1978 photorevision), Rochester West Quadrangle Map.

21. O'Hara, Patrick, National Weather Service, Buffalo, 30 January 2002, Personal conversation with Stephanie Reynolds Smith of Ecology & Environment, Inc.

22. United States Department of Agriculture Soil Conservation Service (in cooperation with Cornell University Agricultural Experiment Station), 1973, Soil Survey Monroe County, New York.

23. Wegman, Dan, United States Department of Agriculture - Monroe County Soil Conservation Service, 1 February 2002, Personal conversation with Stephanie Reynolds Smith of Ecology & Environment, Inc.

24. U.S. Census Bureau Survey, 2000.

25. Ecology & Environment, Inc., 12-30 November 2001, Preliminary site investigation field investigation observations.

26. U.S. Fish and Wildlife Service, 21 February 2002, National Wetland Inventory, GeoCommunity website (http://data.geocomm.com/catalog/US/61061/3051/index.html).

27. New York State Department of Environmental Conservation, 1996, Habitat Inventory Unit, Latham, New York.

Attachment 1: Stratigraphic Column

Stratigraphic Column In the Area of the Abandoned Chemicals Facility Site

<table>
<tr><td>Penfield Dolostone</td><td>Lockport Formation</td><td>Lockport Group</td></tr>
<tr><td>DeCew Dolostone</td><td></td><td rowspan="3">Clinton Group</td></tr>
<tr><td>Gates Dolostone</td><td rowspan="2">Rochester Formation</td></tr>
<tr><td>Rochester Shale</td></tr>
</table>

Attachment 2: Correspondence from the New York State Natural Heritage Program

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, Albany, New York 12233-4757
Phone: (518) 402-8935 • **FAX:** (518) 402-8925
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

February 19, 2002

Sara Allen
Ecology and Environment Inc
Buffalo Corporate Center
368 Pleasant View Drive
Lancaster, NY 14086

Dear Ms. Allen:

In response to your recent request, we have reviewed the New York Natural Heritage Program databases with respect to the proposed Preliminary Site Assessment for an abandoned chemical sales facility, corner of Jay and Dodge Streets, site as indicated on the map you provided, located in the City of Rochester, Monroe County.

Enclosed is a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site. The information contained in this report is considered sensitive and may not be released to the public without permission from the New York Natural Heritage Program.

Your project location is within, or adjacent to, a designated Significant Coastal Fish and Wildlife Habitat. This habitat is part of New York State's Coastal Management Program (CMP), which is administered by the NYS Department of State (DOS). Projects which may impact the habitat are reviewed by DOS for consistency with the CMP. For more information regarding this designated habitat and applicable consistency review requirements, please contact:

Greg Capobianco or Steven C. Resler - (518) 474-6000
NYS Department of State
Division of Coastal Resources and Waterfront Revitalization
41 State Street, Albany, NY 12231

The presence of rare species may result in your project requiring additional permits, permit conditions, or review. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our databases. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. This information should NOT be substituted for on-site surveys that may be required for environmental impact assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

Sincerely,

Teresa Mackey

Teresa Mackey
Information Services
NY Natural Heritage Program

Encs.

cc: Reg. 5, Wildlife Mgr.
Reg. 5, Fisheries Mgr.
Reg. 5, Bureau of Habitat
Peter Nye, Endangered Species Unit, 518-402-8859

DIVISION OF ENVIRONMENTAL PERMITS

June 2001

REGION	COUNTIES	REGIONAL PERMIT ADMINISTRATORS
1	Nassau & Suffolk Telephone: (631) 444-0365	John Pavacic NYS-DEC BLDG. 40 SUNY at Stony Brook Stony Brook, NY 11790-2356
2	New York City (Boroughs of Manhattan, Brooklyn, Bronx, Queens, & Staten Island Telephone: (718) 482-4997	John Cryan NYS-DEC One Hunters Point Plaza 47-40 21st Street Long Island City, NY 11101-5407
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster & Westchester Telephone: (845) 256-3054	Margaret Duke (Peg) NYS-DEC 21 South Putt Corners Road New Paltz, NY 12561-1696
4	Albany, Columbia, Greene, Montgomery, Rensselaer & Schenectady Telephone: (518) 357-2069	William Clarke NYS-DEC 1150 North Wescott Road Schenectady, NY 12306-2014
4 (sub-office)	Delaware, Otsego & Schoharie Telephone: (607) 652-7741	John Feltman NYS-DEC Route 10 HCR#1, Box 3A Stamford, NY 12167-9503
5	Clinton, Essex, Franklin & Hamilton Telephone: (518) 897-1234	Richard Wild NYS-DEC Route 86, PO Box 296 Ray Brook, NY 12977-0296
5 (sub-office)	Fulton, Saratoga, Warren & Washington Telephone: (518) 623-3671	Thomas Hall* NYS-DEC County Route 40 PO Box 220 Warrensburg, NY 12885-0220
6	Jefferson, Lewis & St. Lawrence Telephone: (315) 785-2245	Brian Fenlon NYS-DEC State Office Building 317 Washington Street Watertown, NY 13601-3787
6 (sub-office)	Herkimer & Oneida Telephone: (315) 793-2555	J. Joseph Homburger* NYS-DEC State Office Building 207 Genesee Street Utica, NY 13501-2885

USERS GUIDE TO NY NATURAL HERITAGE DATA

New York Natural Heritage Program, 700 Troy-Schenectady Road, Latham NY 12110-2400 phone: (518) 783-3932

NATURAL HERITAGE PROGRAM: The Natural Heritage Program is an ongoing, systematic, scientific inventory whose goal is to compile and maintain data on the rare plants and animals native to New York State, and significant ecological communities. The data provided in the report facilitate sound planning, conservation, and natural resource management and help to conserve the plants, animals and ecological communities that represent New York's natural heritage.

DATA SENSITIVITY: The data provided in the report are ecologically sensitive and should be treated in a sensitive manner. The report is for your in-house use and should not be released, distributed or incorporated in a public document without prior permission from the Natural Heritage Program.

NATURAL HERITAGE REPORTS (may contain any of the following types of data):

COUNTY NAME: County where the occurrence of a rare species or significant ecological community is located.
TOWN NAME: Town where the occurrence of a rare species or significant ecological community is located.
USGS 7 ½' TOPOGRAPHIC MAP: Name of 7.5 minute US Geological Survey (USGS) quadrangle map (scale 1:24,000).

SIZE (acres): Approximate acres occupied by the rare species or significant ecological community at this location. A blank indicates unknown size.
SCIENTIFIC NAME: Scientific name of the occurrence of a rare species or significant ecological community.
COMMON NAME: Common name of the occurrence of a rare species or significant ecological community.
ELEMENT TYPE: Type of element (i.e. plant, animal, significant ecological community, other, etc.)

LAST SEEN: Year rare species or significant ecological community last observed extant at this location.

EO RANK: Comparative evaluation summarizing the quality, condition, viability and defensibility of this occurrence. Use with LAST SEEN.
- A-E = Extant: A=excellent, B=good, C=marginal, D=poor, E=extant but with insufficient data to assign a rank of A - D.
- F = Failed to find. Did not locate species, but habitat is still there and further field work is justified.
- H = Historical. Historical occurrence without any recent field information.
- X = Extirpated. Field/other data indicates element/habitat is destroyed and the element no longer exists at this location.
- ? = Unknown.
- Blank = Not assigned.

NEW YORK STATE STATUS (animals): Categories of Endangered and Threatened species are defined in New York State Environmental Conservation Law section 11-0535. Endangered, Threatened, and Special Concern species are listed in regulation 6NYCRR 182.5.

E = Endangered Species: any species which meet one of the following criteria:
1) Any native species in imminent danger of extirpation or extinction in New York.
2) Any species listed as endangered by the United States Department of the Interior, as enumerated in the Code of Federal Regulations 50 CFR 17.11.

T = Threatened Species: any species which meet one of the following criteria:
1) Any native species likely to become an endangered species within the foreseeable future in NY.
2) Any species listed as threatened by the U.S. Department of the Interior, as enumerated in the Code of the Federal Regulations 50 CFR 17.11.

SC = Special Concern Species: those species which are not yet recognized as endangered or threatened, but for which documented concern exists for their continued welfare in New York. Unlike the first two categories, species of special concern receive no additional legal protection under Environmental Conservation Law section 11-0535 (Endangered and Threatened Species).

P = Protected Wildlife (defined in Environmental Conservation Law section 11-0103): wild game, protected wild birds, and endangered species of wildlife.

U = Unprotected (defined in Environmental Conservation Law section 11-0103): the species may be taken at any time without limit; however a license to take may be required.

G = Game (defined in Environmental Conservation Law section 11-0103): any of a variety of big game or small game species as stated in the Environmental Conservation Law; many normally have an open season for at least part of the year, and are protected at other times.

NEW YORK STATE STATUS (plants): The following categories are defined in regulation 6NYCRR part 193.3 and apply to NYS Environmental Conservation Law section 9-1503.

E = Endangered Species: listed species are those with:
1) 5 or fewer extant sites, or
2) fewer than 1,000 individuals, or
3) restricted to fewer than 4 U.S.G.S. 7 ½ minute topographical maps, or
4) species listed as endangered by U.S. Department of Interior, as enumerated in Code of Federal Regulations 50 CFR 17.11.

T = Threatened: listed species are those with:
1) 6 to fewer than 20 extant sites, or
2) 1,000 to fewer than 3,000 individuals, or
3) restricted to not less than 4 or more than 7 U.S.G.S. 7 and ½ minute topographical maps, or
4) listed as threatened by U.S. Department of Interior, as enumerated in Code of Federal Regulations 50 CFR 17.11.

R = Rare: listed species have:
1) 20 to 35 extant sites, or
2) 3,000 to 5,000 individuals statewide.

continued on next page

Natural Heritage Report on Rare Species and Ecological Communities

Prepared 14 February 2002 by NY Natural Heritage Program, NYS DEC, Albany, New York

Within 4 miles of project site.

This report contains SENSITIVE information that should be treated in a sensitive manner -- Please see cover letter. Refer to the Users' Guide for explanations of codes, ranks, and fields. We do not always provide maps for locations of species most vulnerable to disturbance, nor of some records whose locations and/or extents are not precisely known or are too large to display.

County
Town

Scientifc Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Location	Office Use
* MONROE				
** CITY OF ROCHESTER				
Houstonia purpurea var purpurea PURPLE BLUETS Vascular Plant	ENDANGERED G5T5 SH	H 1905-09-03	GENESEE FALLS	4307726 M
Pinguicula vulgaris BUTTERWORT Vascular Plant	THREATENED G5 S2	H 1841	GENESEE FALLS	4307726 M
Buchnera americana BLUE-HEARTS Vascular Plant	ENDANGERED G5? SH	H NO DATE	GENESEE RIVER GREECE	4307726 M
Falco peregrinus PEREGRINE FALCON Bird	ENDANGERED G4 S3B,SZN (PS:LE)	E 1998	ROCHESTER	4307725 S ESU

Natural Heritage Report on Rare Species and Ecological Communities

Prepared 14 February 2002 by NY Natural Heritage Program, NYS DEC, Albany, New York

Within 4 miles of project site.

This report contains SENSITIVE information that should be treated in a sensitive manner -- Please see cover letter. Refer to the Users' Guide for explanations of codes, ranks, and fields. We do not always provide maps for locations of species most vulnerable to disturbance, nor of some records whose locations and/or extents are not precisely known or are too large to display.

County Town Scientifc Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Location	Office Use
* MONROE				
** CITY OF ROCHESTER				
Carex formosa HANDSOME SEDGE Vascular Plant	THREATENED G4 S2S3	H 1921-05-23	SENECA PARK	4307725 M
** GATES				
Aster borealis RUSH ASTER Vascular Plant	THREATENED G5 S2	H 1867-09-08	FISKS WOODS	4307726 M
Physalis virginiana VIRGINIA GROUND-CHERRY Vascular Plant	ENDANGERED G5 SH	H NO DATE	GATES	4307726 M
** GREECE, CITY OF ROCHESTER				
Juniperus horizontalis PROSTRATE JUNIPER Vascular Plant	ENDANGERED G5 S1	H NO DATE	GENESEE RIVER GREECE	4307725 M

8 Records Processed

Natural Heritage Report on Rare Species and Ecological Communities

Prepared 14 February 2002 by NY Natural Heritage Program, NYS DEC, Albany, New York

Surface water features, wetland environments, and aquatic biota within 15 miles of project site

This report contains SENSITIVE information that should be treated in a sensitive manner -- Please see cover letter. Refer to the Users' Guide for explanations of codes, ranks, and fields. We do not always provide maps for locations of species most vulnerable to disturbance, nor of some records whose locations and/or extents are not precisely known or are too large to display.

County / Town / Scientifc Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Location	Office Use
* LIVINGSTON				
** CALEDONIA				
Juniperus horizontalis PROSTRATE JUNIPER Vascular Plant	ENDANGERED G5 S1	H 1882	CALEDONIA	4207787 M
MARL POND SHORE Community	UNPROTECTED G3G4 S1	BC 1986-11-26	CALEDONIA SWAMP	4207787 S
Triglochin palustris MARSH ARROW-GRASS Vascular Plant	THREATENED G5 S2	AB 1986-11-26	CALEDONIA SWAMP	4207787 S
BACKWATER SLOUGH Community	UNPROTECTED G4 S2S3	AB 1998-07-29	LOG POND FLATS	4207786 S
Carya laciniosa BIG SHELLBARK HICKORY Vascular Plant	THREATENED G5 S2	A 1998-07-29	LOG POND FLATS	4207786 S
FLOODPLAIN FOREST Community	UNPROTECTED G3G4 S2S3	A 1998-07-29	LOG POND FLATS	4207786 S
Hydrastis canadensis GOLDEN-SEAL Vascular Plant	THREATENED G4 S2	BC 1998-07-29	LOG POND FLATS	4207786 S
SHRUB SWAMP Community	UNPROTECTED G5 S5	B 1998-07-29	LOG POND FLATS	4207786 S

Natural Heritage Report on Rare Species and Ecological Communities

Prepared 14 February 2002 by NY Natural Heritage Program, NYS DEC, Albany, New York

Surface water features, wetland environments, and aquatic biota within 15 miles of project site

This report contains SENSITIVE information that should be treated in a sensitive manner -- Please see cover letter. Refer to the Users' Guide for explanations of codes, ranks, and fields. We do not always provide maps for locations of species most vulnerable to disturbance, nor of some records whose locations and/or extents are not precisely known or are too large to display.

County Town Scientifc Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Location	Office Use
* LIVINGSTON, MONROE				
** CALEDONIA, WHEATLAND				
WATERFOWL CONCENTRATION AREA Other	UNPROTECTED S3S4	E 1985-PRE	CALEDONIA LOWLANDS AND CHRISTIE CREEK	4207787 S
* MONROE				
** CHILI				
Carex lupuliformis FALSE HOP SEDGE Vascular Plant	RARE G4 S2S3	CD 1988-08-30	BLACK CREEK SWAMP CHILI	4307716 S
Carya laciniosa BIG SHELLBARK HICKORY Vascular Plant	THREATENED G5 S2	BC 1992-09-02	BLACK CREEK SWAMP CHILI	4307716 S
SILVER MAPLE-ASH SWAMP Community	UNPROTECTED G3G4 S2S3	AB 1992-09-02	BLACK CREEK SWAMP CHILI	4307716 S
** CHILI, HENRIETTA				
Cacalia suaveolens SWEET-SCENTED INDIAN-PLANTAIN Vascular Plant	ENDANGERED G3 S1	F 1896-PRE	GENESEE RIVER AT BLACK CREEK	4307716 M
** CITY OF ROCHESTER				
Pinguicula vulgaris BUTTERWORT Vascular Plant	THREATENED G5 S2	H 1841	GENESEE FALLS	4307726 M
** GATES				

This report contains SENSITIVE information that should be treated in a sensitive manner -- Please see cover letter. Refer to the Users' Guide for explanations of codes, ranks, and fields.
We do not always provide maps for locations of species most vulnerable to disturbance, nor of some records whose locations and/or extents are not precisely known or are too large to display.

County Town Scientifc Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Location	Office Use
* MONROE				
** GATES				
Physalis virginiana VIRGINIA GROUND-CHERRY Vascular Plant	ENDANGERED G5 SH	H NO DATE	GATES	4307726 M
** GREECE				
GREAT LAKES AQUATIC BED Community	UNPROTECTED G4 S3	B 1994-08-09	BRADDOCK BAY	4307736 S
Chlidonias niger BLACK TERN Bird	ENDANGERED G4 S2B	C 1995-07-03	BUCK POND	4307736 S ESU
GREAT LAKES AQUATIC BED Community	UNPROTECTED G4 S3	B 1994-08-05	BUCK POND	4307736 S
Asimina triloba PAWPAW Vascular Plant	THREATENED G5 S2	E 1991-09	LARKIN CREEK GREECE	4307726 M
** GREECE, PARMA				
Chlidonias niger BLACK TERN Bird	ENDANGERED G4 S2B	C 1995-07-30	BRADDOCK BAY COMPLEX	4307736 S ESU
Aphredoderus sayanus PIRATE PERCH Fish	UNPROTECTED G5 S1	E 1995-05-22	BUTTONWOOD CREEK	4307736 S

This report contains SENSITIVE information that should be treated in a sensitive manner -- Please see cover letter. Refer to the Users' Guide for explanations of codes, ranks, and fields. We do not always provide maps for locations of species most vulnerable to disturbance, nor of some records whose locations and/or extents are not precisely known or are too large to display.

County Town Scientifc Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Location	Office Use
* MONROE				
** IRONDEQUOIT, CITY OF ROCHESTER				
Pterospora andromedea GIANT PINE-DROPS Vascular Plant	ENDANGERED G5 S1	H 1973-11-08	IRONDEQUOIT BAY	4307725
** IRONDEQUOIT, PENFIELD, CITY OF ROCHESTER				
Triphora trianthophora NODDING POGONIA Vascular Plant	ENDANGERED G3G4 S1S2	H 1945-08-19	IRONDEQUOIT WETLANDS	4307725
** IRONDEQUOIT, PENFIELD, CITY OF ROCHESTER, BRIGHTON				
Cistothorus platensis SEDGE WREN Bird	THREATENED G5 S3B,SAN	H 1980	IRONDEQUOIT BAY	4307725 M ESU
** MENDON				
Pedicularis lanceolata SWAMP LOUSEWORT Vascular Plant	THREATENED G5 S2	C 1994-06-09	HUNDRED ACRE POND	4307715
Carex decomposita CYPRESS-KNEE SEDGE Vascular Plant	ENDANGERED G3 SH	H 1922-08-05	MENDON PONDS	4307715 M
Aster borealis RUSH ASTER Vascular Plant	THREATENED G5 S2	C 1992-08-17	QUAKER POND FEN	4307715

This report contains SENSITIVE information that should be treated in a sensitive manner -- Please see cover letter. Refer to the Users' Guide for explanations of codes, ranks, and fields. We do not always provide maps for locations of species most vulnerable to disturbance, nor of some records whose locations and/or extents are not precisely known or are too large to display.

County
Town

Scientifc Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Location	Office Use
* MONROE				
** MENDON				
Carex buxbaumii BROWN BOG SEDGE Vascular Plant	THREATENED G5 S2	AB 2000-07-11	QUAKER POND FEN	4307715
Carex sartwellii SARTWELL'S SEDGE Vascular Plant	THREATENED G4G5 S1S2	A 2000-06-07	QUAKER POND FEN	4307715
MARL FEN Community	UNPROTECTED G2G3 S1	F 1943	QUAKER POND FEN	4307715
Pedicularis lanceolata SWAMP LOUSEWORT Vascular Plant	THREATENED G5 S2	C 1992-08-17	QUAKER POND FEN	4307715
RICH GRAMINOID FEN Community	UNPROTECTED G3 S1S2	AB 2000-07-11	QUAKER POND FEN	4307715
RICH SHRUB FEN Community	UNPROTECTED G3G4 S1S2	AB 1998-06-26	QUAKER POND FEN	4307715
Scleria verticillata LOW NUTRUSH Vascular Plant	ENDANGERED G5 S1	A 1992-08-17	QUAKER POND FEN	4307715
Scorpidium scorpioides SCORPIDIUM Non-vascular Plant	UNPROTECTED G4G5 S1S2	E 2000-07-11	QUAKER POND FEN	4307715

This report contains SENSITIVE information that should be treated in a sensitive manner -- Please see cover letter. Refer to the Users' Guide for explanations of codes, ranks, and fields. We do not always provide maps for locations of species most vulnerable to disturbance, nor of some records whose locations and/or extents are not precisely known or are too large to display.

County / Town / Scientifc Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Location	Office Use
* MONROE				
** MENDON				
Solidago ohioensis OHIO GOLDENROD Vascular Plant	THREATENED G4 S2	AB 1992-08-17	QUAKER POND FEN	4307715
Triglochin palustris MARSH ARROW-GRASS Vascular Plant	THREATENED G5 S2	C 2000-07-11	QUAKER POND FEN	4307715
Valeriana uliginosa MARSH VALERIAN Vascular Plant	ENDANGERED G4Q S1S2	B 2000-06-07	QUAKER POND FEN	4307715 S
** MENDON, PITTSFORD				
Aster borealis RUSH ASTER Vascular Plant	THREATENED G5 S2	H 1918-08-17	MENDON PONDS	4307715
** PARMA				
Aphredoderus sayanus PIRATE PERCH Fish	UNPROTECTED G5 S1	E 1994-05-19	BUTTONWOOD CREEK BURRITT ROAD	4307737 S
Aphredoderus sayanus PIRATE PERCH Fish	UNPROTECTED G5 S1	H 1948-09-07	NORTH CREEK AT BENNETT ROAD	4307737 M
Erimyzon sucetta LAKE CHUBSUCKER Fish	THREATENED G5 SH	H 1937-03-07	WEST CREEK	4307737 M BOF

This report contains SENSITIVE information that should be treated in a sensitive manner -- Please see cover letter. Refer to the Users' Guide for explanations of codes, ranks, and fields. We do not always provide maps for locations of species most vulnerable to disturbance, nor of some records whose locations and/or extents are not precisely known or are too large to display.

County Town Scientifc Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Location	Office Use
* MONROE				
** PENFIELD				
Poa sylvestris WOODLAND BLUEGRASS Vascular Plant	ENDANGERED G5 S1	H 1948-06-08	PENFIELD	4307724 M
Ardea herodias GREAT BLUE HERON Bird	PROTECTED G5 S5	B 1994	THOUSAND ACRE SWAMP	4307724 S
Cistothorus platensis SEDGE WREN Bird	THREATENED G5 S3B,SAN	E 1984	THOUSAND ACRE SWAMP	4307724 M ESU
Cuscuta polygonorum SMARTWEED DODDER Vascular Plant	ENDANGERED G5 S1	H NO DATE	THOUSAND ACRE SWAMP	4307724 M
Equisetum palustre MARSH HORSETAIL Vascular Plant	THREATENED G5 S2	H NO DATE	THOUSAND ACRE SWAMP	4307724 M
Geum virginianum ROUGH AVENS Vascular Plant	ENDANGERED G5 S2	D 1986-07-01	THOUSAND ACRE SWAMP	4307724 S
** PERINTON				
Pedicularis lanceolata SWAMP LOUSEWORT Vascular Plant	THREATENED G5 S2	A 1990-09-06	POWDER MILLS KETTLE AND KAME	4307714 S

This report contains SENSITIVE information that should be treated in a sensitive manner -- Please see cover letter. Refer to the Users' Guide for explanations of codes, ranks, and fields. We do not always provide maps for locations of species most vulnerable to disturbance, nor of some records whose locations and/or extents are not precisely known or are too large to display.

County / Town / Scientifc Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Location	Office Use
* MONROE				
** PERINTON				
RED MAPLE-TAMARACK PEAT SWAMP Community	UNPROTECTED G3G4 S2S3	B 1990-09-06	POWDER MILLS KETTLE AND KAME	4307714 S
RICH GRAMINOID FEN Community	UNPROTECTED G3 S1S2	B 1990-09-06	POWDER MILLS KETTLE AND KAME	4307714 S
** PERINTON, PITTSFORD				
Buchnera americana BLUE-HEARTS Vascular Plant	ENDANGERED G5? SH	H 1907-10-10	POWDER MILL PARK	4307714 M
** PITTSFORD				
Erigenia bulbosa HARBINGER-OF-SPRING Vascular Plant	ENDANGERED G5 S1	C 2000-04-20	IRONDEQUOIT CREEK WOODS	4307714 S
Trillium sessile TOAD-SHADE Vascular Plant	ENDANGERED G4G5 S1	C 2000-04-20	IRONDEQUOIT CREEK WOODS	4307714 S
** PITTSFORD, MENDON				
Carya laciniosa BIG SHELLBARK HICKORY Vascular Plant	THREATENED G5 S2	H 1926-08-29	MENDON PONDS	4307715 M
** RIGA				

This report contains SENSITIVE information that should be treated in a sensitive manner -- Please see cover letter. Refer to the Users' Guide for explanations of codes, ranks, and fields.
We do not always provide maps for locations of species most vulnerable to disturbance, nor of some records whose locations and/or extents are not precisely known or are too large to display.

County / Town / Scientifc Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Location	Office Use
* MONROE				
** RIGA				
NORTHERN WHITE CEDAR SWAMP Community	UNPROTECTED G3G4 S2S3	BC 1991-07-27	BETTERIDGE ROAD WETLAND	4307717 S
SILVER MAPLE-ASH SWAMP Community	UNPROTECTED G3G4 S2S3	AB 1990-07-08	HOTEL CREEK WETLANDS	4307718 S
NORTHERN WHITE CEDAR SWAMP Community	UNPROTECTED G3G4 S2S3	B 1991-07-27	RIGA CENTER WETLAND	4307717 S
Dryopteris celsa LOG FERN Vascular Plant	ENDANGERED G4 S1	H 1945-09-14	RIGA SWAMP	4307718 M
** RUSH				
Trillium flexipes NODDING TRILLIUM Vascular Plant	ENDANGERED G5 S1	H 1918	GOLAH	4207786 M
Villosa iris RAINBOW Bivalve Mollusc	UNPROTECTED G5 S2S3	C 1988-09-16	HONEOYE CREEK RUSH	4207786 S
Carya laciniosa BIG SHELLBARK HICKORY Vascular Plant	THREATENED G5 S2	F 1899-08-28	NORTH RUSH	4307716 M

This report contains SENSITIVE information that should be treated in a sensitive manner -- Please see cover letter. Refer to the Users' Guide for explanations of codes, ranks, and fields. We do not always provide maps for locations of species most vulnerable to disturbance, nor of some records whose locations and/or extents are not precisely known or are too large to display.

County Town Scientifc Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Location	Office Use
* MONROE				
** RUSH				
Carex formosa HANDSOME SEDGE Vascular Plant	THREATENED G4 S2S3	H 1920-06-15	RUSH	4207786 M
VERNAL POOL Community	UNPROTECTED G4 S3S4	E 1991-02-27	RUSH OAK OPENING	4207786 S
Carex formosa HANDSOME SEDGE Vascular Plant	THREATENED G4 S2S3	H 1920-06-15	WEST RUSH	4207786 M
** SWEDEN				
Asimina triloba PAWPAW Vascular Plant	THREATENED G5 S2	E 1989-09-23	OTIS CREEK	4307728 S
** WEBSTER, CITY OF ROCHESTER, IRONDEQUOIT, PENFIELD				
WARM WATER FISH CONCENTRATION AREA Other	UNPROTECTED S4	E 1985-PRE	IRONDEQUOIT BAY	4307725 S
** WHEATLAND				
Pedicularis lanceolata SWAMP LOUSEWORT Vascular Plant	THREATENED G5 S2	AB 1991-09-03	WINSLOW ROAD WETLAND	4307717 S

This report contains SENSITIVE information that should be treated in a sensitive manner -- Please see cover letter. Refer to the Users' Guide for explanations of codes, ranks, and fields. We do not always provide maps for locations of species most vulnerable to disturbance, nor of some records whose locations and/or extents are not precisely known or are too large to display.

County Town Scientifc Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Location	Office Use
* MONROE				
** WHEATLAND				
RICH GRAMINOID FEN Community	UNPROTECTED G3 S1S2	B 1991-09-03	WINSLOW ROAD WETLAND	4307717 S
Triglochin palustris MARSH ARROW-GRASS Vascular Plant	THREATENED G5 S2	AB 1991-09-03	WINSLOW ROAD WETLAND	4307717 S
* MONROE, NY STATE WATERS				
** GREECE, NY STATE WATERS				
Chlidonias niger BLACK TERN Bird	ENDANGERED G4 S2B	F 1989-07-10	ROUND POND	4307736 S
* ONTARIO				ESU
** VICTOR				
Geum vernum SPRING AVENS Vascular Plant	ENDANGERED G5 S1S2	E? 1977	BENTLEY WOODS	4307714 M
Pedicularis lanceolata SWAMP LOUSEWORT Vascular Plant	THREATENED G5 S2	BC 1991-09-02	BENTLEY WOODS	4307714 S
RICH SHRUB FEN Community	UNPROTECTED G3G4 S1S2	B 1991-09-02	BENTLEY WOODS	4307714 S

This report contains SENSITIVE information that should be treated in a sensitive manner -- Please see cover letter. Refer to the Users' Guide for explanations of codes, ranks, and fields. We do not always provide maps for locations of species most vulnerable to disturbance, nor of some records whose locations and/or extents are not precisely known or are too large to display.

County Town Scientifc Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Location	Office Use
* ONTARIO				
** VICTOR				
Valeriana uliginosa MARSH VALERIAN Vascular Plant	ENDANGERED G4Q S1S2	H 1916-05-23	VICTOR	4207784

75 Records Processed

Attachment 3: Correspondence From the U.S. Fish and Wildlife Service

United States Department of the Interior

FISH AND WILDLIFE SERVICE
3817 Luker Road
Cortland, NY 13045

March 14, 2002

Ms. Sara Allen
Environmental Scientist
Ecology & Environment, Inc.
Buffalo Corporate Center
368 Pleasant View Drive
Lancaster, NY 14086

Dear Ms. Allen:

This responds to your letter of February 1, 2002, requesting information on the presence of Federally listed or proposed endangered or threatened species in the vicinity of the abandoned chemical sales facility at Jay and Dodge Streets in the City of Rochester, Monroe County, New York.

Except for occasional transient individuals, no Federally listed or proposed endangered or threatened species under our jurisdiction are known to exist in the project impact area. In addition, no habitat in the project impact area is currently designated or proposed "critical habitat" in accordance with provisions of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.). Therefore, no Biological Assessment or further Section 7 consultation under the Endangered Species Act is required with the U.S. Fish and Wildlife Service (Service). Should project plans change, or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered.

The above comments pertaining to endangered species under our jurisdiction are provided pursuant to the Endangered Species Act. This response does not preclude additional Service comments under other legislation.

The handsome sedge (*Carex formosa*) is a species of concern reported from the vicinity of the proposed work. The handsome sedge is considered a species of concern (formerly known as a Category 2 Candidate species) by the Service and its status is being monitored throughout much of its range. Species of concern do not receive substantive or procedural protection under the Endangered Species Act; however, the Service does encourage Federal agencies and other appropriate parties to consider this species in the project planning process.

The New York State Department of Environmental Conservation (State) requests that you be advised that the peregrine falcon (*Falco peregrinus*), listed as endangered by the State of New York, is known to occur in the vicinity of the project area. The project should, therefore, be coordinated with the State. The State contact for the peregrine falcon is Mr. Peter Nye, Endangered Species Unit, 625 Broadway, Albany, NY 12233 (telephone: [518] 402-8859).

The handsome sedge is also of concern to the State of New York. The State contact for this species is Mr. David VanLeuven, New York State Department of Environmental Conservation, New York Natural Heritage Program Information Services, 625 Broadway, Albany, NY 12233 (telephone: [518] 402-8984).

For additional information on fish and wildlife resources or State-listed species, we suggest you contact the appropriate New York State Department of Environmental Conservation regional office(s) as shown on the enclosed map, and:

New York State Department of Environmental Conservation
New York Natural Heritage Program Information Services
625 Broadway
Albany, NY 12233
(518) 402-8935

Since wetlands may be present, you are advised that National Wetlands Inventory (NWI) maps may or may not be available for the project area. However, while the NWI maps are reasonably accurate, they should not be used in lieu of field surveys for determining the presence of wetlands or delineating wetland boundaries for Federal regulatory purposes. Copies of specific NWI maps can be obtained from:

Cornell Institute for Resource Information Systems
302 Rice Hall
Cornell University
Ithaca, NY 14853
(607) 255-4864

Work in certain waters and wetlands of the United States may require a permit from the U.S. Army Corps of Engineers (Corps). If a permit is required, in reviewing the application pursuant to the Fish and Wildlife Coordination Act, the Service may concur, with or without stipulations, or recommend denial of the permit depending upon the potential adverse impacts on fish and wildlife resources associated with project implementation. The need for a Corps permit may be determined by contacting the appropriate Corps office(s) as shown on the enclosed map.

If you require additional information please contact Michael Stoll at (607) 753-9334.

Sincerely,

Mark W. Clough
Acting For
David A. Stilwell
Field Supervisor

Enclosure

cc: NYSDEC, Avon, NY (Environmental Permits)
NYSDEC, Albany, NY (Natural Heritage Program, Attn: D. VanLeuven)
NYSDEC, Albany, NY (Endangered Species Unit, Attn: P. Nye)
COE, Buffalo, NY

B Photolog

Photographic Log
Abandoned Chemical Sales Facility Site

Camera: Olympus D-600L Zoom
Photographers: J. Nickerson, G. Florentino
Date: April 4, 2001

Photo B-1 MA Ferrauilo Plumbing building at 1600 Jay Street. This building was constructed in the 1950s.

Photo B-2 Looking north, with MA Ferrauilo Plumbing to the right, and railroad tracks and Valeo Electrical Systems to the left.

Photo B-3 Open field north of MA Ferrauilo Plumbing building at 1600 Jay Street.

Photo B-4 Northern portion of the open field at 1600 Jay Street, and Monroe Extinguisher Company building at 105 Dodge Street.

Photo B-5 Looking north on Dodge Street with Monroe Extinguisher, 105 Dodge Street, (foreground) and Buell Specialty Steel, 107 Dodge Street, (background) shown.

Photo B-6 Buell Specialty Steel (107 Dodge Street).

Photo B-7 Looking north on the east side of Dodge Street with residential apartments to the right. Background surface soil samples were taken on easements between sidewalk and road.

C Geoprobe and Monitoring Well Subsurface Boring Logs

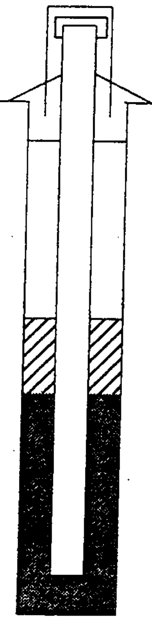
Geoprobe Boring Logs

Lock Number ______

Inner Casing Material ______

Inner Casing Inside Diameter ____ inches

SCREENED WELL



Stick-up ______ ft

GROUND SURFACE

Top of Grout ______ ft

Top of Seal at ______ ft

Top of Sand Pack ______ ft

Top of Screen at ______ ft

Bottom of Screen at ______ ft

Bottom of Hole at ______ ft

Bottom of Sandpack at ______

Quantity of Material Used:

Bentonite Pellets ______

Cement ______

Borehole Diameter ______ inches

Cement/ Bentonite ______

Grout ______

Screen Slot Size ______

Screen Type ______

☐ PVC ______

☐ Stainless Steel ______

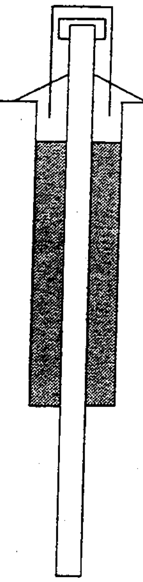
Pack Type/Size:

☐ Sand ______

☐ Gravel ______

☐ Natural ______

OPEN-HOLE WELL



Stick-up ______ ft

Inner Casing Material ______

Inner Casing Inside Diameter ______ inches

Outer Casing Diameter ______ inches

Borehole Diameter ______ ft

Bedrock ______ ft

Bottom of Rock Socket/ Outer Casing ______ ft

Bottom of Inner Casing ______ ft

Corehole Diameter ______

Bottom of Corehole ______ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-5 Brown SAND with clay, silt + gravel (1mm-4cm)	☒	○	○
2	No water	○	○	○
3		○	○	○
4		○	○	○
5		○	○	○
6		○	○	○
7		○	○	○
8		○	○	○
9		○	○	○
10		○	○	○
11		○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

DRILLING LOG FOR GP-2

Project Name: ACSF

Site Location: Rochester, NY

Date Started/Finished: 11/12/01

Drilling Company: SJB

Driller's Name: Frank Minnuleua / Matt Matthies

Geologist's Name: A. Reynolds Smith

Geologist's Signature: A. Reynolds Smith

Rig Type (s): Geoprobe

Drilling Method (s): Geoprobe (1.5")

Bit Size (s): ______ Auger Size (s): ______

Auger/Split Spoon Refusal: 5.2'

Total Depth of Borehole Is: 5.2'

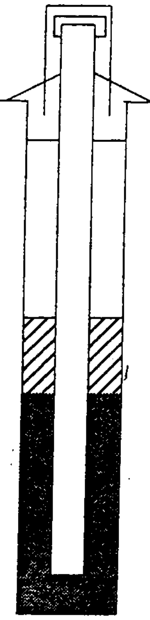
Total Depth of Corehole Is: ______

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery ft	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
									1' 1.5 >100 Downhole	
1									1.5' 5	
2	1			1450		4			2' 10ppm 2.5' 20ppm	
3										
4										
5	2			1457		1.2				Sample 4'-5'
6										Novettia sample for (so) VOCs, glycol (15:07)
7										
8										
9										
10										
11										
12										
13										
14										
15										

SCREENED WELL



Lock Number ____________

Stick-up ____________ ft

Inner Casing Material ____________

Inner Casing Inside Diameter _____ inches

GROUND SURFACE

Top of Grout ____________ ft

Top of Seal at ________ ft

Top of Sand Pack ________ ft

Top of Screen at ______ ft

Bottom of Screen at ____________ ft

Bottom of Hole at ____________ ft

Bottom of Sandpack at ____________

Quantity of Material Used:

Bentonite Pellets ____________

Cement ____________

Borehole Diameter ________ inches

Cement/ Bentonite ____________

Grout ____________

Screen Slot Size ________

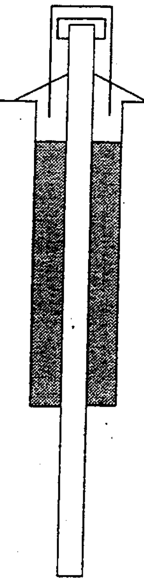
Screen Type ________

- ☐ PVC ________
- ☐ Stainless Steel ________

Pack Type/Size:

- ☐ Sand ________
- ☐ Gravel ________
- ☐ Natural ________

OPEN-HOLE WELL



Stick-up ____________ ft

Inner Casing Material ____________

Inner Casing Inside Diameter ________ inches

Outer Casing Diameter ________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ______ ft

Bottom of Inner Casing ________ ft

Corehole Diameter ____________

Bottom of Corehole ________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-0.75' Fill - black/brown fine sand w/ gravel	X		
2	0.75-1.5 Brown fine sand w/ ~~#~~ some silt, trace	X		
3	gravel			
4	1.5-2 Black sand w/ gravel			
5	2-3 Brown fine sand w/ some gravel			
6	3-4.3 Brown fine sand w/ some clay	X		
7	4.3-5.2 grey gravel	X		
8				
9				
10				
11				
12				
13				
14				
15				

DRILLING LOG FOR GP-3

Project Name ACSF

Site Location Rochester, NY

Date Started/Finished 11/12/01

Drilling Company SJB

Driller's Name Frank Minnuleu & Matt Matthies

Geologist's Name S. Reynolds Smith

Geologist's Signature S. Reynolds Smith

Rig Type (s) Geoprobe

Drilling Method (s) Geoprobe (1.5")

Bit Size (s) ______ Auger Size (s) ______

Auger/Split Spoon Refusal 3.3'

Total Depth of Borehole Is 3.3'

Total Depth of Corehole Is ______

Water Level (TOIC)

Date	Time	Level(Feet)

Well Location Sketch

N

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery ft	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
									1 downhole	
1	1			1517		2.75			ϕ	2.3-3.3 sample soil for VOCs
2										
3										no water (15:20)
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

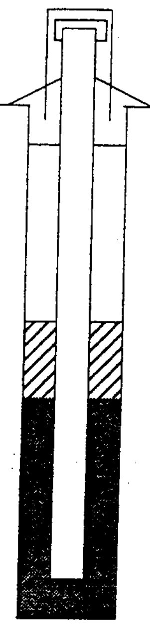
SCREENED WELL

Lock Number ____________

Inner Casing Material ____________

Inner Casing Inside Diameter ____ inches

Stick-up ________ ft



GROUND SURFACE

Top of Grout ____________ ft

Top of Seal at ________ ft

Top of Sand Pack ________ ft

Top of Screen at ______ ft

Bottom of Screen at ____________ ft

Bottom of Hole at ____________ ft

Bottom of Sandpack at ________

Quantity of Material Used:

Bentonite Pellets ____________

Cement ____________

Borehole Diameter ________ inches

Cement/ Bentonite ____________

Grout ____________

Screen Slot Size ________

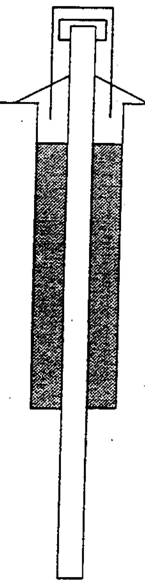
Screen Type ________

- ☐ PVC ________
- ☐ Stainless Steel ____

Pack Type/Size:

- ☐ Sand ________
- ☐ Gravel ________
- ☐ Natural ________

OPEN-HOLE WELL



Stick-up ________ ft

Inner Casing Material ____________

Inner Casing Inside Diameter ________ inches

Outer Casing Diameter ________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ______ ft

Bottom of Inner Casing ________ ft

Corehole Diameter ____________

Bottom of Corehole ________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-3.3 Brown sand w/ some gravel	X		
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

DRILLING LOG FOR GP-4

Project Name ACSF

Site Location Rochester, NY

Date Started/Finished 11/12/01

Drilling Company → SJB

Driller's Name Frank M. + Matt M.

Geologist's Name S. Reynolds Smith

Geologist's Signature S. Reynolds Smith

Rig Type (s) Geoprobe

Drilling Method (s) Geoprobe

Bit Size (s) ______ Auger Size (s) ______

Auger/Split Spoon Refusal 6.1'

Total Depth of Borehole Is 6.1'

Total Depth of Corehole Is ______

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

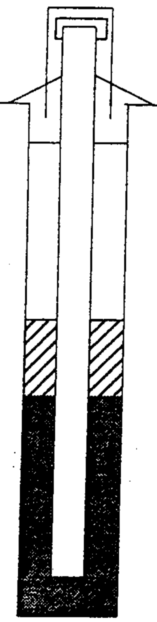
Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery ft	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1				1526	1	3.5			>100 Downhole 0 BZ (Breathing zone)	
2									1 soil	
3										
4				1531	2	full			50 @ 4'	NO VC
5									70 @ 5'	
6										
7										Sample for VOCs 5-5.5 (15:40) + metals, SVOCs TC
8										
9										
10										
11										
12										No water
13										
14										
15										

Lock Number ________

Inner Casing Material ________

Inner Casing Inside Diameter ____ inches

SCREENED WELL



Stick-up ________ ft

GROUND SURFACE

Top of Grout ________ ft

Top of Seal at ______ ft

Top of Sand Pack ______ ft

Top of Screen at ______ ft

Bottom of Screen at ________ ft

Bottom of Hole at ________ ft

Bottom of Sandpack at ________

Quantity of Material Used:
Bentonite Pellets ________

Cement ________

Borehole Diameter ______ inches

Cement/ Bentonite ________

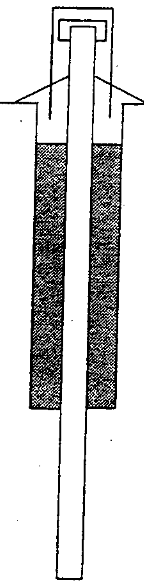
Grout ________

Screen Slot Size ________

Screen Type ________
- ☐ PVC ________
- ☐ Stainless Steel ________

Pack Type/Size:
- ☐ Sand ________
- ☐ Gravel ________
- ☐ Natural ________

OPEN-HOLE WELL



Stick-up ________ ft

Inner Casing Material ________

Inner Casing Inside Diameter ______ inches

Outer Casing Diameter ______ inches

Borehole Diameter ______ ft

Bedrock ______ ft

Bottom of Rock Socket/ Outer Casing ______ ft

Bottom of Inner Casing ______ ft

Corehole Diameter ________

Bottom of Corehole ______ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-1 Black sandy gravelly fill, dry	X	○	○
2	1-4 Brown fine sand w/ fine to coarse gravel	○	○	○
3	4-6.1 Brown fine sand, trace gravel + clay	X	○	○
4		○	○	○
5		○	○	○
6		○	○	○
7		○	○	○
8		○	○	○
9		○	○	○
10		○	○	○
11		○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

DRILLING LOG FOR 6P5

Project Name ACSF

Site Location Rochester, NY

Date Started/Finished 11/12/01

Drilling Company SJB

Driller's Name Frank Minnaker/Matt Mathies

Geologist's Name S. Reynolds Smith

Geologist's Signature S. Reynolds Smith

Rig Type (s) Geoprobe

Drilling Method (s) Geoprobe

Bit Size (s) ______ Auger Size (s) ______

Auger/Split Spoon Refusal 6.4'

Total Depth of Borehole Is 6.4'

Total Depth of Corehole Is ______

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
									>100 downhole	
1										
2				1555	1	3ft				
3									2ppm	
4										
5				1600	2	2ft			5ppm	100ppm @ 5.7
6									30ppm	
7										Sample 5-5.5 for VOCs + glycol (glycol MS/MSD) (16:11)
8										
9										
10										
11										
12										
13										
14										
15										

Lock Number ________

Inner Casing Material ________

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets ________

Cement ________

Borehole Diameter ________ inches

Cement/ Bentonite ________

Grout ________

Screen Slot Size ________

Screen Type ________

☐ PVC ________

☐ Stainless Steel ____

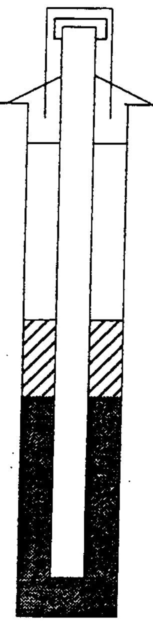
Pack Type/Size:

☐ Sand ________

☐ Gravel ________

☐ Natural ________

SCREENED WELL



Stick-up ________ ft

Top of Grout ________ ft

Top of Seal at ________ ft

Top of Sand Pack ________ ft

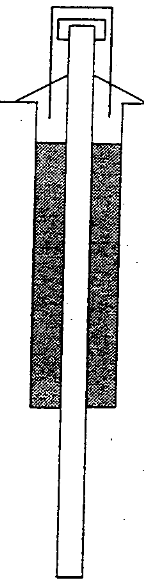
Top of Screen at ________ ft

Bottom of Screen at ________ ft

Bottom of Hole at ________ ft

Bottom of Sandpack at ________

OPEN-HOLE WELL



Stick-up ________ ft

Inner Casing Material ________

Inner Casing Inside Diameter ________ inches

Outer Casing Diameter ________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ________ ft

Bottom of Inner Casing ________ ft

Corehole Diameter ________

Bottom of Corehole ________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-3 Fine brown sand, some fine-coarse gravel	X		
2	3-4 Fine brown sand, some clay, trace gravel,		X	
3	moist			
4	4-6 Fine brown sand becoming more clayey with		X	
5	depth, trace gravel			
6	no water			
7				
8				
9				
10				
11				
12				
13				
14				
15				

DRILLING LOG FOR GP-6

Project Name: ACSF

Site Location: Rochester, NY

Date Started/Finished: 11/12/01

Drilling Company: SJB

Driller's Name: M. Matthies Frank Mannuleus

Geologist's Name: S. Reynolds Smith

Geologist's Signature: S. Reynolds Smith

Rig Type (s): Geoprobe

Drilling Method (s): Geoprobe

Bit Size (s): ______ Auger Size (s): ______

Auger/Split Spoon Refusal: 4.5'

Total Depth of Borehole Is: 4.5'

Total Depth of Corehole Is: ______

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

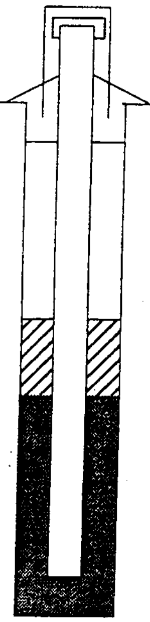
Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery ft	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1				1417	1	4			Spring/Sundance ~~3.3'~~ 5ppm @ 3.3'	
2										
3										
4				1425	2	0.5			ø	
5										
6										No water Sample taken VOCs + 2 Lead 4-4.5 (16:30)
7										
8										
9										
10										
11										
12										
13										
14										
15										

Lock Number ________

Inner Casing Material ________

Inner Casing Inside Diameter ____ inches

SCREENED WELL



GROUND SURFACE

Stick-up ________ ft

Top of Grout ________ ft

Top of Seal at ______ ft

Top of Sand Pack ______ ft

Top of Screen at _____ ft

Bottom of Screen at ________ ft

Bottom of Hole at ________ ft

Bottom of Sandpack at ________

Quantity of Material Used:

Bentonite Pellets ________

Cement ________

Borehole Diameter ______ inches

Cement/ Bentonite ________

Grout ________

Screen Slot Size ______

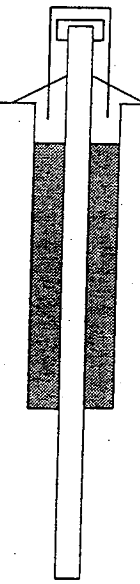
Screen Type ______

- ☐ PVC ______
- ☐ Stainless Steel ____

Pack Type/Size:

- ☐ Sand ______
- ☐ Gravel ______
- ☐ Natural ______

OPEN-HOLE WELL



Stick-up ________ ft

Inner Casing Material ________

Inner Casing Inside Diameter ______ inches

Outer Casing Diameter ______ inches

Borehole Diameter ______ ft

Bedrock ______ ft

Bottom of Rock Socket/ Outer Casing _____ ft

Bottom of Inner Casing ______ ft

Corehole Diameter ________

Bottom of Corehole ______ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-0.6 Dark brown fill sand w/ gravel	X		
2	0.6-0.8 Gray coarse gravel			
3	0.8-1.4 Brown fine clayey sand	X		
4	1.4-1.9 Asphalt? Black gravel			
5	1.9-4.5 Brown w/ some yellow/orange mottling. Fine	X		
6	sand, some clay + gravel. More fines ~~w/~~ w/			
7	depth			
8				
9				
10				
11				
12				
13				
14				
15				

DRILLING LOG FOR GP7

Project Name ACSF

Site Location Rochester, NY

Date Started/Finished 11/12/01

Drilling Company SJB

Driller's Name Frank Minnulers, M. Matthies

Geologist's Name S. Reynolds Smith

Geologist's Signature S. Reynolds Smith

Rig Type (s) Geoprobe

Drilling Method (s) Geoprobe

Bit Size (s) ______ Auger Size (s) ______

Auger/Split Spoon Refusal 4.7'

Total Depth of Borehole Is 4.7'

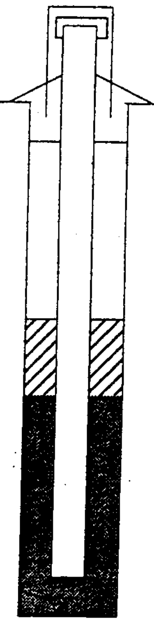
Total Depth of Corehole Is ______

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery ft	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
									1 ppm daily	
1										
2	1			1630		3.3			ϕ	
3										
4	2			1643		0.7			ϕ	
5										no water
6										Sample for
7										VOCs 4-4.7
8										(16:47)
9										
10										
11										
12										
13										
14										
15										

SCREENED WELL



Stick-up ________ ft

Top of Grout ________ ft

Top of Seal at ________ ft

Top of Sand Pack ________ ft

Top of Screen at ________ ft

Bottom of Screen at ________ ft

Bottom of Hole at ________ ft

Bottom of Sandpack at ________

Lock Number ________

Inner Casing Material ________

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets ________

Cement ________

Borehole Diameter ________ inches

Cement/ Bentonite ________

Grout ________

Screen Slot Size ________

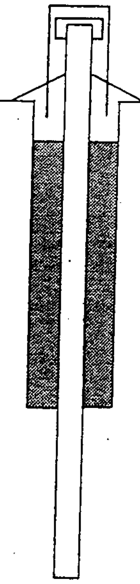
Screen Type ________

- ☐ PVC ________
- ☐ Stainless Steel ________

Pack Type/Size:

- ☐ Sand ________
- ☐ Gravel ________
- ☐ Natural ________

OPEN-HOLE WELL



Stick-up ________ ft

Inner Casing Material ________

Inner Casing Inside Diameter ________ inches

Outer Casing Diameter ________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ________ ft

Bottom of Inner Casing ________ ft

Corehole Diameter ________

Bottom of Corehole ________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-2 Dark brown sand w/some gravel, trace clay	✗	○	○
2	2-2.5 Asphalt? Black soft rock-like	✗	○	○
3	2.5-~~4~~3.5 Brown fine loose sand, trace gravel	✗	○	○
4	3.5-4.7 Fine light brown sand, trace fine gravel	○	○	○
5		○	○	○
6		○	○	○
7		○	○	○
8		○	○	○
9		○	○	○
10		○	○	○
11		○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

DRILLING LOG FOR GPS

Project Name ACSF

Site Location Rochester, NY

Date Started/Finished 11/12/01

Drilling Company SJB

Driller's Name Frank Minnuteus & M. Matthies

Geologist's Name S. Reynolds Smith

Geologist's Signature [signature]

Rig Type (s) Geoprobe

Drilling Method (s) Geoprobe

Bit Size (s) ______ Auger Size (s) ______

Auger/Split Spoon Refusal 4.9'

Total Depth of Borehole Is 4.9'

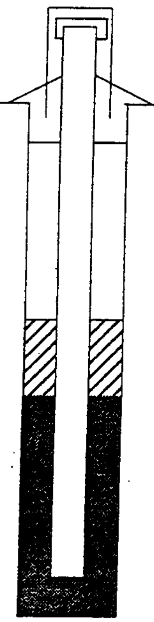
Total Depth of Corehole Is ______

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery ft	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
										19 ppm Downhole
1										
2	1			1655		2.8				
3									1 @ 2.3'	
4										
5	2					0.9			∅	3 downhole
6										4-4.9 (1712)
7										Sample for
8										VOCs, Metals etc
9										
10										
11										
12										
13										
14										
15										

SCREENED WELL



Stick-up ________ ft

Top of Grout ________ ft

Top of Seal at ________ ft

Top of Sand Pack ________ ft

Top of Screen at ________ ft

Bottom of Screen at ________ ft

Bottom of Hole at ________ ft

Bottom of Sandpack at ________

Lock Number ________

Inner Casing Material ________

Inner Casing Inside Diameter ____ inches

Quantity of Material Used:

Bentonite Pellets ________

Cement ________

Borehole Diameter ________ inches

Cement/ Bentonite ________

Grout ________

Screen Slot Size ________

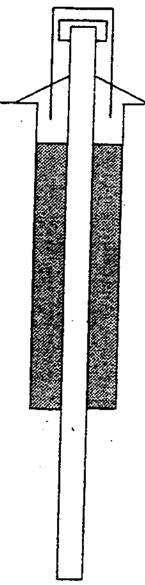
Screen Type ________

- ☐ PVC ________
- ☐ Stainless Steel ________

Pack Type/Size:

- ☐ Sand ________
- ☐ Gravel ________
- ☐ Natural ________

OPEN-HOLE WELL



Stick-up ________ ft

Inner Casing Material ________

Inner Casing Inside Diameter ________ inches

Outer Casing Diameter ________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ________ ft

Bottom of Inner Casing ________ ft

Corehole Diameter ________

Bottom of Corehole ________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-0.2 Topsoil Dark brown organic rich, clayey sand		X	
2	0.2-2.5 Brown fine sand w/ coarse gravel	X		
3	2.5-2.8 Fine brown to dark brown sand	X		
4	4-4.9 Light brown fine sand	X		
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

DRILLING LOG FOR GP9

Project Name ACSF

Site Location Rochester, NY

Date Started/Finished 11/12/01

Drilling Company SJB

Driller's Name Frank Minnolous

Geologist's Name S. Reynolds Smith

Geologist's Signature [signature]

Rig Type (s) Geoprobe

Drilling Method (s) Geoprobe (1.5" Rods)

Bit Size (s) ______ Auger Size (s) ______

Auger/Split Spoon Refusal 3.4'

Total Depth of Borehole Is 3.4'

Total Depth of Corehole Is ______

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

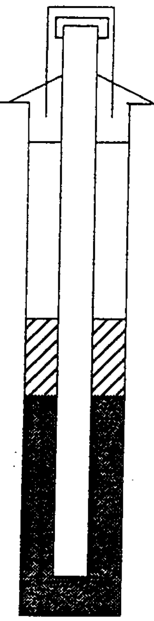
Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery ft	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
						0			20 Downhole	3-3.4
1				0748	1					Sample for VOCs +
2						3.4'			5@2	glycol
3									7@3-3.4	(07:55)
4										No water
5										
6										Cuttings drummed
7										
8										
9										
10										
11										
12										
13										
14										
15										

Lock Number ________

Inner Casing Material ________

Inner Casing Inside Diameter ____ inches

SCREENED WELL



Stick-up ________ ft

GROUND SURFACE

Top of Grout ________ ft

Top of Seal at ______ ft

Top of Sand Pack ______ ft

Top of Screen at ______ ft

Bottom of Screen at ________ ft

Bottom of Hole at ________ ft

Bottom of Sandpack at ________

Quantity of Material Used:

Bentonite Pellets ________

Cement ________

Borehole Diameter ______ inches

Cement/ Bentonite ________

Grout ________

Screen Slot Size ________

Screen Type ________

☐ PVC ________

☐ Stainless Steel ________

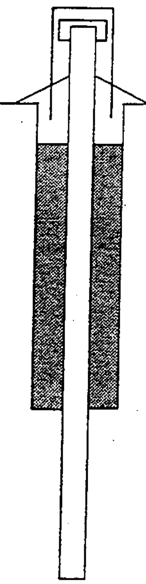
Pack Type/Size:

☐ Sand ________

☐ Gravel ________

☐ Natural ________

OPEN-HOLE WELL



Stick-up ________ ft

Inner Casing Material ________

Inner Casing Inside Diameter ________ inches

Outer Casing Diameter ________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ______ ft

Bottom of Inner Casing ________ ft

Corehole Diameter ________

Bottom of Corehole ________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-0.8 Fill Gravel + fine sand	X		
2	0.8-3.4 Brown fine sand some clay + gravel			
3	More clay + moisture w/ depth	x		
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

DRILLING LOG FOR GP10

Project Name ACSF

Site Location Rochester, NY

Date Started/Finished 11/13/01

Drilling Company SJB

Driller's Name Frank Minnoleus ~~eta~~

Geologist's Name S. Reynolds Smith

Geologist's Signature S. Reynolds Smith

Rig Type (s) Geoprobe (1.5" Rods)

Drilling Method (s) Geoprobe

Bit Size (s) ______ Auger Size (s) ______

Auger/Split Spoon Refusal 3.35'

Total Depth of Borehole Is 3.35'

Total Depth of Corehole Is ______

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery ft	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
									>100 Downhole	
1	1			0820		3.35				
2									sec 2.9	Sample 2.6-2.9 for VOCs (08:27) Borehole dry
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

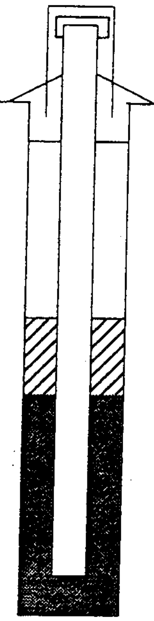
SCREENED WELL

Lock Number ____________

Inner Casing Material ____________

Inner Casing Inside Diameter ____ inches

Stick-up ____________ ft



GROUND SURFACE

Top of Grout ____________ ft

Quantity of Material Used:
Bentonite Pellets ____________

Top of Seal at ________ ft

Cement ____________

Borehole Diameter ________ inches

Top of Sand Pack ________ ft

Cement/ Bentonite ____________

Top of Screen at ______ ft

Grout ____________

Screen Slot Size ____________

Bottom of Screen at ____________ ft

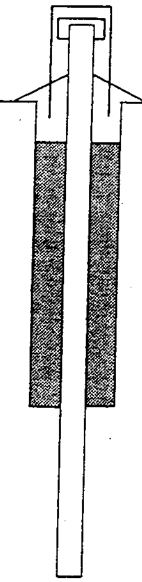
Screen Type ____________
☐ PVC ____________
☐ Stainless Steel ______

Bottom of Hole at ____________ ft

Pack Type/Size:
☐ Sand ____________
☐ Gravel ____________
☐ Natural ____________

Bottom of Sandpack at ____________

OPEN-HOLE WELL



Stick-up ____________ ft

Inner Casing Material ____________

Inner Casing Inside Diameter ____________ inches

Outer Casing Diameter ____________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ______ ft

Bottom of Inner Casing ____________ ft

Corehole Diameter ____________

Bottom of Corehole ____________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-0.9 Fill Black sandy gravel	○	○	○
2	0.9 - 2.4 Brown clayey sand w/ some gravel	X	○	○
3	2.4 - 3.4 Clayey fine sand, damp	○	○	○
4	2.4-2.6 Brown	○	○	○
5	2.6 - 3.1 Black	○	○	○
6	3.1-3.4 Brown w/ yellow mottling	○	○	○
7		○	○	○
8		○	○	○
9		○	○	○
10		○	○	○
11		○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

DRILLING LOG FOR GP-Ga 11a & 11b

Project Name: ACSF

Site Location: Rochester, NY

Date Started/Finished: 11/13/01

Drilling Company: SJB

Driller's Name: Frank Minnukus

Geologist's Name: S. Reynolds Smith

Geologist's Signature: S. Reynolds Smith

Rig Type (s): Geoprobe (1.5" rods)

Drilling Method (s): Geoprobe

Bit Size (s): ______ Auger Size (s): ______

Auger/Split Spoon Refusal: 1.7' BGS

Total Depth of Borehole Is: ______

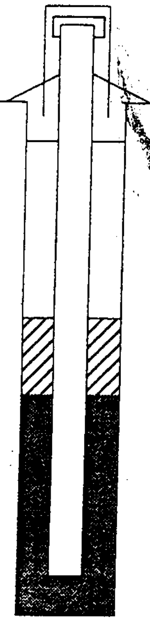
Total Depth of Corehole Is: ______

Water Level (TOIC)		
Date	Time	Level(Feet)

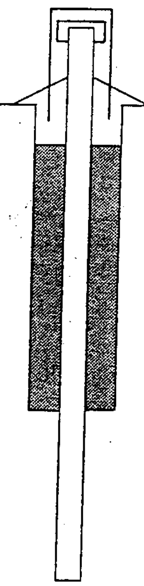
Well Location Sketch

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery ft	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1				0845	1	1.5			0	Sample 1.3-1.7 for VOCs (08:57) (11a sampled)
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

SCREENED WELL	Lock Number ______	
Stick-up ______ ft	Inner Casing Material ______	
Top of Grout ______ ft	Inner Casing Inside Diameter ____ inches	
Top of Seal at ______ ft	GROUND SURFACE	
Top of Sand Pack ______ ft	Quantity of Material Used: Bentonite Pellets ______	
Top of Screen at ______ ft	Cement ______	
Bottom of Screen at ______ ft	Borehole Diameter ______ inches	
Bottom of Hole at ______ ft	Cement/ Bentonite ______	
Bottom of Sandpack at ______	Grout ______	
	Screen Slot Size ______	
	Screen Type ______ ☐ PVC ______ ☐ Stainless Steel ______	
	Pack Type/Size: ☐ Sand ______ ☐ Gravel ______ ☐ Natural ______	



OPEN-HOLE WELL



Stick-up ______ ft

Inner Casing Material ______

Inner Casing Inside Diameter ______ inches

Outer Casing Diameter ______ inches

Borehole Diameter ______ ft

Bedrock ______ ft

Bottom of Rock Socket/ Outer Casing ______ ft

Bottom of Inner Casing ______ ft

Corehole Diameter ______

Bottom of Corehole ______ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0–~~0~~ 1.25 1.7 Brown clayey sand, some yellow +	X	○	○
2	orange mottling, dry-damp, organic rich @	○	○	○
3	0-0.4'	○	○	○
4		○	○	○
5	Move over a few feet GP-11b – 1.5' to refusal	○	○	○
6	0.9 ft recovery Same Materials	○	○	○
7		○	○	○
8		○	○	○
9		○	○	○
10		○	○	○
11		○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

DRILLING LOG FOR GP12

Project Name ACSF

Site Location Rochester, NY

Date Started/Finished 11/13/01

Drilling Company SJB

Driller's Name Frank Minnuleus

Geologist's Name S. Reynolds Smith

Geologist's Signature S Reynolds Smith

Rig Type (s) Geoprobe (1.5" rods)

Drilling Method (s) Geoprobe

Bit Size (s) ______ Auger Size (s) ______

Auger/Split Spoon Refusal 3.5'

Total Depth of Borehole Is 3.5'

Total Depth of Corehole Is ______

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

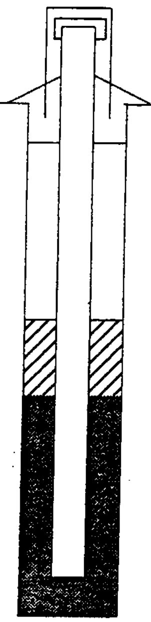
Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
						ft			0 Downhole	
1										Sample 2.3-2.9 for VOCs (09:20)
2	1			0916		2.9				
3										
4										Borehole dry
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

Lock Number ________

Inner Casing Material ________

Inner Casing Inside Diameter ____ inches

SCREENED WELL



Stick-up ________ ft

GROUND SURFACE

Top of Grout ________ ft

Top of Seal at ________ ft

Top of Sand Pack ________ ft

Top of Screen at ________ ft

Bottom of Screen at ________ ft

Bottom of Hole at ________ ft

Bottom of Sandpack at ________

Quantity of Material Used:

Bentonite Pellets ________

Cement ________

Borehole Diameter ________ inches

Cement/ Bentonite ________

Grout ________

Screen Slot Size ________

Screen Type ________

☐ PVC ________

☐ Stainless Steel ________

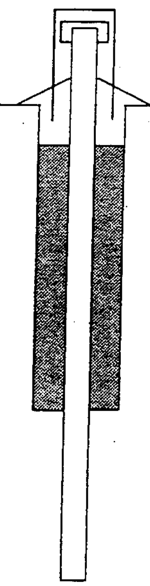
Pack Type/Size:

☐ Sand ________

☐ Gravel ________

☐ Natural ________

OPEN-HOLE WELL



Stick-up ________ ft

Inner Casing Material ________

Inner Casing Inside Diameter ________ inches

Outer Casing Diameter ________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ________ ft

Bottom of Inner Casing ________ ft

Corehole Diameter ________

Bottom of Corehole ________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-0.7 Topsoil, dark brown organic rich, clayey	○	○	○
2	sand[illegible]	○	○	○
3	0.7-1.1 Gravel, coarse, gray	○	○	○
4	1.1-2.2 Fine brown sand dry	○	○	○
5	2.2-2.9 Fine light brown sand, ~~trace~~ silt	✓	○	○
6		○	○	○
7		○	○	○
8		○	○	○
9		○	○	○
10		○	○	○
11		○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

DRILLING LOG FOR GP13

Project Name ACSF

Site Location Rochester, NY

Date Started/Finished 11/13/01

Drilling Company SJB

Driller's Name Frank Minnuleus

Geologist's Name S. Reynolds Smith

Geologist's Signature S. Reynolds Smith

Rig Type (s) Geoprobe

Drilling Method (s) Geoprobe

Bit Size (s) ______ Auger Size (s) ______

Auger/Split Spoon Refusal 2.9'

Total Depth of Borehole Is 2.9'

Total Depth of Corehole Is ______

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

N

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery ft	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1	1			0942		2.0			∅	o Downhole Sample for VOCs (0946) 1.5-2.0
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

Lock Number ____

SCREENED WELL

Inner Casing Material ____

Inner Casing Inside Diameter ____ inches

Stick-up ____ ft

GROUND SURFACE

Top of Grout ____ ft

Top of Seal at ____ ft

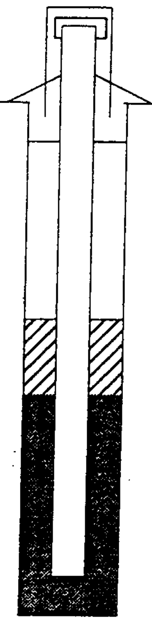
Top of Sand Pack ____ ft

Top of Screen at ____ ft

Bottom of Screen at ____ ft

Bottom of Hole at ____ ft

Bottom of Sandpack at ____



Quantity of Material Used:
Bentonite Pellets ____

Cement ____

Borehole Diameter ____ inches

Cement/ Bentonite ____

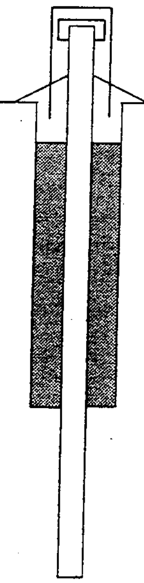
Grout ____

Screen Slot Size ____

Screen Type ____
☐ PVC ____
☐ Stainless Steel ____

Pack Type/Size:
☐ Sand ____
☐ Gravel ____
☐ Natural ____

OPEN-HOLE WELL



Stick-up ____ ft

Inner Casing Material ____

Inner Casing Inside Diameter ____ inches

Outer Casing Diameter ____ inches

Borehole Diameter ____ ft

Bedrock ____ ft

Bottom of Rock Socket/ Outer Casing ____ ft

Bottom of Inner Casing ____ ft

Corehole Diameter ____

Bottom of Corehole ____ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-0.9 Brown sand, trace clay, trace gravel, dry.	○	○	○
2	Top 0.35 organic rich	○	○	○
3	0.9-1.5 gravel, gray, coarse	○	○	○
4	1.5-2.0 Brown, fine sand, trace clay, dry-damp	○	○	○
5		○	○	○
6		○	○	○
7		○	○	○
8		○	○	○
9		○	○	○
10		○	○	○
11		○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

DRILLING LOG FOR ~~6PH~~ - Abandoned - pull forward (East) 4 feet

Project Name ACSF

Site Location Rochester, NY

Date Started/Finished 11/13/21

Drilling Company SJB

Driller's Name Frank Minnuleus

Geologist's Name S. Reynolds Smith

Geologist's Signature Reynolds Smith

Rig Type (s) Geoprobe (1.5" rods)

Drilling Method (s) Geoprobe

Bit Size (s) ______ Auger Size (s) ______

Auger/Split Spoon Refusal 1.35

Total Depth of Borehole Is 1.35

Total Depth of Corehole Is ______

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

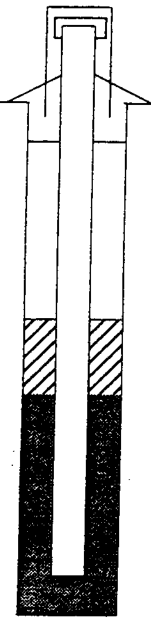
Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1				1005		ft 1.3			Ø	2ppm downhole
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

Lock Number ________

Inner Casing Material ________

Inner Casing Inside Diameter ____ inches

SCREENED WELL



Stick-up ________ ft

GROUND SURFACE

Top of Grout ________ ft

Top of Seal at ________ ft

Top of Sand Pack ________ ft

Top of Screen at ______ ft

Bottom of Screen at ________ ft

Bottom of Hole at ________ ft

Bottom of Sandpack at ________

Quantity of Material Used:

Bentonite Pellets ________

Cement ________

Borehole ________ inches Diameter

Cement/ Bentonite ________

Grout ________

Screen Slot Size ________

Screen Type ________

☐ PVC ________

☐ Stainless Steel ____

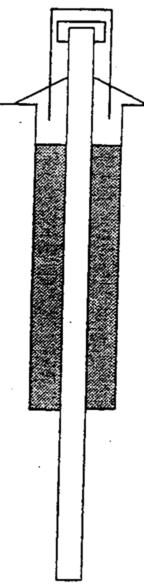
Pack Type/Size:

☐ Sand ________

☐ Gravel ________

☐ Natural ________

OPEN-HOLE WELL



Stick-up ________ ft

Inner Casing Material ________

Inner Casing Inside Diameter ________ inches

Outer Casing Diameter ________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ______ ft

Bottom of Inner Casing ________ ft

Corehole Diameter ________

Bottom of Corehole ________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-0.8 Brown sand w/ trace clay, top 0.3 organic rich	○	○	○
2	0.8 – 1.35 gravel, gray with some brown fine	○	○	○
3	sand	○	○	○
4		○	○	○
5		○	○	○
6		○	○	○
7		○	○	○
8		○	○	○
9		○	○	○
10		○	○	○
11		○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

DRILLING LOG FOR GP 14

Project Name ACSF

Site Location Rochester, NY

Date Started/Finished 11/13/01

Drilling Company SJB

Driller's Name Frank M

Geologist's Name S Reynolds Smith

Geologist's Signature S Reynolds Smith

Rig Type (s)

Drilling Method (s) Geoprobe

Bit Size (s) Auger Size (s)

Auger/Split Spoon Refusal 6.8'

Total Depth of Borehole Is 6.8'

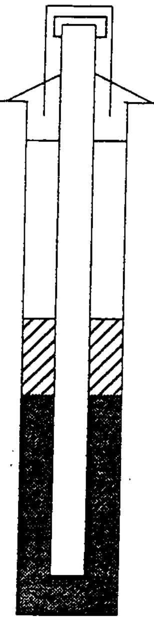
Total Depth of Corehole Is

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery ft	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1										
2	1			1015		2.4'			ϕ	
3										
4										10:48 Sample 4-6.8 ft VOCs (MS/MSD)
5	2			1028		2				
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

SCREENED WELL



Stick-up __________ ft

Top of Grout __________ ft

Top of Seal at ________ ft

Top of Sand Pack ________ ft

Top of Screen at ______ ft

Bottom of Screen at __________ ft

Bottom of Hole at __________ ft

Bottom of Sandpack at __________

Lock Number __________

Inner Casing Material __________

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets __________

Cement __________

Borehole ________ inches Diameter

Cement/ Bentonite __________

Grout __________

Screen Slot Size __________

Screen Type __________

☐ PVC __________

☐ Stainless Steel __________

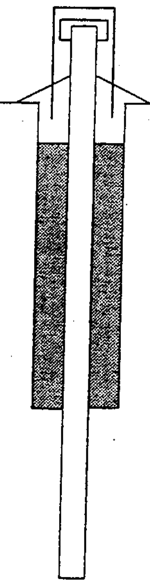
Pack Type/Size:

☐ Sand __________

☐ Gravel __________

☐ Natural __________

OPEN-HOLE WELL



Stick-up __________ ft

Inner Casing Material __________

Inner Casing Inside Diameter ________ inches

Outer Casing Diameter ________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ______ ft

Bottom of Inner Casing ________ ft

Corehole Diameter __________

Bottom of Corehole ________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-0.8 Brown fine sand, some clay, dry	○	○	○
2	0.8-1.0 Gray gravel, coarse, dry	○	○	○
3	1.0-2.4' Brown fine sand, some coarse gravel, dry	○	○	○
4	2.4-4 NR (no recovery)	○	○	○
5	4-4.4 Dark Brown fine clayey sand, damp	○	○	○
6		○	○	○
7	4.4-5.1 Dark brown sandy (fine sand) clay	○	○	○
8	5.1-~~5.8~~ 5.4 Brown fine sand	○	○	○
9	5.4-6.8 yellowish brown fine clayey sand,	○	○	○
10	damp	○	○	○
11	Borehole dry	○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

DRILLING LOG FOR GP15

Project Name ACSF

Site Location Rochester, NY

Date Started/Finished 11/13/01

Drilling Company SJB

Driller's Name Frank Minnuleus

Geologist's Name S. Reynolds Smith

Geologist's Signature [signature]

Rig Type (s) Geoprobe (1.5" rod)

Drilling Method (s) Geoprobe

Bit Size (s) ______ Auger Size (s) ______

Auger/Split Spoon Refusal 7.4'

Total Depth of Borehole Is 7.4'

Total Depth of Corehole Is ______

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

N

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery ft	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1	1			1235		3.1'			∅	5 Downhole
2										
3										
4										
5	2			1250		~~3.8~~ 3.4		~~5.5-6.1~~ 2 ppm		Sample 5.3-6.2 for VOCs Dupe (13:05)
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

SCREENED WELL

Stick-up ________ ft

Top of Grout ________ ft

Top of Seal at ________ ft

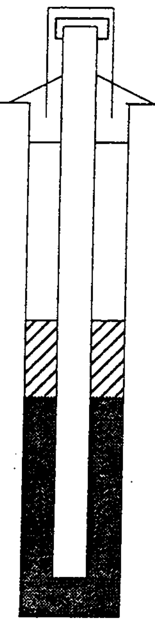
Top of Sand Pack ________ ft

Top of Screen at ________ ft

Bottom of Screen at ________ ft

Bottom of Hole at ________ ft

Bottom of Sandpack at ________



Lock Number ________

Inner Casing Material ________

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets ________

Cement ________

Borehole Diameter ________ inches

Cement/ Bentonite ________

Grout ________

Screen Slot Size ________

Screen Type ________

☐ PVC ________

☐ Stainless Steel ________

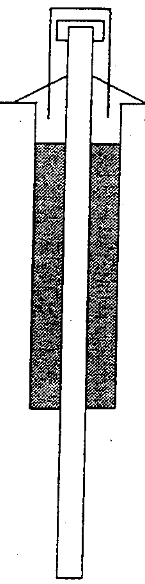
Pack Type/Size:

☐ Sand ________

☐ Gravel ________

☐ Natural ________

OPEN-HOLE WELL



Stick-up ________ ft

Inner Casing Material ________

Inner Casing Inside Diameter ________ inches

Outer Casing Diameter ________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ________ ft

Bottom of Inner Casing ________ ft

Corehole Diameter ________

Bottom of Corehole ________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-~~1~~ 1.53 Brown fine sand, ~~fine~~ some clay, trace gravel,	X	○	○
2	some yellow mottling	○	○	○
3	2.3-2.45 Gray gravel	○	○	○
4	5.3-6.2 Fine dark brown sand. Redd orange	○	○	○
5	mottling some gravel. Topsoil	○	○	○
6	6.2-6.8 Clayey sand, brown	X	○	○
7	6.8-7.4 Fine brown sand damp	○	○	○
8		○	○	○
9		○	○	○
10		○	○	○
11		○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

DRILLING LOG FOR GP-16

Project Name ACSF

Site Location Rochester, NY

Date Started/Finished 11/13/01

Drilling Company SJB

Driller's Name Frank Minnuleus

Geologist's Name S. Reynolds Smith

Geologist's Signature S Reynolds Smith

Rig Type (s) Geoprobe (1.5" Rod)

Drilling Method (s) Geoprobe

Bit Size (s) ______ Auger Size (s) ______

Auger/Split Spoon Refusal 7.1'

Total Depth of Borehole Is 7.1'

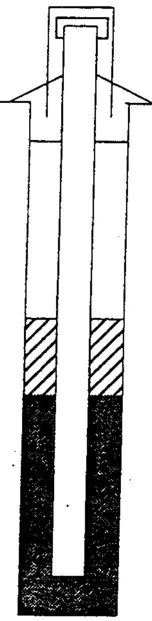
Total Depth of Corehole Is ______

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery ft	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1										13ppm downhole
2	1			1317		3.1'			Ø	
3										
4										4ppm downhole
5										
6	2			1326		3.1'			Ø	Sample 6.1-7.1
7										for VOCs
8										(1335)
9										
10										
11										
12										
13										
14										
15										

SCREENED WELL



Stick-up ________ ft

Top of Grout ________ ft

Top of Seal at ________ ft

Top of Sand Pack ________ ft

Top of Screen at ________ ft

Bottom of Screen at ________ ft

Bottom of Hole at ________ ft

Bottom of Sandpack at ________

Lock Number ________

Inner Casing Material ________

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets ________

Cement ________

Borehole ________ inches Diameter

Cement/ Bentonite ________

Grout ________

Screen Slot Size ________

Screen Type ________

☐ PVC ________

☐ Stainless Steel ________

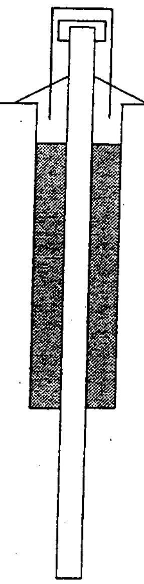
Pack Type/Size:

☐ Sand ________

☐ Gravel ________

☐ Natural ________

OPEN-HOLE WELL



Stick-up ________ ft

Inner Casing Material ________

Inner Casing Inside Diameter ________ inches

Outer Casing Diameter ________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ________ ft

Bottom of Inner Casing ________ ft

Corehole Diameter ________

Bottom of Corehole ________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-0.4 Topsoil, dark brown organic rich, damp	X	○	○
2	0.4-~~4.5~~ 5.3 Brown fine sand w/ yellow + trace black	○	○	○
3	mottling, some gray fine - coarse gravel, trace	X	○	○
4	clay, dry	○	○	○
5	5.3-5.9 Topsoil, dark brown organic	○	○	○
6	rich	○	○	○
7	5.9-7.1 Light brown clayey sand, damp	○	○	○
8		○	○	○
9		○	○	○
10		○	○	○
11		○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

DRILLING LOG FOR GP-17

Project Name ACSF

Site Location Rochester, NY

Date Started/Finished 11/13/01

Drilling Company SJB

Driller's Name Frank Minnuleus

Geologist's Name S. Reynolds Smith

Geologist's Signature S. Reynolds Smith

Rig Type (s) Geoprobe (1.5' rods)

Drilling Method (s) Geoprobe

Bit Size (s) ______ Auger Size (s) ______

Auger/Split Spoon Refusal 5.8'

Total Depth of Borehole Is 5.8'

Total Depth of Corehole Is ______

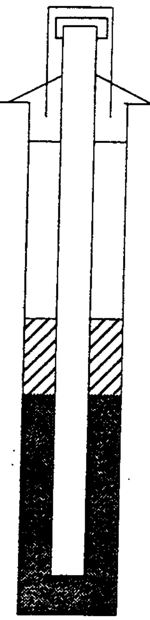
Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

N

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1				1359		2'			∅	0
2										
3										
4				1417		1.8'			∅	0.5 Downhole
5										
6										4.0-5.8 Sample for VOCs (MS/MSD) 14:30
7										
8										
9										
10										
11										
12										
13										
14										
15										

SCREENED WELL



Stick-up ________ ft

Top of Grout ________ ft

Top of Seal at ________ ft

Top of Sand Pack ________ ft

Top of Screen at ________ ft

Bottom of Screen at ________ ft

Bottom of Hole at ________ ft

Bottom of Sandpack at ________

Lock Number ________

Inner Casing Material ________

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets ________

Cement ________

Borehole Diameter ________ inches

Cement/ Bentonite ________

Grout ________

Screen Slot Size ________

Screen Type ________

☐ PVC ________

☐ Stainless Steel ________

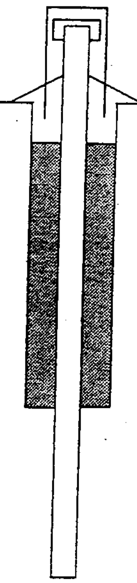
Pack Type/Size:

☐ Sand ________

☐ Gravel ________

☐ Natural ________

OPEN-HOLE WELL



Stick-up ________ ft

Inner Casing Material ________

Inner Casing Inside Diameter ________ inches

Outer Casing Diameter ________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ________ ft

Bottom of Inner Casing ________ ft

Corehole Diameter ________

Bottom of Corehole ________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-0.5 Topsoil dark brown, organic rich	○	○	○
2	0.5-1.4 Fine brown sand, trace clay, dry	○	○	○
3	1.4-2 Gray gravel, coarse, dry	○	○	○
4	2-4 NR (no recovery)	○	○	○
5	Hole caved in after 4ft after 1st set of rods removed,	⊙	○	○
6	move over 2 feet. From 2nd hole 0-2 same as above	○	○	○
7	2-2.5 Fine brown sand, large gravel,	○	○	○
8	some clay, dry-damp	○	○	○
9	2.5-4 NR Probably from fall in/cave in Dark brown w/	○	○	○
10	orange mottling fine clayey sand, damp	○	○	○
11	4-5.8 Yellowish brown fine clayey sand, dry-damp	○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

DRILLING LOG FOR GP-18

Project Name ACSF

Site Location Rochester, NY

Date Started/Finished 11/13/01

Drilling Company SJB

Driller's Name Frank Minnukeus

Geologist's Name S. Reynolds Smith

Geologist's Signature S Reynolds Smith

Rig Type (s) Geoprobe (1.5" rods)

Drilling Method (s) Geoprobe

Bit Size (s) ______ Auger Size (s) ______

Auger/Split Spoon Refusal 4.6'

Total Depth of Borehole Is 4.6'

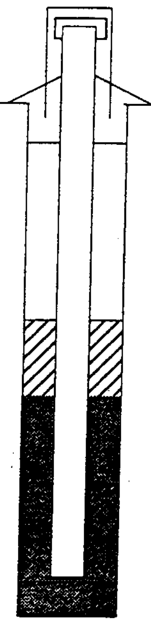
Total Depth of Corehole Is ______

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1										
2	1			1437		2.6'			0	
3										
4	2			1445		0.6'			0	
5										Sample 4.0-4.6 for VOCs 1453 Borehole dry
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

SCREENED WELL



Stick-up ________ ft

Top of Grout ________ ft

Top of Seal at ________ ft

Top of Sand Pack ________ ft

Top of Screen at ________ ft

Bottom of Screen at ________ ft

Bottom of Hole at ________ ft

Bottom of Sandpack at ________

Lock Number ________

Inner Casing Material ________

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets ________

Cement ________

Borehole Diameter ________ inches

Cement/ Bentonite ________

Grout ________

Screen Slot Size ________

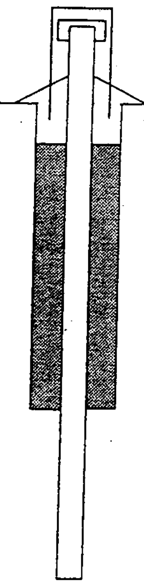
Screen Type ________

- ☐ PVC ________
- ☐ Stainless Steel ________

Pack Type/Size:

- ☐ Sand ________
- ☐ Gravel ________
- ☐ Natural ________

OPEN-HOLE WELL



Stick-up ________ ft

Inner Casing Material ________

Inner Casing Inside Diameter ________ inches

Outer Casing Diameter ________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ______ ft

Bottom of Inner Casing ________ ft

Corehole Diameter ________

Bottom of Corehole ________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0–0.3 Topsoil, dark brown, organic rich, clayey sand	X (between Dry and Moist)		
2	0.3–0.9 Gray gravel w/ some fine brown sand	X		
3	0.9–1.4 Asphalt			
4	1.4–~~4~~ 2.6 Brown to dark brown fine clayey sand			
5	some fine gravel cobbles at 1.7 & 2.2			
6	finer w/ depth, dry becoming damp at			
7	2.3'			
8	2.6–4 NR (no recovery)			
9	4–4.6 Yellowish brown fine clayey sand, dry-damp	X (between Dry and Moist)		
10	weathered bedrock ~~[illegible]~~ in sand for last			
11	3"			
12				
13				
14				
15				

DRILLING LOG FOR GP19

Project Name ACSF

Site Location Rochester, NY

Date Started/Finished 11/13/01

Drilling Company SJB

Driller's Name Frank Minnuleus

Geologist's Name S. Reynolds Smith

Geologist's Signature S Reynolds Smith

Rig Type (s) Geoprobe (1.5" rod)

Drilling Method (s) Geoprobe

Bit Size (s) ______ Auger Size (s) ______

Auger/Split Spoon Refusal 4.5'

Total Depth of Borehole Is 4.5'

Total Depth of Corehole Is ______

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
						ft 0				19 downhole
1						3.8				
2				1500					Ø	
3										
4				1508		0.5				
5										Sample 4-4.6 for VOCs 15:14
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

SCREENED WELL

Stick-up ________ ft

Top of Grout ________ ft

Top of Seal at ________ ft

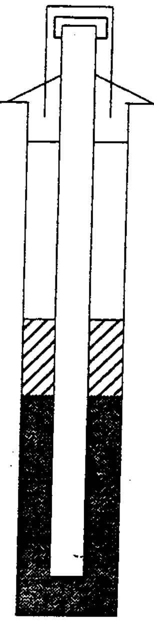
Top of Sand Pack ________ ft

Top of Screen at ________ ft

Bottom of Screen at ________ ft

Bottom of Hole at ________ ft

Bottom of Sandpack at ________



Lock Number ________

Inner Casing Material ________

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets ________

Cement ________

Borehole Diameter ________ inches

Cement/ Bentonite ________

Grout ________

Screen Slot Size ________

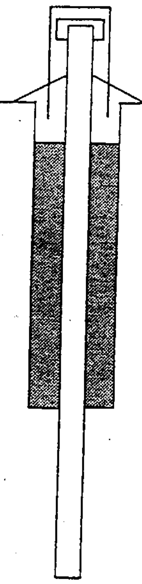
Screen Type ________

- ☐ PVC ________
- ☐ Stainless Steel ________

Pack Type/Size:

- ☐ Sand ________
- ☐ Gravel ________
- ☐ Natural ________

OPEN-HOLE WELL



Stick-up ________ ft

Inner Casing Material ________

Inner Casing Inside Diameter ________ inches

Outer Casing Diameter ________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ________ ft

Bottom of Inner Casing ________ ft

Corehole Diameter ________

Bottom of Corehole ________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-0.~~4~~6 Dark ~~of~~ brown organic rich topsoil, sand	○	⊗	○
2	0.6-2 Fine yellowish brown sand, some fine to	○	○	○
3	coarse gravel	○	○	○
4	2-3.1 Dark brown fine clayey sand	○	○	○
5	3.1-4 Yellowish brown fine sand, damp	⊗	○	○
6	4-4.6 Same as above with weathered bedrock	○	○	○
7	at 4.3'-4.6' bgs	○	○	○
8		○	○	○
9		○	○	○
10		○	○	○
11		○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

DRILLING LOG FOR GP20

Project Name ACSF

Site Location Rochester, NY

Date Started/Finished 11/13/01

Drilling Company SJB

Driller's Name Frank Minnulevs

Geologist's Name S. Reynolds Smith

Geologist's Signature S. Reynolds Smith

Rig Type (s) Geoprobe

Drilling Method (s) Geoprobe

Bit Size (s) ______ Auger Size (s) ______

Auger/Split Spoon Refusal 4.1'

Total Depth of Borehole Is 4.1'

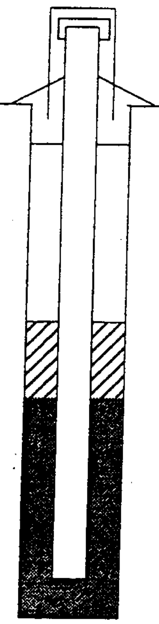
Total Depth of Corehole Is ______

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery ft	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1										3ppm down hole
2	1			1530		3.3			0.5	
3										
4	2			1034						
5										sample 3.5-4.1 for VOCs 13:40
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

SCREENED WELL



Stick-up ________ ft

Top of Grout ________ ft

Top of Seal at ________ ft

Top of Sand Pack ________ ft

Top of Screen at ________ ft

Bottom of Screen at ________ ft

Bottom of Hole at ________ ft

Bottom of Sandpack at ________

Lock Number ________

Inner Casing Material ________

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets ________

Cement ________

Borehole Diameter ________ inches

Cement/ Bentonite ________

Grout ________

Screen Slot Size ________

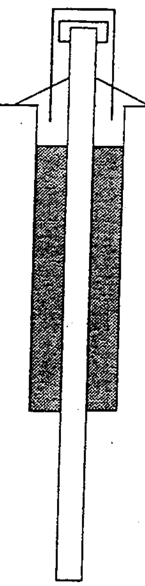
Screen Type ________

- ☐ PVC ________
- ☐ Stainless Steel ________

Pack Type/Size:

- ☐ Sand ________
- ☐ Gravel ________
- ☐ Natural ________

OPEN-HOLE WELL



Stick-up ________ ft

Inner Casing Material ________

Inner Casing Inside Diameter ________ inches

Outer Casing Diameter ________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ________ ft

Bottom of Inner Casing ________ ft

Corehole Diameter ________

Bottom of Corehole ________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-1 Topsoil Dark brown organic rich sand w/ clay	X		
2	1-4.1 Dark brown grading to yellowish brown			
3	Also grading from fine clayey sand to finer			
4	clayey sand, dry - damp	X		
5	Bedrock in bottom of shoe			
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

DRILLING LOG FOR GP21

Project Name: ACSF

Site Location: Rochester, NY

Date Started/Finished: 11/13/01

Drilling Company: SJB

Driller's Name: Frank Minnuleus

Geologist's Name: S. Reynolds Smith

Geologist's Signature: S. Reynolds Smith

Rig Type (s): Geoprobe (Ø1.5" rods)

Drilling Method (s): Geoprobe

Bit Size (s): ______ Auger Size (s): ______

Auger/Split Spoon Refusal: ~~AND 0.9~~ 4.1

Total Depth of Borehole Is: ______

Total Depth of Corehole Is: ______

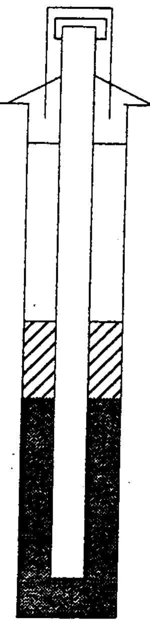
Water Level (TOIC)

Date	Time	Level(Feet)

Well Location Sketch

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1										
2	1			1407		3.5				>1000 Downhole
3								70@3.5		Ø Breathing zone NO VC
4										
5										Sample
6										2.8-3.5 for
7										VOCs &
8										SVOCs, metals,
9										etc
10										1627
11										
12										
13										
14										
15										

SCREENED WELL



Lock Number ________

Stick-up ________ ft

Inner Casing Material ________

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Top of Grout ________ ft

Top of Seal at ________ ft

Top of Sand Pack ________ ft

Top of Screen at ________ ft

Bottom of Screen at ________ ft

Bottom of Hole at ________ ft

Bottom of Sandpack at ________

Quantity of Material Used:

Bentonite Pellets ________

Cement ________

Borehole Diameter ________ inches

Cement/ Bentonite ________

Grout ________

Screen Slot Size ________

Screen Type ________

☐ PVC ________

☐ Stainless Steel ________

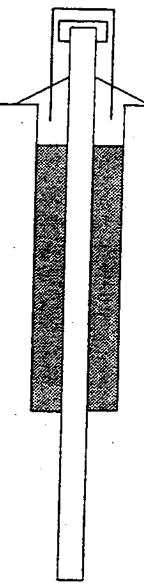
Pack Type/Size:

☐ Sand ________

☐ Gravel ________

☐ Natural ________

OPEN-HOLE WELL



Stick-up ________ ft

Inner Casing Material ________

Inner Casing Inside Diameter ________ inches

Outer Casing Diameter ________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ________ ft

Bottom of Inner Casing ________ ft

Corehole Diameter ________

Bottom of Corehole ________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-0.4 Topsoil dark brown with red staining	○	○	○
2	0.4-0.9 Gravel (fine-coarse), brownish gray, some	○	○	○
3	fine-medium sand	○	○	○
4	Refusal move over 1 ft. Log for 2nd hole:	○	○	○
5	0-0.9 same as above	○	○	○
6	0.9-1.5 Sandy tight clay Cobble @ 1.5	○	○	○
7	1.5-2 Clayey fine sand brown, damp	○	○	○
8	2-2.3 Coarse gravel gray	○	○	○
9	2.3-2.7 Brown, fine clayey sand	○	○	○
10	2.7-4.1 Brown, fine clayey sand (finer than above) X	○	○	○
11	Black staining ~~to dark~~ brown at 2.9 to 3.0 . Weathered bedrock	○	○	○
12	in shoe	○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

DRILLING LOG FOR GP22

Project Name ACSF

Site Location Rochester, NY

Date Started/Finished 11/14/01

Drilling Company SJB

Driller's Name Frank Minnuleus

Geologist's Name S. Reynolds Smith

Geologist's Signature S Reynolds Smith

Rig Type (s) Geoprobe (1.5" rods)

Drilling Method (s) Geoprobe

Bit Size (s) ______ Auger Size (s) ______

Auger/Split Spoon Refusal 4.5'

Total Depth of Borehole Is 4.5'

Total Depth of Corehole Is ______

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1										>1000 Downhole
2	1			0802		3.4'			42@2.2' 120@2.5' 100@3.3'	B2 = Ø
3										
4	2			0813						
5						0.2'				>1000 Downhole
6										
7										(08:20) Sample 2.2-4.5 for VOCs (take metals, etc ms/msD portions which may/may not submit based on later holes) (submitted)
8										
9										
10										
11										
12										
13										
14										
15										

Lock Number ____________

SCREENED WELL

Stick-up ____________ ft

Top of Grout ____________ ft

Top of Seal at ________ ft

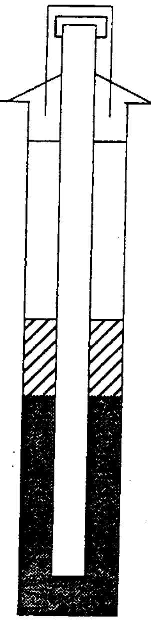
Top of Sand Pack ________ ft

Top of Screen at ______ ft

Bottom of Screen at ____________ ft

Bottom of Hole at ______________ ft

Bottom of Sandpack at __________



Inner Casing Material ____________

Inner Casing Inside Diameter _____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets ____________

Cement ____________

Borehole Diameter ________ inches

Cement/ Bentonite ____________

Grout ____________

Screen Slot Size ________

Screen Type ________

☐ PVC ________

☐ Stainless Steel _____

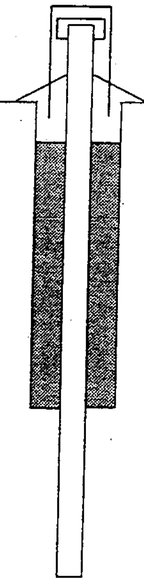
Pack Type/Size:

☐ Sand ____________

☐ Gravel ____________

☐ Natural ____________

OPEN-HOLE WELL



Stick-up ____________ ft

Inner Casing Material ____________

Inner Casing Inside Diameter ________ inches

Outer Casing Diameter ________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ______ ft

Bottom of Inner Casing ________ ft

Corehole Diameter ____________

Bottom of Corehole ____________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-1.1 Asphalt + fill (gravel in a fine brown sand matrix)	X	○	○
2	1.1-2.6 Dark brown fine clayey sand damp some gravel [illegible]	○	X	○
3	2.6-4.3 Brown fine sand red + orange mottling	○	X	○
4	some clay trace fine-med gravel, damp	○	○	○
5	4.3-4.5 Bedrock	○	○	○
6		○	○	○
7		○	○	○
8		○	○	○
9		○	○	○
10		○	○	○
11		○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

DRILLING LOG FOR GP23

Project Name ACSF

Site Location 11/14/01 Rochester, NY

Date Started/Finished 11/14/01

Drilling Company SJB

Driller's Name F. Minnileos

Geologist's Name S. Reynolds Smith

Geologist's Signature [signature]

Rig Type (s) Geoprobe (1.5" rods)

Drilling Method (s) Geoprobe

Bit Size (s) ______ Auger Size (s) ______

Auger/Split Spoon Refusal 4.7

Total Depth of Borehole Is 4.7

Total Depth of Corehole Is ______

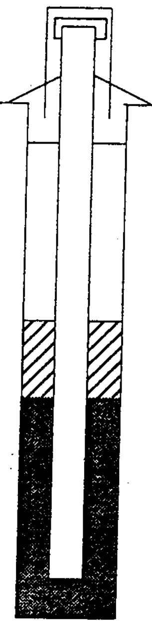
Water Level (TOIC)

Date	Time	Level(Feet)

Well Location Sketch

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1										∅ Downhole
2				0841	1	2.3'			∅	
3										
4				0848	2				1.5	1ppm downhole
5										sample 4-4.7 for VOCs (0859) Borehole dry
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

SCREENED WELL



Lock Number ____________

Inner Casing Material ____________

Inner Casing Inside Diameter ____ inches

Stick-up ____________ ft

GROUND SURFACE

Top of Grout ____________ ft

Top of Seal at ________ ft

Top of Sand Pack ________ ft

Top of Screen at ______ ft

Bottom of Screen at ____________ ft

Bottom of Hole at ____________ ft

Bottom of Sandpack at ____________

Quantity of Material Used:

Bentonite Pellets ____________

Cement ____________

Borehole Diameter ________ inches

Cement/ Bentonite ____________

Grout ____________

Screen Slot Size ________

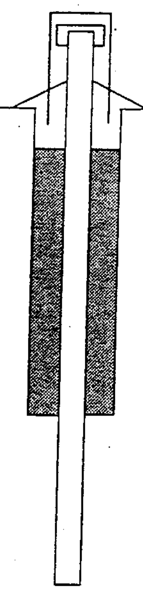
Screen Type ________

- ☐ PVC ________
- ☐ Stainless Steel ________

Pack Type/Size:

- ☐ Sand ________
- ☐ Gravel ________
- ☐ Natural ________

OPEN-HOLE WELL



Stick-up ____________ ft

Inner Casing Material ____________

Inner Casing Inside Diameter ________ inches

Outer Casing Diameter ________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ________ ft

Bottom of Inner Casing ________ ft

Corehole Diameter ____________

Bottom of Corehole ____________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0-0.6 Topsoil Dark brown, some orange			
1	staining, organic rich, clayey sand, dry	○	○	○
2	0.6-0.7 cobble gray	○	○	○
3	0.7-2.3 Brown grading to reddish brown	○	○	○
4	fine sand	○	○	○
5	0.7-1.5 gravel & cobbles, red staining, damp, some clay	○	○	○
6	1.5-2.3 yellowish orange staining	○	○	○
7	2.3-4 NR (no recovery)	○	○	○
8	4-4.7 Reddish brown fine sand, moist, rock in	○	○	○
9	bottom of shoe, well sorted	○	○	○
10		○	○	○
11		○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

DRILLING LOG FOR GP24

Project Name ACSF

Site Location Rochester, NY

Date Started/Finished 11/14/01

Drilling Company SJB

Driller's Name F Minnuteis

Geologist's Name S. Reynolds Smith

Geologist's Signature [signature]

Rig Type (s) Geoprobe (1.5" rods)

Drilling Method (s) Geoprobe

Bit Size (s) ______ Auger Size (s) ______

Auger/Split Spoon Refusal 6.0'

Total Depth of Borehole Is 6.0'

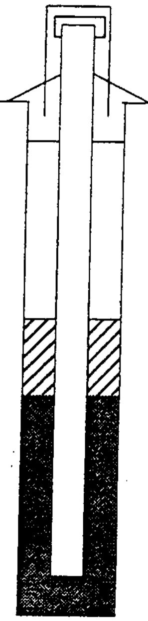
Total Depth of Corehole Is ______

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery ft	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
										12 Dwhole, dissapates
1										
2	1			0932		3.6				
3									2	
4										
5	2			0950		2'			8	(
6										
7										Sample
8										4.9-5.4
9										for VOCs
10										(09:53)
11										
12										
13										Boreholedry
14										
15										

SCREENED WELL



Stick-up ________ ft

Top of Grout ________ ft

Top of Seal at ________ ft

Top of Sand Pack ________ ft

Top of Screen at ________ ft

Bottom of Screen at ________ ft

Bottom of Hole at ________ ft

Bottom of Sandpack at ________

Lock Number ________

Inner Casing Material ________

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets ________

Cement ________

Borehole Diameter ________ inches

Cement/ Bentonite ________

Grout ________

Screen Slot Size ________

Screen Type ________

☐ PVC ________

☐ Stainless Steel ________

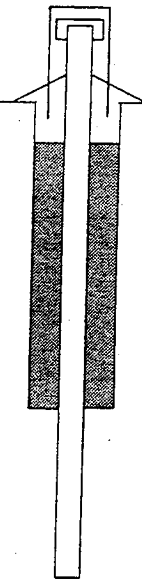
Pack Type/Size:

☐ Sand ________

☐ Gravel ________

☐ Natural ________

OPEN-HOLE WELL



Stick-up ________ ft

Inner Casing Material ________

Inner Casing Inside Diameter ________ inches

Outer Casing Diameter ________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ________ ft

Bottom of Inner Casing ________ ft

Corehole Diameter ________

Bottom of Corehole ________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	0-0.3 Topsoil, Dark brown, organic rich			
1	0.3-1.5 Dark brown to black, fine-medium sand, some	X		
2	fine gravel, fill			
3	1.5-2.70 Brown - dark brown organic rich	X		
4	(roots, etc) sandy topsoil			
5	2.7-4.5 Brown w/ yellow mottling fine clayey	X		
6	sand, trace fine gravel, damp			
7	4.5-4.9 Gravel, gray, coarse			
8	4.9-5.6 Fine clayey sand, some ~~co~~ coarse			
9	gravel, damp			
10	5.6-6.0 Fine sand, brown, damp-moist			
11	Bedrock in shoe			
12				
13				
14				
15				

DRILLING LOG FOR GP25

Project Name ACSF
Site Location Rochester, NY

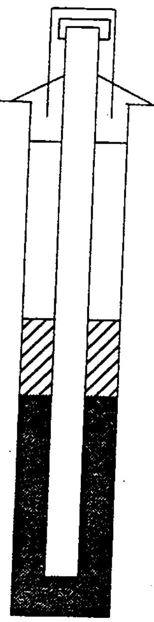
Date Started/Finished 11/14/01
Drilling Company SJB
Driller's Name Frank Minnuleus
Geologist's Name S. Reynolds Smith
Geologist's Signature [signature]
Rig Type (s) Geoprobe (1.5" rods
Drilling Method (s) Geoprobe
Bit Size (s) ______ Auger Size (s) ______
Auger/Split Spoon Refusal 3.3'
Total Depth of Borehole Is 3.3'
Total Depth of Corehole Is ______

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1	1			1017		3'				22 Downhole
2										
3										(sample for VOCs 2-3.3 (10:22))
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

SCREENED WELL



Stick-up ______ ft

Top of Grout ______ ft

Top of Seal at ______ ft

Top of Sand Pack ______ ft

Top of Screen at ______ ft

Bottom of Screen at ______ ft

Bottom of Hole at ______ ft

Bottom of Sandpack at ______

Lock Number ______

Inner Casing Material ______

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets ______

Cement ______

Borehole Diameter ______ inches

Cement/ Bentonite ______

Grout ______

Screen Slot Size ______

Screen Type ______

☐ PVC ______

☐ Stainless Steel ______

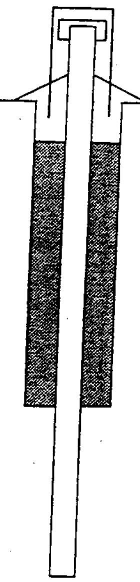
Pack Type/Size:

☐ Sand ______

☐ Gravel ______

☐ Natural ______

OPEN-HOLE WELL



Stick-up ______ ft

Inner Casing Material ______

Inner Casing Inside Diameter ______ inches

Outer Casing Diameter ______ inches

Borehole Diameter ______ ft

Bedrock ______ ft

Bottom of Rock Socket/ Outer Casing ______ ft

Bottom of Inner Casing ______ ft

Corehole Diameter ______

Bottom of Corehole ______ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	0-0.6 Topsoil, organic rich, brown, clayey fine		X	
2	sand, damp, some gravel			
3	0.6-1.4 Same as above except no gravel,			
4	more clay content, some orange/yellow			
5	staining			
6	1.4-3 Yellowish brown fine clayey sand			
7	w/ some gravel, gravel size + content			
8	inc. w/ depth			
9				
10				
11				
12				
13				
14				
15				

44 sleeves

DRILLING LOG FOR GP-1

Project Name: ACSF

Site Location: Rochester NY

Date Started/Finished: 11/12/01

Drilling Company: SJB

Driller's Name: Frank + Matt

Geologist's Name: S. Reynolds Smith

Geologist's Signature: S Reynolds Smith

Rig Type (s): Geoprobe

Drilling Method (s): Geoprobe (1.5")

Bit Size (s): ____ Auger Size (s): ____

Auger/Split Spoon Refusal: 5 ft

Total Depth of Borehole Is: 5 ft

Total Depth of Corehole Is: ____

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

N

Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery ft	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
									2. Sd sample @ Breathing	zone + core
1										
2	1			1421	1	3.3'				
3										
4	2			1432	2	1			2 Downhole @ B2-4	@ soil
5										)
6										Sample
7										ACS-GP01-
8										SB-3-5-0
9										
10										+ -D
11										VOCs, metals
12										
13										
14										(14:35)
15										

Monitoring Well Boring Logs

DRILLING LOG FOR MW-1

Project Name ACSF

Site Location Rochester, NY

Date Started/Finished 11/19/01 | 11/28/01

Drilling Company SJB

Driller's Name Mike Kukoleca

Geologist's Name Stephanie Reynolds Smith

Geologist's Signature [signature]

Rig Type (s) CME-85

Drilling Method (s) HSA

Bit Size (s) ______ Auger Size (s) 10 1/4

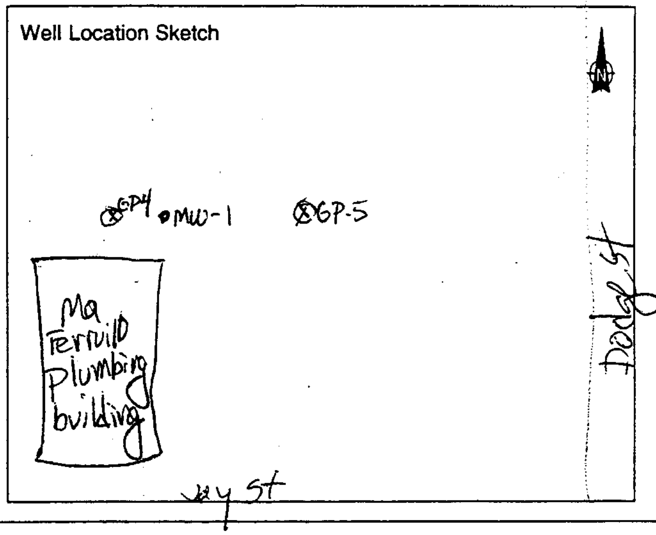
Auger/Split Spoon Refusal 6.5'

Total Depth of Borehole Is ______

Total Depth of Corehole Is 17'

Water Level (TOIC)		
Date	Time	Level(Feet)

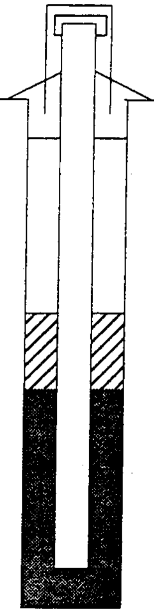
Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1										No OVA hits from cuttings or downhole
2										
3									ϕ	
4										
5				1145						
6.5 — 6										Top of rock
7										No hits downhole
8				1247						4" steel casing 0-8.5'
8.5 11/27 — 9				1540						
10					1	4.8'	44%		ϕ	
11										
12										
13				1610						
11/28 — 14				0934	2	3.6	30%		ϕ	
15				-1003						

MW - 1

SCREENED WELL



Stick-up ________ ft

Top of Grout ________ ft

Top of Seal at 3.5 ft

Top of Sand Pack 5.5 ft

Top of Screen at ~~6.3~~ 8.3 ft

Bottom of Screen at 16.3 ft

Bottom of Hole at 17 ft

Bottom of Sandpack at 17

Lock Number ________

Inner Casing Material PVC

Inner Casing Inside Diameter 2 inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets ________

Cement ________

Borehole Diameter ________ inches

Cement/ Bentonite ________

Grout ________

Screen Slot Size 0.010

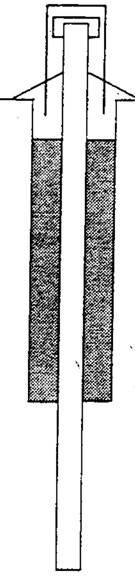
Screen Type PVC

- [x] PVC
- [ ] Stainless Steel

Pack Type/Size

- [x] Sand #0
- [ ] Gravel
- [ ] Natural

OPEN-HOLE WELL



Stick-up ________ ft

Inner Casing Material ________

Inner Casing Inside Diameter ________ inches

Outer Casing Diameter ________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ________ ft

Bottom of Inner Casing ________ ft

Corehole Diameter ________

Bottom of Corehole ________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	8.5- 13.5 Medium gray Lockport dolostone, medium hard-	○	○	○
2	hard, very close - close fractures, fractures mostly	○	○	○
3	horizontal, some at ~35° at ~11.9', clay + coarse	○	○	○
4	gravel in fracture at 9.1' BGS. Lost ~ 150	○	○	○
5	gal downhole during coring run 1	○	○	○
6		○	○	○
7	13.5 - 17 Medium gray Lockport dolostone, hard,	○	○	○
8	very close - close fractures, fresh weathering,	○	○	○
9	angular fractures at ~~15~~ 16.3 - 16.75' BGS'	○	○	○
10	porous voids. Lost ~ 150 gal during run 2	○	○	○
11		○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

DRILLING LOG FOR MW-2

Project Name ACSF

Site Location Rochester NY

Date Started/Finished 11/19/01 / 11/21/01

Drilling Company SJB

Driller's Name Mike Kukoleca

Geologist's Name S. Reynolds Smith

Geologist's Signature S Reynolds Smith

Rig Type (s) CME-85

Drilling Method (s) HSA

Bit Size (s) ______ Auger Size (s) 6 1/4

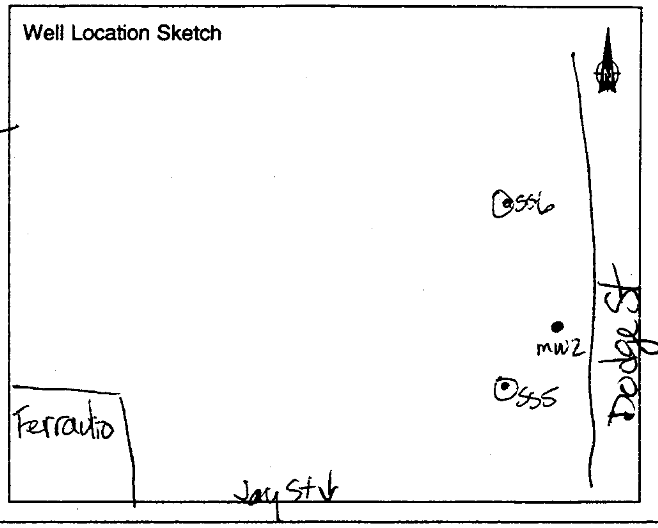
Auger/Split Spoon Refusal 6.5' BGS

Total Depth of Borehole Is ______

Total Depth of Corehole Is 18'

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch

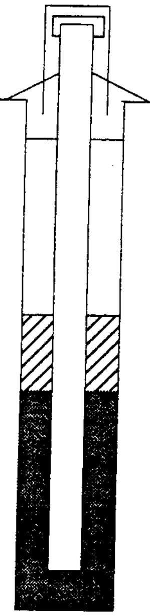


Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery (ft)	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1									∅	
2										
3										
4										
5										
6				1520						Auger refusal @ 6.5'
7										
8				8.5						4" casing 8.5'
9				1348	1	2.75	0		∅	
10				1600 10.5						
11						1.95	0.33/1.95			Loosing water in 10.5-13.5 interval
12					2				∅	
13				1433 13.5						
14					3				∅ Downhole	
15										

11/19/01
11/21/01

MW-2

SCREENED WELL



Stick-up ______ ft

Top of Grout ______ ft

Top of Seal at 3 ft

Top of Sand Pack 5 ft

Top of Screen at 7 ft

Bottom of Screen at 17' (~~16' 10"~~) ft

Bottom of Hole at 18 ft

Bottom of Sandpack at 18

Lock Number ______

Inner Casing Material ______

Inner Casing Inside Diameter ____ inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets ______

Cement ______

Borehole Diameter ______ inches

Cement/ Bentonite ______

Grout ______

Screen Slot Size 0.010

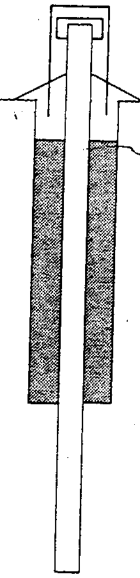
Screen Type ______

- [x] PVC ______
- [ ] Stainless Steel ______

Pack Type/Size:

- [x] Sand zero
- [ ] Gravel ______
- [ ] Natural ______

OPEN-HOLE WELL



Stick-up ______ ft

Inner Casing Material ______

Inner Casing Inside Diameter ______ inches

Outer Casing Diameter ______ inches

Borehole Diameter ______ ft

Bedrock ______ ft

Bottom of Rock Socket/ Outer Casing ______ ft

Bottom of Inner Casing ______ ft

Corehole Diameter ______

Bottom of Corehole ______ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	8.5-10.5 Medium gray, fresh weathering, massive, very close	○	○	○
2	fracturing, no voids, Lockport dolomite	○	○	○
3	10.5-13.5 Medium gray Lockport dolomite hard	○	○	○
4	slightly weathered, very close to close fractures,	○	○	○
5	pitted voids	○	○	○
6		○	○	○
7		○	○	○
8		○	○	○
9		○	○	○
10		○	○	○
11		○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

MW-2

Depth(feet)	Sample Number	Blows on Sampler	Soil Components CL SL S GR	Rock Profile	Penetration Times	Run Number	Core Recovery	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
16											
17						3	6'	32%			
18 (18')					1500						
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											

MW-2

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content Dry	Moist	Wet
16	13.5 - 18 Medium gray hard, fresh-slight			
17	weathering close-very close fractures, porous-			
18	pitted voids			
19	Pump out water - recovers to ~7.5' BGS			
20				
21	Total water loss down hole during drilling			
22	is about 250 gal			
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				

DRILLING LOG FOR MW-3

Project Name: ACSF

Site Location: Rochester, NY

Date Started/Finished: 11/20/01 / 11/26/01

Drilling Company: SJB

Driller's Name: Mike Kokolecca

Geologist's Name: S. Reynolds Smith

Geologist's Signature: S Reynolds Smith

Rig Type (s): CME -85

Drilling Method (s): HSA

Bit Size (s): ______ Auger Size (s): 6 1/4"

Auger/Split Spoon Refusal: 4' BGS

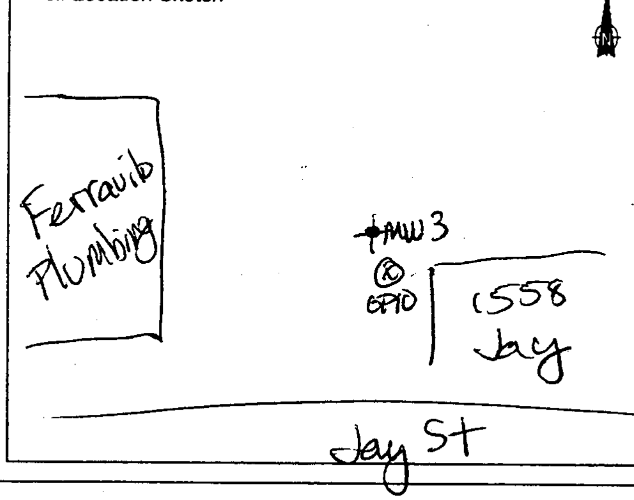
Total Depth of Borehole Is: ______

Total Depth of Corehole Is: 20.5'

Water Level (TOIC)

Date	Time	Level(Feet)

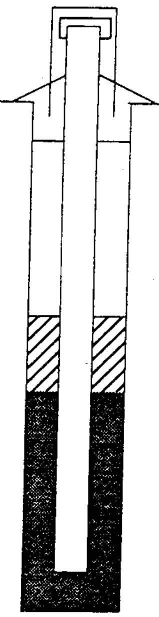
Well Location Sketch



Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery (ft)	RQD (%)	Fracture Sketch	HNu/OVA (ppm)	Comments
									~~>10~~ 570ppm	>10 ppm cuttings : Drummed cuttings 80ppm downhole ~9 methane Øppm breathing zone
1										
2										
3				1300						
4										Bedrock at 4'
5				1403						
5.5 → 6				0930						4" steel casing 0-~~4~~5.5'
7										~~DA~~
8					1 (5.5-10.5')	3.8	Ø			
9										
10				1000						
11				1008						
12					2 10.5-15.5	5.6	17			
13										
14										
15				1030						

mw-3

SCREENED WELL



Stick-up ________ ft

Top of Grout ~~0~~ ~~3.1~~ AMS ft

Top of Seal at 5.1 ft

Top of Sand Pack 7.1 ft

Top of Screen at 9.7 ft

Bottom of Screen at ~~20.5~~ 19.7 ft

Bottom of Hole at 20.5 ft

Bottom of Sandpack at 20.5

Lock Number ________

Inner Casing Material PVC

Inner Casing Inside Diameter 2 inches

GROUND SURFACE

Quantity of Material Used:

Bentonite Pellets ________

Cement ________

Borehole Diameter ________ inches

Cement/ Bentonite ________

Grout ________

Screen Slot Size 0010

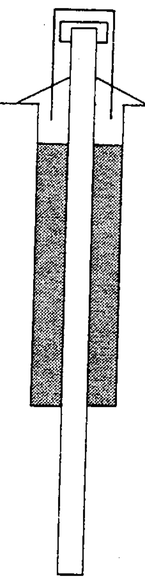
Screen Type ________

- ☑ PVC ________
- ☐ Stainless Steel ________

Pack Type/Size:

- ☑ Sand #0
- ☐ Gravel ________
- ☐ Natural ________

OPEN-HOLE WELL



Stick-up ________ ft

Inner Casing Material ________

Inner Casing Inside Diameter ________ inches

Outer Casing Diameter ________ inches

Borehole Diameter ________ ft

Bedrock ________ ft

Bottom of Rock Socket/ Outer Casing ________ ft

Bottom of Inner Casing ________ ft

Corehole Diameter ________

Bottom of Corehole ________ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
	~~0-3.8~~ 5.5-9.3			
1	Medium gray Lockport Dolostone hard fresh	○	○	○
2	weathering massive very close - close fractures (horizontal)	○	○	○
3	some pitted voids, vertical fracture at 2.15-2.4	○	○	○
4	clay in horizontal fractures ~~at~~ 2.9 + 3.4, no water loss	○	○	○
5		○	○	○
6	AMS ~~3.8-~~ 9.3 - 10.5 NR	○	○	○
7	10.5 - 15.5 Medium gray Lockport Dolostone hard	○	○	○
8	fresh weathering, massive, very close - close	○	○	○
9	horizontal fractures, vertical fracture	○	○	○
10	at ~10.5 - 10.7, clay filled horizontal fractures	○	○	○
11	at 11 - 11.2 + 13.2 - 13.25, minimal water loss	○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

MW-3

Depth(feet)	Sample Number	Blows on Sampler	Soil Components CL SL S GR	Rock Profile	Penetration Times	Run Number	Core Recovery ft	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
16					1046						
17											
18						3	5	48%		Ø	
19											
20					1115						
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											

Depth(feet).	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content (Dry / Moist / Wet)
16	15.5 - 20.5 Medium gray Lockport Dolostone	
17	hard fresh weathering - very close - close	
18	fracturing, no significant water loss. Pump	
19	well out. Start w/ WL = 19. End w/ WL ≈ 12.5	
20		
21	Total water loss ~ 5 gal during drilling	
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		

DRILLING LOG FOR MW-4

Project Name: ACSF

Site Location: Rochester, NY

Date Started/Finished: 11/21/01 / 11/27/01

Drilling Company: SJB

Driller's Name: Mike Kukdeca

Geologist's Name: Stephanie Reynolds Smith

Geologist's Signature: [signature]

Rig Type (s): CME 85

Drilling Method (s): HSA

Bit Size (s): ______ Auger Size (s): 6 1/4"

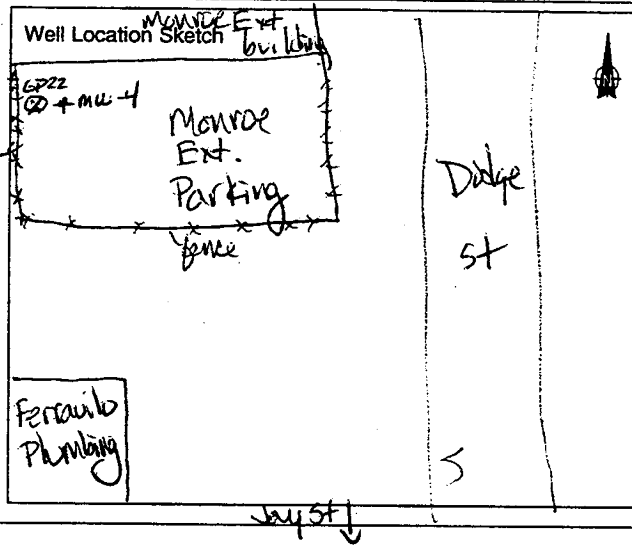
Auger/Split Spoon Refusal: 5' BGS

Total Depth of Borehole Is: ______

Total Depth of Corehole Is: ~~16.75' BGS~~ 16.7' BGS

Water Level (TOIC)		
Date	Time	Level(Feet)

Well Location Sketch



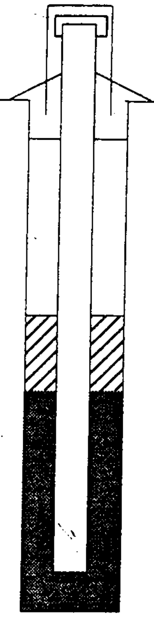
Depth(Feet)	Sample Number	Blows on Sampler	Soil Components Rock Profile CL SL S GR	Penetration Times	Run Number	Core Recovery ft	RQD	Fracture Sketch	HNu/OVA (ppm)	Comments
1										>100 cuttings -> Drummed in ACS-DM02
2					~~AW~~					
3										
4				1016						Refusal @ 5' BGS
5									ø	
6				1052						4" steel casing 0-6.75'
7				1009						
8 (11/27)					1	~~4.5~~ 2	16		ø	
9										
10										
11				1030						
12				1044-						
13				1110	2	6	34		ø	
14										
15										

16

17

MW-4

SCREENED WELL



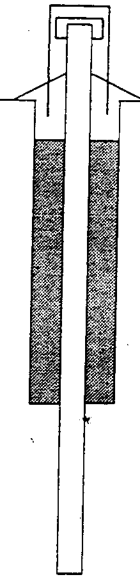
- Stick-up: 0 ft
- Top of Grout: 0 ft
- Top of Seal at: 1.7 ft
- Top of Sand Pack: 3.7 ft
- Top of Screen at: ~~8.6~~ ft
- Bottom of Screen at: 16 ft
- Bottom of Hole at: 16.7' ft
- Bottom of Sandpack at: 16.7

- Lock Number: ______
- Inner Casing Material: PVC
- Inner Casing Inside Diameter: 2 inches

GROUND SURFACE

Quantity of Material Used:
- Bentonite Pellets: ______
- Cement: ______
- Borehole Diameter: ______ inches
- Cement/ Bentonite: ______
- Grout: ______
- Screen Slot Size: 0.010
- Screen Type: ______
  - ☒ PVC
  - ☐ Stainless Steel
- Pack Type/Size: #0
  - ☐ Sand
  - ☐ Gravel
  - ☐ Natural

OPEN-HOLE WELL



- Stick-up: ______ ft
- Inner Casing Material: ______
- Inner Casing Inside Diameter: ______ inches
- Outer Casing Diameter: ______ inches
- Borehole Diameter: ______ ft
- Bedrock: ______ ft
- Bottom of Rock Socket/ Outer Casing: ______ ft
- Bottom of Inner Casing: ______ ft
- Corehole Diameter: ______
- Bottom of Corehole: ______ ft

NOTE: See pages 136 and 137 for well construction diagrams

Depth-ft.	NARRATIVE LITHOLOGIC DESCRIPTION	Moisture Content: Dry	Moist	Wet
1	6.75 - 11.75 Medium gray Lockport Dolostone, hard	○	○	○
2	fresh weathering very close & close fracturing 0.1' long	○	○	○
3	void at 3.2-3.3 (?) vertical fracture at 3 (?) 3.3,	○	○	○
4	no water loss	○	○	○
5	11.75 - 16.75 Medium gray Lockport Dolostone	○	○	○
6	hard, fresh weathering, very close - close fracturing	○	○	○
7	no water loss clay in fracture at 12.3, 0.1'x0.05' (?)	○	○	○
8	void at 15.7' ~~bgs~~ bgs	○	○	○
9		○	○	○
10		○	○	○
11		○	○	○
12		○	○	○
13		○	○	○
14		○	○	○
15		○	○	○

D Well Development Records

WELL DEVELOPMENT RECORD

SITE: ACSF

DATE: 11/28/07

LOCATION: Rochester, NY

WELL NO.: MW-1

MEASUREMENT OF WATER LEVEL AND WELL VOLUME

- Prior to sampling, the static water level and total depth of the well will be measured with a calibrated weighted line. Care will be taken to decontaminate equipment between each use to avoid cross contamination of wells.
- The number of linear feet of static water (difference between static water level and total depth of well) will be calculated.
- The static volume will be calculated using the formula:

$$V = Tr^2(0.163)$$

Where:
V = Static volume of well in gallons;
T = Depth of water in the well, measured in feet;
r = Inside radius of well casing in inches;
and 0.163 = A constant conversion factor which compensates for r^2h factor for the conversion of the casing radius from inches to feet, the conversion of cubic feet to gallons, and (pi).
1 well volume (v) = 1.4 gallons.

Volume of Water in Casing or Hole

Diameter of Casing or Hole (in)	Gallons per Foot of Depth	Cubic Feet per Foot of Depth	Liter per Meter of Depth	Cubic Meters per Meter of Depth
1	0.041	0.0055	0.509	0.509×10^{-3}
11/2	0.092	0.0123	1.142	1.142×10^{-3}
2	0.163	0.0218	2.024	2.024×10^{-3}
21/2	0.255	0.0341	3.167	3.167×10^{-3}
3	0.367	0.0491	4.558	4.558×10^{-3}
31/2	0.500	0.0668	6.209	6.209×10^{-3}
4	0.653	0.0873	8.110	8.110×10^{-3}
41/2	0.826	0.1104	10.260	10.260×10^{-3}
5	1.020	0.1364	12.670	12.670×10^{-3}
51/2	1.234	0.1650	15.330	15.330×10^{-3}
6	1.469	0.1963	18.240	18.240×10^{-3}
7	2.000	0.2673	24.840	24.840×10^{-3}
8	2.611	0.3491	32.430	32.430×10^{-3}
9	3.305	0.4418	41.040	41.040×10^{-3}
10	4.080	0.5454	50.670	50.670×10^{-3}
11	4.937	0.6600	61.310	61.310×10^{-3}
12	5.875	0.7854	72.960	72.960×10^{-3}
14	8.000	1.0690	99.350	99.350×10^{-3}
16	10.440	1.3960	129.650	129.650×10^{-3}
18	13.220	1.7670	164.180	164.180×10^{-3}
20	16.320	2.1820	202.680	202.680×10^{-3}
22	19.750	2.6400	245.280	245.280×10^{-3}
24	23.500	3.1420	291.850	291.850×10^{-3}
26	27.580	3.6870	342.520	342.520×10^{-3}
28	32.000	4.2760	397.410	397.410×10^{-3}
30	36.720	4.9090	456.020	456.020×10^{-3}
32	41.780	5.5850	518.870	518.870×10^{-3}
34	47.160	6.3050	585.680	585.680×10^{-3}
36	52.880	7.0690	656.720	656.720×10^{-3}

1 Gallon = 3.785 liters
1 Meter = 3.281 feet
1 Gallon water weighs 8.33 lbs. = 3.779 kilograms
1 Liter water weighs 1 kilogram = 2.205 pounds
1 Gallon per foot of depth = 12.419 liters per foot of depth
1 Gallon per meter of depth = 12.419×10^{-3} cubic meters per meter of depth

INITIAL DEVELOPMENT WATER

WATER LEVEL (TOIC): 10.30
WELL DEPTH (TD): 18.64
COLOR: gray
ODOR: sulfur
CLARITY:

FINAL DEVELOPMENT WATER

WATER LEVEL (TOIC):
WELL DEPTH (TD):
COLOR:
ODOR:
CLARITY:

DESCRIPTION OF DEVELOPMENT TECHNIQUE: Surge w/ bailer, pump w/ Grunfos

WELL DEVELOPMENT - PARAMETER MEASUREMENTS

MW-1

TIME	TOTAL VOL. WITHDRAWN		pH	COND. (µmhos/cm)	TEMP. (°C/°F)	TURB. (NTU)	COMMENTS
	GALS.	BORE VOL.					
11/28 1416	0	0	6.37	1593	11.7	70.6	Sulfur odor, 0.6ppm
1423	1.5	1	6.28	~~25~~ 1629	12.3	252	sulfur odor 0ppm
1445	6		6.26	1670	11.8	18.1	Start pumping, sulfur odor
1459	50		6.46	1655	12.5	69.5	
1514	100		6.40	1547	12.7	47.5	
1529	150		6.39	1503	12.8	42.8	
1544	200		6.36	1468	12.5	44.6	
1556	250		6.39	1463	12.6	39.7	
1608	300		6.36	1590	12.4	28.6	
1622	350		6.35	1507	12.7	92.7	
1636	400		6.61	1369	12.9	99.7	
1649	450		6.45	1550	12.5	98.7	
11/29 0824	500		6.28	1733	11.9	8.59	
0837	550		6.22	1765	12.0	5.42	
0852	600		6.51	1713	12.1	15.9	
0908	650		6.33	1710	12.5	5.91	
0924	700		6.39	1638	12.6	13.6	
0940	750		6.47	1599	12.4	9.11	OVA - 80 ppm peak, 15-20 ppm sustained ~~(w/ carbon filter)~~
0955	800		6.40	1589	12.9	6.04	
1010	850		6.40	1559	12.9	8.62	
1028	900	643	6.45	1556	12.6	6.54	

DEVELOPED BY: Eric Detweiler

DATE 11/29/01

WELL DEVELOPMENT RECORD

SITE mw-2 ACSF

DATE 11/26 - 11/27/01

LOCATION Rochester, NY

WELL NO. MW-2

MEASUREMENT OF WATER LEVEL AND WELL VOLUME

- Prior to sampling, the static water level and total depth of the well will be measured with a calibrated weighted line. Care will be taken to decontaminate equipment between each use to avoid cross contamination of wells.
- The number of linear feet of static water (difference between static water level and total depth of well) will be calculated.
- The static volume will be calculated using the formula:

$$V = Tr^2(0.163)$$

Where:
V = Static volume of well in gallons;
T = Depth of water in the well, measured in feet;
r = Inside radius of well casing in inches;
and 0.163 = A constant conversion factor which compensates for r^2h factor for the conversion of the casing radius from inches to feet, the conversion of cubic feet to gallons, and (pi).
1 well volume (v) = 1.4 gallons.

Volume of Water in Casing or Hole

Diameter of Casing or Hole (in)	Gallons per Foot of Depth	Cubic Feet per Foot of Depth	Liter per Meter of Depth	Cubic Meters per Meter of Depth
1	0.041	0.0055	0.509	0.509×10^{-3}
11/2	0.092	0.0123	1.142	1.142×10^{-3}
2	0.163	0.0218	2.024	2.024×10^{-3}
21/2	0.255	0.0341	3.167	3.167×10^{-3}
3	0.367	0.0491	4.558	4.558×10^{-3}
31/2	0.500	0.0668	6.209	6.209×10^{-3}
4	0.653	0.0873	8.110	8.110×10^{-3}
41/2	0.826	0.1104	10.260	10.260×10^{-3}
5	1.020	0.1364	12.670	12.670×10^{-3}
51/2	1.234	0.1650	15.330	15.330×10^{-3}
6	1.469	0.1963	18.240	18.240×10^{-3}
7	2.000	0.2673	24.840	24.840×10^{-3}
8	2.611	0.3491	32.430	32.430×10^{-3}
9	3.305	0.4418	41.040	41.040×10^{-3}
10	4.080	0.5454	50.670	50.670×10^{-3}
11	4.937	0.6600	61.310	61.310×10^{-3}
12	5.875	0.7854	72.960	72.960×10^{-3}
14	8.000	1.0690	99.350	99.350×10^{-3}
16	10.440	1.3960	129.650	129.650×10^{-3}
18	13.220	1.7670	164.180	164.180×10^{-3}
20	16.320	2.1820	202.680	202.680×10^{-3}
22	19.750	2.6400	245.280	245.280×10^{-3}
24	23.500	3.1420	291.850	291.850×10^{-3}
26	27.580	3.6870	342.520	342.520×10^{-3}
28	32.000	4.2760	397.410	397.410×10^{-3}
30	36.720	4.9090	456.020	456.020×10^{-3}
32	41.780	5.5850	518.870	518.870×10^{-3}
34	47.160	6.3050	585.680	585.680×10^{-3}
36	52.880	7.0690	656.720	656.720×10^{-3}

1 Gallon = 3.785 liters
1 Meter = 3.281 feet
1 Gallon water weighs 8.33 lbs. = 3.779 kilograms
1 Liter water weighs 1 kilogram = 2.205 pounds
1 Gallon per foot of depth = 12.419 liters per foot of depth
1 Gallon per meter of depth = 12.419×10^{-3} cubic meters per meter of depth

INITIAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 10.81
WELL DEPTH (TD) 19.40
COLOR gray
ODOR sulfur
CLARITY

FINAL DEVELOPMENT WATER

WATER LEVEL (TOIC)
WELL DEPTH (TD)
COLOR
ODOR
CLARITY

DESCRIPTION OF DEVELOPMENT TECHNIQUE Surge w/ bailer + pump w/ Grundfos pump

WELL DEVELOPMENT - PARAMETER MEASUREMENTS

MW-2

TIME	TOTAL VOL. WITHDRAWN		pH	COND. (µmhos/cm)	TEMP. (°C/°F)	TURB. (NTU)	COMMENTS
	GALS.	BORE VOL.					
12/26 1645	0		6.89	1407	12.7	34	Sulfur-like odor; 2-8 10ppm methane
12/27 0728	10		6.59	1292	12.5	~1000	" ~2ppm, gray color
0748	50		6.77	1301	12.1	18.6	Sulfur-like odor
0813	100		6.62	1298	11.8	4.94	" "
0851	150		6.80	1294	12.8	14.4	" "
0932	200		6.75	1285	12.1	4.15	" "
1027	250		6.70	1274	12.4	1.87	" "
1126	300		6.76	1267	12.6	1.14	" "
1219	350		6.69	1265	12.8	1.93	" "
1300	390	279	6.69	1256	13.4	1.69	" "

750 gal planned to be removed, however, due to low flow rate & removal (due to 250 gal lost during drilling) of more than half planned volume, well development considered complete (approved by Joe White)

DEVELOPED BY: Eric Detweiler

DATE 11/27/01

BOREHOLE NO. MW-2

WELL DEVELOPMENT RECORD

SITE ACSF

DATE 11/27/01

LOCATION Rochester NY

WELL NO. MW-3

MEASUREMENT OF WATER LEVEL AND WELL VOLUME

- Prior to sampling, the static water level and total depth of the well will be measured with a calibrated weighted line. Care will be taken to decontaminate equipment between each use to avoid cross contamination of wells.
- The number of linear feet of static water (difference between static water level and total depth of well) will be calculated.
- The static volume will be calculated using the formula:

$$V = Tr^2 (0.163)$$

Where:
V = Static volume of well in gallons;
T = Depth of water in the well, measured in feet;
r = Inside radius of well casing in inches;
and 0.163 = A constant conversion factor which compensates for r^2h factor for the conversion of the casing radius from inches to feet, the conversion of cubic feet to gallons, and (pi).
1 well volume (v) = 1.8 gallons.

Volume of Water in Casing or Hole

Diameter of Casing or Hole (in)	Gallons per Foot of Depth	Cubic Feet per Foot of Depth	Liter per Meter of Depth	Cubic Meters per Meter of Depth
1	0.041	0.0055	0.509	0.509×10^{-3}
1 1/2	0.092	0.0123	1.142	1.142×10^{-3}
2	0.163	0.0218	2.024	2.024×10^{-3}
2 1/2	0.255	0.0341	3.167	3.167×10^{-3}
3	0.367	0.0491	4.558	4.558×10^{-3}
3 1/2	0.500	0.0668	6.209	6.209×10^{-3}
4	0.653	0.0873	8.110	8.110×10^{-3}
4 1/2	0.826	0.1104	10.260	10.260×10^{-3}
5	1.020	0.1364	12.670	12.670×10^{-3}
5 1/2	1.234	0.1650	15.330	15.330×10^{-3}
6	1.469	0.1963	18.240	18.240×10^{-3}
7	2.000	0.2673	24.840	24.840×10^{-3}
8	2.611	0.3491	32.430	32.430×10^{-3}
9	3.305	0.4418	41.040	41.040×10^{-3}
10	4.080	0.5454	50.670	50.670×10^{-3}
11	4.937	0.6600	61.310	61.310×10^{-3}
12	5.875	0.7854	72.960	72.960×10^{-3}
14	8.000	1.0690	99.350	99.350×10^{-3}
16	10.440	1.3960	129.650	129.650×10^{-3}
18	13.220	1.7670	164.180	164.180×10^{-3}
20	16.320	2.1820	202.680	202.680×10^{-3}
22	19.750	2.6400	245.280	245.280×10^{-3}
24	23.500	3.1420	291.850	291.850×10^{-3}
26	27.580	3.6870	342.520	342.520×10^{-3}
28	32.000	4.2760	397.410	397.410×10^{-3}
30	36.720	4.9090	456.020	456.020×10^{-3}
32	41.780	5.5850	518.870	518.870×10^{-3}
34	47.160	6.3050	585.680	585.680×10^{-3}
36	52.880	7.0690	656.720	656.720×10^{-3}

1 Gallon = 3.785 liters
1 Meter = 3.281 feet
1 Gallon water weighs 8.33 lbs. = 3.779 kilograms
1 Liter water weighs 1 kilogram = 2.205 pounds
1 Gallon per foot of depth = 12.419 liters per foot of depth
1 Gallon per meter of depth = 12.419 x 10^{-3} cubic meters per meter of depth

INITIAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 8.62
WELL DEPTH (TD) 19.88
COLOR gray
ODOR sulfur-like
CLARITY not very

FINAL DEVELOPMENT WATER

WATER LEVEL (TOIC)
WELL DEPTH (TD)
COLOR
ODOR
CLARITY

DESCRIPTION OF DEVELOPMENT TECHNIQUE Surge w/ bailer & pump w/ Grunfos

WELL DEVELOPMENT - PARAMETER MEASUREMENTS

MW-3

TIME	TOTAL VOL. WITHDRAWN GALS.	TOTAL VOL. WITHDRAWN BORE VOL.	pH	COND. (µmhos/cm)	TEMP. (°C/°F)	TURB. (NTU)	COMMENTS
1320	0		6.67	1697	14.1	>1000	100 ppm methane, sulfur odor
1330	2	1	6.68	1780	14.0	>1000	Gray color, sulfur odor
1334	4	2	6.67	1924	14.2	>1000	" "
1344	6	3	6.63	1865	14.3	>1000	" "
1358	8	4	6.57	1916	16.0	460	" "
1415	10	5	6.56	1906	17.3	697	" "
1432	12	6	6.56	1960	16.1	166	" "
1436	14	7	6.62	1990	16.8	987	↓
1445	~~18~~ 16	8	6.64	2021	14.2	>1000	
1505	18	9	6.67	2026	14.0	63.2	
1520	20	10	6.66	2100	13.6	58.5	
1540	22	11	6.69	2134	13.7	8.22	
1555	23	11.5	6.57	2165	13.6	89.0	
1605	24	12	6.65	2154	13.8	14.0	↓

DEVELOPED BY: Eric Detweiler

DATE 11/27/01 1605

WELL DEVELOPMENT RECORD

SITE ACSF

DATE 1/26/01

LOCATION Rochester, NY

WELL NO. MW-4

MEASUREMENT OF WATER LEVEL AND WELL VOLUME

- Prior to sampling, the static water level and total depth of the well will be measured with a calibrated weighted line. Care will be taken to decontaminate equipment between each use to avoid cross contamination of wells.
- The number of linear feet of static water (difference between static water level and total depth of well) will be calculated.
- The static volume will be calculated using the formula:

$$V = Tr^2 (0.163)$$

Where:
V = Static volume of well in gallons;
T = Depth of water in the well, measured in feet;
r = Inside radius of well casing in inches;
and 0.163 = A constant conversion factor which compensates for r^2h factor for the conversion of the casing radius from inches to feet, the conversion of cubic feet to gallons, and (pi).
1 well volume (v) = 1.7 gallons.

Volume of Water in Casing or Hole

Diameter of Casing or Hole (in)	Gallons per Foot of Depth	Cubic Feet per Foot of Depth	Liter per Meter of Depth	Cubic Meters per Meter of Depth
1	0.041	0.0055	0.509	0.509×10^{-3}
11/2	0.092	0.0123	1.142	1.142×10^{-3}
2	0.163	0.0218	2.024	2.024×10^{-3}
21/2	0.255	0.0341	3.167	3.167×10^{-3}
3	0.367	0.0491	4.558	4.558×10^{-3}
31/2	0.500	0.0668	6.209	6.209×10^{-3}
4	0.653	0.0873	8.110	8.110×10^{-3}
41/2	0.826	0.1104	10.260	10.260×10^{-3}
5	1.020	0.1364	12.670	12.670×10^{-3}
51/2	1.234	0.1650	15.330	15.330×10^{-3}
6	1.469	0.1963	18.240	18.240×10^{-3}
7	2.000	0.2673	24.840	24.840×10^{-3}
8	2.611	0.3491	32.430	32.430×10^{-3}
9	3.305	0.4418	41.040	41.040×10^{-3}
10	4.080	0.5454	50.670	50.670×10^{-3}
11	4.937	0.6600	61.310	61.310×10^{-3}
12	5.875	0.7854	72.960	72.960×10^{-3}
14	8.000	1.0690	99.350	99.350×10^{-3}
16	10.440	1.3960	129.650	129.650×10^{-3}
18	13.220	1.7670	164.180	164.180×10^{-3}
20	16.320	2.1820	202.680	202.680×10^{-3}
22	19.750	2.6400	245.280	245.280×10^{-3}
24	23.500	3.1420	291.850	291.850×10^{-3}
26	27.580	3.6870	342.520	342.520×10^{-3}
28	32.000	4.2760	397.410	397.410×10^{-3}
30	36.720	4.9090	456.020	456.020×10^{-3}
32	41.780	5.5850	518.870	518.870×10^{-3}
34	47.160	6.3050	585.680	585.680×10^{-3}
36	52.880	7.0690	656.720	656.720×10^{-3}

1 Gallon = 3.785 liters
1 Meter = 3.281 feet
1 Gallon water weighs 8.33 lbs. = 3.779 kilograms
1 Liter water weighs 1 kilogram = 2.205 pounds
1 Gallon per foot of depth = 12.419 liters per foot of depth
1 Gallon per meter of depth = 12.419 x 10^{-3} cubic meters per meter of depth

INITIAL DEVELOPMENT WATER

WATER LEVEL (TOIC) 5.83
WELL DEPTH (TD) 15.99
COLOR gray
ODOR slight
CLARITY okay

FINAL DEVELOPMENT WATER

WATER LEVEL (TOIC) ____
WELL DEPTH (TD) ____
COLOR ____
ODOR ____
CLARITY ____

DESCRIPTION OF DEVELOPMENT TECHNIQUE Surge w/ bailer, pump w/ Grunfos

WELL DEVELOPMENT - PARAMETER MEASUREMENTS

MW-4

TIME	TOTAL VOL. WITHDRAWN		pH	COND. (µmhos/cm)	TEMP. (°C/°F)	TURB. (NTU)	COMMENTS
	GALS.	BORE VOL.					
0737	0	0	7.06	1001	12.9	137	0ppm, gray color
0749	2	1	7.07	972.1	13.1	>1000	"
0752	4	2	7.09	978.5	13.7	>1000	"
0802	6	3	7.18	971.7	13.5	>1000	"
0805	8	4	6.99	1007	13.9	879	"
0807	10	5	7.00	1012	14.8	>1000	
0808	12	6	7.00	1017	14.7	~1000	
810	14	7	6.93	1031	14.7	679	
0813	17	8.5	6.95	1049	14.6	202	
0816	21	10.5	7.07	1064	14.2	344	
0823	26	13	6.94	1076	14.2	59.5	
0845	30	15	6.93	1111	12.7	>1000	
0900	34	17	7.05	1111	12.6	>1000	
0910	38	19	7.07	1122	12.3	709	
0925	42	21	6.97	1124	12.4	670	
0935	46	23	6.89	1122	12.9	611	
0950	50	25	6.97	1129	12.6	608	
1003	54	27	6.91	1137	12.9	265	
1014	58	29	6.97	1141	13.1	430	
1028	62	31	6.90	1148	13.1	177	
1039	66	33	7.01	1148	13.1	202	
1051	70	35	6.86	1163	12.9	198	

Turbidity not < 50 NTU, but, as per work plan, "significant progress" was made over the course of development (and development was greater than the two hours specified in the workplan).

DEVELOPED BY: Eric Detweiler

DATE 11/28/01

E

Data Usability Summary Report and Summary of Tentatively Identified Compounds

Data Usability Summary Report	Project: NYSDEC PSA
Date Completed: March 13, 2002	Completed by: Marcia Meredith Galloway

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

Project	Lab Work Order
Abandoned Chemical Sales	0111178

Table 1 Sample Summary Tables from Electronic Data Deliverable

Sample ID	Sample Date	Matrix	Lab ID	Lab QC	MS MS	ID Corrections
GP22-SB-2.2-4.5-0	11/14/2001	Soil	0111178-01	MS/MSD	*	GP22-2.2-4.5
GP23-SB-4-4.7-0	11/14/2001	Soil	0111178-02			GP23-4-4.7
GP24-SB-4.9-5.4-0	11/14/2001	Soil	0111178-03			GP24-4.9-5.4
GP25-SB-2-3.3-0	11/14/2001	Soil	0111178-04			GP25-2-3.3
SD01-0	11/14/2001	Soil	0111178-04			SD01
SD01-0	11/14/2001	Soil	0111178-05	MS/MSD	*	SD01
SD01-D	11/14/2001	Soil	0111178-06			SD01-D
SS01-0	11/14/2001	Soil	0111178-07	MS/MSD	*	SS01
SS02-0	11/14/2001	Soil	0111178-08			SS02
SS02-D	11/14/2001	Soil	0111178-09			SS02-D
SS03-0	11/14/2001	Soil	0111178-10			SS03
SS04-0	11/14/2001	Soil	0111178-11			SS04
SS05-0	11/14/2001	Soil	0111178-12			SS05
SS06-0	11/14/2001	Soil	0111178-13			SS06
SS07-0	11/14/2001	Soil	0111178-14			SS07
SS08-0	11/14/2001	Soil	0111178-15			SS08
SS09-0	11/14/2001	Soil	0111178-16			SS09
SS10-0	11/14/2001	Soil	0111178-17			SS10
SS11-0	11/14/2001	Soil	0111178-18			SS11
STORAGE BLANK	11/14/2001	Water	0111178-19			None

Work Orders, Tests and Number of Samples included in this DUSR

Work Orders	Matrix	Test Method	Number of Samples
0111178	Soil	ASTM_D2216	18
0111178	Soil	ILM04.0_CN	15
0111178	Soil	ILM04.0_HG	15
0111178	Soil	ILM04.0_MET	15
0111178	Soil	Lloyd Kahn	2
0111178	Soil	OLM04.2_PPCB	30
0111178	Soil	OLM04.2_SVOA	2

Work Orders, Tests and Number of Samples included in this DUSR

Work Orders	Matrix	Test Method	Number of Samples
0111178	Soil	OLM04.2_VOA	18
0111178	Soil	SW9045C	12
0111178	Water	OLM04.2_VOA	1

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes
Did coolers arrive at lab between 2 and 6°C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes
Any holding time violations (See table below)?	No - All samples were prepared and analyzed within holding times.

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Any compounds present in method, trip, or field blanks (see Table 2)?	No target compounds are present. Two TICs are listed.
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	Yes
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	Yes

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Not reviewed.
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes, as noted in the case narrative.
Is continuing calibration for target compounds < 20.5%D.	Yes, as noted in the case narrative.
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes
For TICs are there any system related compounds that should not be reported?	No
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	Yes

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are <5 times the blank then "U" flag data.	Not applicable.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). Matrix effects should be established.	No. One surrogate was high showing a positive interference. No sample qualification is required for one surrogate out.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	No, a few compounds had slightly low recovery. No data qualification is required because no matrix effects are indicated.
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes, Endrin has a slightly high recovery but all the impacted results are already J flagged.
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes, as noted in the case narrative.
Is continuing calibration for target compounds < 15.5%D.	Yes, as noted in the case narrative.
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes, several samples were analyzed at a dilution.
Spot check retention time windows and second column confirmations as complete.	Not reviewed.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes, all compounds were below the PQL.
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	Yes, Selenium results for the soil sample had 0% recovery indicating a severe matrix effect.
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes
Spot check ICS recoveries 80-120%. Contact lab.	Acceptable, as noted in the case narrative.
Spot check ICV 95-105%. Contact lab.	Acceptable, as noted in the case narrative.
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	Acceptable, as noted in the case narrative.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

General Analytical Methods	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are <5 times the blank then "U" flag data.	Not applicable.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount.	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Summary of Potential Impacts on Data Usability
Major Concerns
Selenium results for surface soils are rejected due to low matrix spike recoveries. The LCS was acceptable indicating a matrix effect. The ND values are biased low and the actual reporting limits are much higher. The screening value for selenium is 2 mg/Kg and therefore, the results are not useful for comparison to this criterion. The impacts on the overall usability is minor because some of the other metals and PAHs were much higher than their applicable criterion, and further investigation is warranted.

Data Usability Summary Report	Project: NYSDEC PSA
Date Completed: March 13, 2002	Completed by: Marcia Meredith Galloway

Summary of Potential Impacts on Data Usability
Minor Concerns
None

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
ILM04.0_MET	MB-200103190	MBLK	Aluminum	12.513	B	A	mg/Kg	2.2	40.0
ILM04.0_MET	MB-200103190	MBLK	Barium	0.098	B	A	mg/Kg	0.080	40.0
ILM04.0_MET	MB-200103190	MBLK	Beryllium	0.069	B	A	mg/Kg	0.020	1.0
ILM04.0_MET	MB-200103190	MBLK	Cadmium	0.045	B	A	mg/Kg	0.040	1.0
ILM04.0_MET	MB-200103190	MBLK	Calcium	62.438	B	A	mg/Kg	5.6	1000
ILM04.0_MET	MB-200103190	MBLK	Chromium	0.321	B	A	mg/Kg	0.080	2.0
ILM04.0_MET	MB-200103190	MBLK	Iron	3.888	B	A	mg/Kg	3.1	20.0
ILM04.0_MET	MB-200103190	MBLK	Magnesium	4.650	B	A	mg/Kg	3.1	1000
ILM04.0_MET	MB-200103190	MBLK	Manganese	0.213	B	A	mg/Kg	0.040	3.0
ILM04.0_MET	MB-200103190	MBLK	Zinc	2.318	B	A	mg/Kg	0.10	4.0
OLM04.2_SVOA	MB-200103040	MBLK	1,3-Dioxolane, 2-(methoxymethyl)-2-pheny	150	NJ	T	µg/Kg		
OLM04.2_SVOA	MB-200103040	MBLK	Unknown	200	J	T	µg/Kg		

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Result	Lab Qual	PQL	Affected Samples	Sample Flag
ILM04.0_MET	MB-200103190	Soil	Aluminum	12.513	3950	B	44.2	SS01-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Aluminum	12.513	5040	B	47.8	SS02-D	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Aluminum	12.513	4950	B	45.2	SS09-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Aluminum	12.513	6750	B	56.3	SD01-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Aluminum	12.513	3520	B	46.7	SS02-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Aluminum	12.513	5210	B	48.8	SS03-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Aluminum	12.513	4520	B	38.7	SS04-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Aluminum	12.513	5680	B	45.6	GP22-SB-2.2-4.5-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Aluminum	12.513	6470	B	60.2	SD01-D	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Aluminum	12.513	4320	B	36.3	SS07-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Aluminum	12.513	4320	B	45.5	SS05-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Aluminum	12.513	5860	B	41.6	SS11-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Aluminum	12.513	5390	B	35.5	SS10-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Aluminum	12.513	5050	B	47.7	SS08-0	Not Qualified

Data Usability Summary Report	Project: NYSDEC PSA
Date Completed: March 13, 2002	Completed by: Marcia Meredith Galloway

Method	Lab Blank	Matrix	Analyte	Blank Result	Result	Lab Qual	PQL	Affected Samples	Sample Flag
ILM04.0_MET	MB-200103190	Soil	Aluminum	12.513	5810	B	46.6	SS06-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Barium	0.098	36.5	B	45.5	SS05-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Barium	0.098	44.8	B	41.6	SS11-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Barium	0.098	37.8	B	45.6	GP22-SB-2.2-4.5-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Barium	0.098	47.3	B	60.2	SD01-D	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Barium	0.098	33.1	B	44.2	SS01-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Barium	0.098	32.5	B	46.7	SS02-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Barium	0.098	40.0	B	48.8	SS03-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Barium	0.098	40.9	B	47.8	SS02-D	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Barium	0.098	48.5	B	46.6	SS06-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Barium	0.098	43.3	B	36.3	SS07-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Barium	0.098	41.5	B	47.7	SS08-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Barium	0.098	38.6	B	35.5	SS10-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Barium	0.098	50.7	B	56.3	SD01-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Barium	0.098	38.4	B	38.7	SS04-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Barium	0.098	42.2	B	45.2	SS09-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Beryllium	0.069	0.28	B	1.1	SS05-0	U Flag
ILM04.0_MET	MB-200103190	Soil	Beryllium	0.069	0.33	B	1.2	SS06-0	U Flag
ILM04.0_MET	MB-200103190	Soil	Beryllium	0.069	0.44	B	1.4	SD01-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Beryllium	0.069	0.33	B	1.1	GP22-SB-2.2-4.5-0	U Flag
ILM04.0_MET	MB-200103190	Soil	Beryllium	0.069	0.29	B	0.89	SS10-0	U Flag
ILM04.0_MET	MB-200103190	Soil	Beryllium	0.069	0.27	B	1.1	SS09-0	U Flag
ILM04.0_MET	MB-200103190	Soil	Beryllium	0.069	0.28	B	0.91	SS07-0	U Flag
ILM04.0_MET	MB-200103190	Soil	Beryllium	0.069	0.37	B	1.0	SS11-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Beryllium	0.069	0.35	B	1.2	SS03-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Beryllium	0.069	0.34	B	1.2	SS02-D	U Flag
ILM04.0_MET	MB-200103190	Soil	Beryllium	0.069	0.27	B	1.2	SS02-0	U Flag
ILM04.0_MET	MB-200103190	Soil	Beryllium	0.069	0.23	B	1.1	SS01-0	U Flag
ILM04.0_MET	MB-200103190	Soil	Beryllium	0.069	0.39	B	1.5	SD01-D	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Beryllium	0.069	0.34	B	1.2	SS08-0	U Flag

Data Usability Summary Report	Project: NYSDEC PSA
Date Completed: March 13, 2002	Completed by: Marcia Meredith Galloway

Method	Lab Blank	Matrix	Analyte	Blank Result	Result	Lab Qual	PQL	Affected Samples	Sample Flag
ILM04.0_MET	MB-200103190	Soil	Beryllium	0.069	0.26	B	0.97	SS04-0	U Flag
ILM04.0_MET	MB-200103190	Soil	Cadmium	0.045	0.35	B	1.2	SS02-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Cadmium	0.045	0.50	B	0.91	SS07-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Cadmium	0.045	0.37	B	1.1	SS01-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Cadmium	0.045	0.50	B	1.2	SS02-D	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Cadmium	0.045	0.45	B	1.2	SS03-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Cadmium	0.045	0.38	B	0.97	SS04-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Cadmium	0.045	0.68	B	1.4	SD01-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Cadmium	0.045	0.31	B	1.1	GP22-SB-2.2-4.5-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Cadmium	0.045	0.69	B	1.2	SS08-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Cadmium	0.045	0.92	B	1.1	SS09-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Cadmium	0.045	0.58	B	0.89	SS10-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Cadmium	0.045	0.80	B	1.0	SS11-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Cadmium	0.045	0.40	B	1.1	SS05-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Cadmium	0.045	0.66	B	1.5	SD01-D	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Cadmium	0.045	0.43	B	1.2	SS06-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Calcium	62.438	12700	B	888	SS10-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Calcium	62.438	23300	B	1200	SS02-D	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Calcium	62.438	19400	B	1170	SS02-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Calcium	62.438	95100	B	1110	SS01-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Calcium	62.438	25900	B	967	SS04-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Calcium	62.438	10600	B	1410	SD01-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Calcium	62.438	34600	B	1130	SS09-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Calcium	62.438	8640	B	1510	SD01-D	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Calcium	62.438	20700	B	1220	SS03-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Calcium	62.438	22200	B	907	SS07-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Calcium	62.438	21900	B	1040	SS11-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Calcium	62.438	40100	B	1140	GP22-SB-2.2-4.5-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Calcium	62.438	32900	B	1190	SS08-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Calcium	62.438	25200	B	1140	SS05-0	Not Qualified

Method	Lab Blank	Matrix	Analyte	Blank Result	Result	Lab Qual	PQL	Affected Samples	Sample Flag
ILM04.0_MET	MB-200103190	Soil	Calcium	62.438	58000	B	1160	SS06-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Chromium	0.321	15.1	B	2.1	SS11-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Chromium	0.321	7.3	B	2.2	SS01-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Chromium	0.321	9.7	B	1.8	SS10-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Chromium	0.321	11.0	B	2.8	SD01-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Chromium	0.321	7.1	B	2.3	SS05-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Chromium	0.321	7.8	B	2.3	GP22-SB-2.2-4.5-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Chromium	0.321	10.8	B	3.0	SD01-D	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Chromium	0.321	6.4	B	2.3	SS02-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Chromium	0.321	9.0	B	2.4	SS03-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Chromium	0.321	7.7	B	1.9	SS04-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Chromium	0.321	9.3	B	2.3	SS06-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Chromium	0.321	7.6	B	1.8	SS07-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Chromium	0.321	10.1	B	2.4	SS08-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Chromium	0.321	19.0	B	2.3	SS09-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Chromium	0.321	8.8	B	2.4	SS02-D	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Iron	3.888	9260	B	23.8	SS08-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Iron	3.888	10800	B	24.4	SS03-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Iron	3.888	9700	B	19.3	SS04-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Iron	3.888	11100	B	30.1	SD01-D	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Iron	3.888	10800	B	28.2	SD01-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Iron	3.888	6170	B	22.1	SS01-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Iron	3.888	7270	B	23.3	SS02-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Iron	3.888	10000	B	23.9	SS02-D	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Iron	3.888	8470	B	22.8	SS05-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Iron	3.888	8190	B	18.1	SS07-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Iron	3.888	14500	B	22.6	SS09-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Iron	3.888	13300	B	20.8	SS11-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Iron	3.888	8880	B	17.8	SS10-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Iron	3.888	10200	B	22.8	GP22-SB-2.2-4.5-0	Not Qualified

Data Usability Summary Report	Project: NYSDEC PSA
Date Completed: March 13, 2002	Completed by: Marcia Meredith Galloway

Method	Lab Blank	Matrix	Analyte	Blank Result	Result	Lab Qual	PQL	Affected Samples	Sample Flag
ILM04.0_MET	MB-200103190	Soil	Iron	3.888	10100	B	23.3	SS06-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Magnesium	4.65	10500	B	1140	SS05-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Magnesium	4.65	8870	B	1170	SS02-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Magnesium	4.65	16600	B	1140	GP22-SB-2.2-4.5-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Magnesium	4.65	12900	B	1110	SS01-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Magnesium	4.65	9390	B	1200	SS02-D	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Magnesium	4.65	8910	B	1220	SS03-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Magnesium	4.65	11000	B	967	SS04-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Magnesium	4.65	16800	B	1190	SS08-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Magnesium	4.65	11900	B	1130	SS09-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Magnesium	4.65	5680	B	888	SS10-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Magnesium	4.65	3660	B	1510	SD01-D	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Magnesium	4.65	9850	B	1040	SS11-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Magnesium	4.65	4890	B	1410	SD01-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Magnesium	4.65	8690	B	907	SS07-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Magnesium	4.65	13700	B	1160	SS06-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Manganese	0.213	276	B	3.4	SS05-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Manganese	0.213	251	B	2.7	SS10-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Manganese	0.213	319	B	3.4	GP22-SB-2.2-4.5-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Manganese	0.213	212	B	4.2	SD01-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Manganese	0.213	182	B	4.5	SD01-D	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Manganese	0.213	232	B	3.3	SS01-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Manganese	0.213	308	B	3.5	SS02-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Manganese	0.213	435	B	3.7	SS03-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Manganese	0.213	249	B	3.6	SS08-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Manganese	0.213	300	B	3.5	SS06-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Manganese	0.213	289	B	2.9	SS04-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Manganese	0.213	402	B	3.6	SS02-D	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Manganese	0.213	332	B	3.4	SS09-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Manganese	0.213	301	B	2.7	SS07-0	Not Qualified

Method	Lab Blank	Matrix	Analyte	Blank Result	Result	Lab Qual	PQL	Affected Samples	Sample Flag
ILM04.0_MET	MB-200103190	Soil	Manganese	0.213	317	B	3.1	SS11-0	Not Qualified
OLM04.2_SVOA	MB-200103040	Soil	Unknown	200	730	J		SS07-0	U Flag
OLM04.2_SVOA	MB-200103040	Soil	Unknown	200	270	J		SS06-0	U Flag
OLM04.2_SVOA	MB-200103040	Soil	Unknown	200	340	J		SS01-0	U Flag
OLM04.2_SVOA	MB-200103040	Soil	Unknown	200	300	J		SS10-0	U Flag
OLM04.2_SVOA	MB-200103040	Soil	Unknown	200	200	J		GP22-SB-2.2-4.5-0	U Flag
OLM04.2_SVOA	MB-200103040	Soil	Unknown	200	1700	J		SS03-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Zinc	2.318	57.1	B	3.9	SS04-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Zinc	2.318	30.8	B	4.6	GP22-SB-2.2-4.5-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Zinc	2.318	136	B	4.2	SS11-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Zinc	2.318	111	B	5.6	SD01-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Zinc	2.318	37.6	B	4.4	SS01-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Zinc	2.318	76.3	B	4.8	SS02-D	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Zinc	2.318	68.9	B	4.9	SS03-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Zinc	2.318	56.5	B	4.6	SS05-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Zinc	2.318	49.8	B	4.7	SS06-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Zinc	2.318	65.1	B	3.6	SS07-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Zinc	2.318	108	B	4.8	SS08-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Zinc	2.318	149	B	4.5	SS09-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Zinc	2.318	119	B	6.0	SD01-D	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Zinc	2.318	62.5	B	4.7	SS02-0	Not Qualified
ILM04.0_MET	MB-200103190	Soil	Zinc	2.318	106	B	3.6	SS10-0	Not Qualified

Table 2B - List of Samples Qualified for Field Blank Contamination
None

Table 3 - List of Samples with Surrogates outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
OLM04.2_PPCB	SD01-0	SAMP	Decachlorobiphenyl	206	30	150	1	J Flag
OLM04.2_PPCB	SD01-0	MS	Decachlorobiphenyl	154	30	150	1	None
OLM04.2_PPCB	SD01-D	SAMP	Decachlorobiphenyl	183	30	150	1	None
OLM04.2_PPCB	SS01-0	SAMP	Decachlorobiphenyl	235	30	150	1	None
OLM04.2_PPCB	SS01-0	MS	Decachlorobiphenyl	160	30	150	1	None
OLM04.2_PPCB	SS02-0	SAMP	Decachlorobiphenyl	186	30	150	1	None
OLM04.2_PPCB	SS02-0	SAMP	Decachlorobiphenyl	345	30	150	1	None
OLM04.2_PPCB	SS02-D	SAMP	Decachlorobiphenyl	223	30	150	1	None
OLM04.2_PPCB	SS02-D	SAMP	Decachlorobiphenyl	408	30	150	1	None
OLM04.2_PPCB	SS03-0	SAMP	Decachlorobiphenyl	166	30	150	1	None
OLM04.2_PPCB	SS03-0	DL	Decachlorobiphenyl	225	30	150	3	Diluted Out
OLM04.2_PPCB	SS04-0	SAMP	Decachlorobiphenyl	219	30	150	1	None
OLM04.2_PPCB	SS05-0	SAMP	Decachlorobiphenyl	174	30	150	1	None
OLM04.2_PPCB	SS06-0	SAMP	Decachlorobiphenyl	174	30	150	1	None
OLM04.2_PPCB	SS07-0	SAMP	Decachlorobiphenyl	172	30	150	1	None
OLM04.2_PPCB	SS09-0	SAMP	Decachlorobiphenyl	415	30	150	1	None
OLM04.2_PPCB	SS09-0	DL	Decachlorobiphenyl	443	30	150	5	Diluted Out
OLM04.2_PPCB	SS10-0	SAMP	Decachlorobiphenyl	238	30	150	1	None
OLM04.2_PPCB	SS11-0	SAMP	Decachlorobiphenyl	405	30	150	1	None
OLM04.2_PPCB	SS11-0	DL	Decachlorobiphenyl	485	30	150	3	Diluted Out

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
OLM04.2_PPCB	GP22-SB-2.2-4.5-0	MS	gamma-BHC	<1.8	17.3	44	1	46	127	None
OLM04.2_PPCB	GP22-SB-2.2-4.5-0	MS	gamma-BHC	<1.8	17.3	44	1	46	127	None
OLM04.2_PPCB	GP22-SB-2.2-4.5-0	MSD	gamma-BHC	<1.9	18.2	45	1	46	127	None
OLM04.2_PPCB	GP22-SB-2.2-4.5-0	MSD	gamma-BHC	<1.9	18.2	45	1	46	127	None
OLM04.2_PPCB	SD01-0	MS	gamma-BHC	<2.2	21.6	42	1	46	127	None

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
OLM04.2_PPCB	SD01-0	MS	gamma-BHC	<2.2	21.6	42	1	46	127	None
OLM04.2_PPCB	SD01-0	MSD	gamma-BHC	<2.1	20.9	39	1	46	127	None
OLM04.2_PPCB	SD01-0	MSD	gamma-BHC	<2.1	20.9	39	1	46	127	None
OLM04.2_PPCB	SS01-0	MS	gamma-BHC	<1.8	17.7	38	1	46	127	None
OLM04.2_PPCB	SS01-0	MS	gamma-BHC	<1.8	17.7	38	1	46	127	None
OLM04.2_PPCB	SS01-0	MSD	gamma-BHC	<1.7	16.4	35	1	46	127	None
OLM04.2_PPCB	SS01-0	MSD	gamma-BHC	<1.7	16.4	35	1	46	127	None
ILM04.0_MET	GP22-SB-2.2-4.5-0	MS	Antimony	3.5	113.9	52.7	1.00	75	125	J Flag
ILM04.0_MET	GP22-SB-2.2-4.5-0	MS	Manganese	319	113.9	72.7	1.00	75	125	J Flag
ILM04.0_MET	GP22-SB-2.2-4.5-0	MS	Selenium		2.28	202.2	1.00	75	125	J Flag
ILM04.0_MET	SD01-0	MS	Antimony	3.6	140.85	54.4	1.00	75	125	J Flag
ILM04.0_MET	SD01-0	MS	Lead	43.8	5.63	32.8	1.00	75	125	4X
ILM04.0_MET	SD01-0	MS	Selenium		2.82	131.1	1.00	75	125	J Flag
ILM04.0_MET	SS01-0	MS	Antimony	2.3	110.58	62.3	1.00	75	125	J Flag
ILM04.0_MET	SS01-0	MS	Lead	71.5	4.42	-180	1.00	75	125	4X
ILM04.0_MET	SS01-0	MS	Manganese	232	110.58	263.5	1.00	75	125	J Flag
ILM04.0_MET	SS01-0	MS	Selenium	3.7	2.21	-24.4	1.00	75	125	R Flag NDs
ILM04.0_MET	SS01-0	MS	Thallium		11.06	58	1.00	75	125	J Flag
ILM04.0_MET	SS01-0	MS	Zinc	37.6	110.58	126.8	1.00	75	125	J Flag
ILM04.0_HG	GP22-SB-2.2-4.5-0	MS	Mercury	0.082	0.57	57.7	1.00	75	125	J Flag

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
ILM04.0_MET	GP22-SB-2.2-4.5-0	DUP	Antimony	52.0	20	None
ILM04.0_MET	SD01-0	DUP	Antimony	38.1	20	None
ILM04.0_MET	GP22-SB-2.2-4.5-0	DUP	Arsenic	72.8	20	None
ILM04.0_MET	SS01-0	DUP	Arsenic	31.6	20	None
ILM04.0_MET	SD01-0	DUP	Barium	111.9	20	None
ILM04.0_MET	SS01-0	DUP	Beryllium	26.1	20	None
ILM04.0_MET	SD01-0	DUP	Cadmium	53.6	20	None

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
ILM04.0_MET	SS01-0	DUP	Calcium	86.0	20	None
ILM04.0_MET	SD01-0	DUP	Cobalt	96.4	20	None
ILM04.0_MET	SD01-0	DUP	Copper	21.7	20	None
ILM04.0_MET	SS01-0	DUP	Copper	27.4	20	None
ILM04.0_MET	SD01-0	DUP	Iron	46.7	20	None
ILM04.0_MET	SD01-0	DUP	Lead	37.5	20	None
ILM04.0_MET	SS01-0	DUP	Magnesium	20.1	20	None
ILM04.0_MET	SD01-0	DUP	Manganese	150.3	20	None
ILM04.0_MET	SS01-0	DUP	Manganese	25.6	20	None
ILM04.0_MET	SS01-0	DUP	Nickel	25.5	20	None
ILM04.0_MET	GP22-SB-2.2-4.5-0	DUP	Potassium	62.5	20	None
ILM04.0_MET	SD01-0	DUP	Potassium	24.9	20	None
ILM04.0_MET	SD01-0	DUP	Selenium	200.0	20	None
ILM04.0_MET	SS01-0	DUP	Selenium	200.0	20	None
ILM04.0_MET	GP22-SB-2.2-4.5-0	DUP	Silver	90.8	20	None
ILM04.0_MET	SD01-0	DUP	Silver	200.0	20	None
ILM04.0_MET	SS01-0	DUP	Silver	97.8	20	None
ILM04.0_MET	GP22-SB-2.2-4.5-0	DUP	Sodium	23.4	20	None
ILM04.0_MET	SD01-0	DUP	Sodium	28.7	20	None
ILM04.0_MET	SS01-0	DUP	Vanadium	28.7	20	None
ILM04.0_MET	SD01-0	DUP	Zinc	48.9	20	None
ILM04.0_MET	SS01-0	DUP	Zinc	52.3	20	None
OLM04.2_VOA	SS01-0	MSD	1,1-Dichloroethene	23	22	None
OLM04.2_VOA	SS01-0	MSD	Benzene	25	21	None
OLM04.2_VOA	SS01-0	MSD	Chlorobenzene	24	21	None
OLM04.2_VOA	SS01-0	MSD	Toluene	23	21	None

Table 5 - List LCS Recoveries outside Control Limits

Method	Sample ID	Analyte	Rec.	Low Limit	High Limit	Affected Samples	Samp Qual
OLM04.2_PPCB	LCS-200103050	Endrin	143	42	139	GP22-SB-2.2-4.5-0	None
OLM04.2_PPCB	LCS-200103050	Endrin	143	42	139	SD01-0	None
OLM04.2_PPCB	LCS-200103050	Endrin	143	42	139	SD01-D	None
OLM04.2_PPCB	LCS-200103050	Endrin	143	42	139	SS01-0	None
OLM04.2_PPCB	LCS-200103050	Endrin	143	42	139	SS02-0	None
OLM04.2_PPCB	LCS-200103050	Endrin	143	42	139	SS02-D	None
OLM04.2_PPCB	LCS-200103050	Endrin	143	42	139	SS03-0	None
OLM04.2_PPCB	LCS-200103050	Endrin	143	42	139	SS04-0	None
OLM04.2_PPCB	LCS-200103050	Endrin	143	42	139	SS05-0	None
OLM04.2_PPCB	LCS-200103050	Endrin	143	42	139	SS06-0	None
OLM04.2_PPCB	LCS-200103050	Endrin	143	42	139	SS07-0	None
OLM04.2_PPCB	LCS-200103050	Endrin	143	42	139	SS08-0	None
OLM04.2_PPCB	LCS-200103050	Endrin	143	42	139	SS09-0	None
OLM04.2_PPCB	LCS-200103050	Endrin	143	42	139	SS10-0	None
OLM04.2_PPCB	LCS-200103050	Endrin	143	42	139	SS11-0	None

Table 6 –Samples that were Reanalyzed

Sample ID	Lab ID	Method	Sample Type	Action
SD01-D	0111178-06	OLM04.2_SVOA	SAMP	Report, add J and UJ flags
SD01-D	0111178-06	OLM04.2_SVOA	RA	Do Not Report
SS02-0	0111178-08	OLM04.2_SVOA	SAMP	Report, add J and UJ flags
SS02-0	0111178-08	OLM04.2_SVOA	RA	Do Not Report
SS03-0	0111178-10	OLM04.2_SVOA	SAMP	Report, add J and UJ flags
SS03-0	0111178-10	OLM04.2_SVOA	DL	Report for E flag data only
SS03-0	0111178-10	OLM04.2_PPCB	SAMP	Report, add J and UJ flags
SS03-0	0111178-10	OLM04.2_PPCB	DL	Report for E flag data only
SS04-0	0111178-11	OLM04.2_SVOA	SAMP	Report, add J and UJ flags
SS04-0	0111178-11	OLM04.2_SVOA	RA	Do Not Report
SS05-0	0111178-12	OLM04.2_SVOA	SAMP	Report, add J and UJ flags

Sample ID	Lab ID	Method	Sample Type	Action
SS05-0	0111178-12	OLM04.2_SVOA	RA	Do Not Report
SS06-0	0111178-13	OLM04.2_SVOA	SAMP	Report, add J and UJ flags
SS06-0	0111178-13	OLM04.2_SVOA	RA	Do Not Report
SS07-0	0111178-14	OLM04.2_SVOA	SAMP	Report, add J and UJ flags
SS07-0	0111178-14	OLM04.2_SVOA	RA	Do Not Report
SS08-0	0111178-15	OLM04.2_SVOA	SAMP	Report, add J and UJ flags
SS08-0	0111178-15	OLM04.2_SVOA	RA	Do Not Report
SS09-0	0111178-16	OLM04.2_SVOA	SAMP	Report, add J and UJ flags
SS09-0	0111178-16	OLM04.2_SVOA	DL	Report for E flag data only
SS09-0	0111178-16	OLM04.2_PPCB	SAMP	Report, add J and UJ flags
SS09-0	0111178-16	OLM04.2_PPCB	DL	Report for E flag data only
SS10-0	0111178-17	OLM04.2_SVOA	SAMP	Report, add J and UJ flags
SS10-0	0111178-17	OLM04.2_SVOA	RA	Do Not Report
SS11-0	0111178-18	OLM04.2_SVOA	SAMP	Report, add J and UJ flags
SS11-0	0111178-18	OLM04.2_SVOA	DL	Report for E flag data only
SS11-0	0111178-18	OLM04.2_PPCB	SAMP	Report, add J and UJ flags
SS11-0	0111178-18	OLM04.2_PPCB	DL	Report for E flag data only

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	PQL	Anal Type	SS02-0	SS02-D	RPD	RPD Rating	Samp Qual	SD01-0	SD01-D	RPD	RPD Rating	Samp Qual
ASTM_D2216	Percent Moisture	wt%	0.100	A	22.8	18.8	19.2%	Good	None	29	33.6	14.7%	Good	None
SW9045C	pH	S.U.	0.10	A	7.7	7.8	1.3%	Good	None	NA	7.4	NC		
ILM04.0_CN	Cyanide	mg/Kg	0.74	A	0.16	0.15	6.5%	Good	None	0.17	0.22	25.6%	Good	None
ILM04.0_HG	Mercury	mg/Kg	0.14	A	0.075	0.093	21.4%	Good	None	0.18	0.12	40.0%	Good	None
ILM04.0_MET	Aluminum	mg/Kg	60.2	A	3520	5040	35.5%	Good	None	6750	6470	4.2%	Good	None
ILM04.0_MET	Antimony	mg/Kg	18.1	A	2.2	2.6	16.7%	Good	None	3.6	3.3	8.7%	Good	None
ILM04.0_MET	Arsenic	mg/Kg	3.0	A	5	4.6	8.3%	Good	None	6.7	4	50.5%	Good	None
ILM04.0_MET	Barium	mg/Kg	60.2	A	32.5	40.9	22.9%	Good	None	50.7	47.3	6.9%	Good	None
ILM04.0_MET	Beryllium	mg/Kg	1.5	A	0.27	0.34	23.0%	Good	None	0.44	0.39	12.0%	Good	None
ILM04.0_MET	Cadmium	mg/Kg	1.5	A	0.35	0.5	35.3%	Good	None	0.68	0.66	3.0%	Good	None

Method	Analyte	Unit	PQL	Anal Type	SS02-0	SS02-D	RPD	RPD Rating	Samp Qual	SD01-0	SD01-D	RPD	RPD Rating	Samp Qual
ILM04.0_MET	Calcium	mg/Kg	1510	A	19400	23300	18.3%	Good	None	10600	8640	20.4%	Good	None
ILM04.0_MET	Chromium	mg/Kg	3.0	A	6.4	8.8	31.6%	Good	None	11	10.8	1.8%	Good	None
ILM04.0_MET	Cobalt	mg/Kg	15.1	A	3.6	4.6	24.4%	Good	None	4.1	3.8	7.6%	Good	None
ILM04.0_MET	Copper	mg/Kg	7.5	A	16.7	22.6	30.0%	Good	None	22.6	20.3	10.7%	Good	None
ILM04.0_MET	Iron	mg/Kg	30.1	A	7270	10000	31.6%	Good	None	10800	11100	2.7%	Good	None
ILM04.0_MET	Lead	mg/Kg	0.90	A	42.9	49.4	14.1%	Good	None	43.8	40.8	7.1%	Good	None
ILM04.0_MET	Magnesium	mg/Kg	1510	A	8870	9390	5.7%	Good	None	4890	3660	28.8%	Good	None
ILM04.0_MET	Manganese	mg/Kg	4.5	A	308	402	26.5%	Good	None	212	182	15.2%	Good	None
ILM04.0_MET	Nickel	mg/Kg	9.6	A	6.5	9	32.3%	Good	None	7.6	7.3	4.0%	Good	None
ILM04.0_MET	Potassium	mg/Kg	1510	A	415	757	58.4%	Good	None	344	350	1.7%	Good	None
ILM04.0_MET	Selenium	mg/Kg	1.5	A	3.6	ND	NC			ND	ND	NC		
ILM04.0_MET	Silver	mg/Kg	3.0	A	0.67	0.68	1.5%	Good	None	0.25	ND	NC		
ILM04.0_MET	Sodium	mg/Kg	1510	A	187	262	33.4%	Good	None	103	74.5	32.1%	Good	None
ILM04.0_MET	Vanadium	mg/Kg	15.1	A	7.8	11.3	36.6%	Good	None	12.8	12.8	0.0%	Good	None
ILM04.0_MET	Zinc	mg/Kg	6.0	A	62.5	76.3	19.9%	Good	None	111	119	7.0%	Good	None
Lloyd Kahn	Total Organic Carbon	mg/Kg	6010	A	NA	NA	NC			48900	70600	36.3%	Good	None
OLM04.2_PPCB	4,4´-DDD	µg/Kg	4.8	A	4.9	5.1	4.0%	Good	None	0.97	1.5	42.9%	Good	None
OLM04.2_PPCB	4,4´-DDE	µg/Kg	4.8	A	ND	ND	NC			4.2	ND	NC		
OLM04.2_PPCB	4,4´-DDT	µg/Kg	4.8	A	19	17	11.1%	Good	None	3.5	ND	NC		
OLM04.2_PPCB	Aldrin	µg/Kg	2.5	A	ND	27	NC			12	13	8.0%	Good	None
OLM04.2_PPCB	alpha-Chlordane	µg/Kg	2.5	A	23	32	32.7%	Good	None	6.5	7.1	8.8%	Good	None
OLM04.2_PPCB	Dieldrin	µg/Kg	4.8	A	ND	ND	NC			1	ND	NC		
OLM04.2_PPCB	Endosulfan I	µg/Kg	2.5	A	3.4	4.6	30.0%	Good	None	0.83	ND	NC		
OLM04.2_PPCB	Endosulfan sulfate	µg/Kg	4.8	A	9.8	13	28.1%	Good	None	ND	ND	NC		
OLM04.2_PPCB	Endrin	µg/Kg	4.8	A	ND	ND	NC			0.86	2.3	91.1%	Poor	J Flag
OLM04.2_PPCB	Endrin aldehyde	µg/Kg	4.8	A	10	8.2	19.8%	Good	None	0.79	ND	NC		
OLM04.2_PPCB	Endrin ketone	µg/Kg	4.8	A	16	24	40.0%	Good	None	4.3	8.4	64.6%	Good	None
OLM04.2_PPCB	gamma-Chlordane	µg/Kg	2.5	A	1.9	2.8	38.3%	Good	None	0.73	ND	NC		
OLM04.2_PPCB	Heptachlor epoxide	µg/Kg	2.5	A	30	39	26.1%	Good	None	14	15	6.9%	Good	None
OLM04.2_PPCB	Methoxychlor	µg/Kg	25	A	52	82	44.8%	Good	None	16	20	22.2%	Good	None
OLM04.2_SVOA	2-Methylnaphthalene	µg/Kg	490	A	70	ND	NC			ND	ND	NC		
OLM04.2_SVOA	4-Methylphenol	µg/Kg	490	A	76	ND	NC			ND	ND	NC		

Data Usability Summary Report	Project: NYSDEC PSA
Date Completed: March 13, 2002	Completed by: Marcia Meredith Galloway

Method	Analyte	Unit	PQL	Anal Type	SS02-0	SS02-D	RPD	RPD Rating	Samp Qual	SD01-0	SD01-D	RPD	RPD Rating	Samp Qual
OLM04.2_SVOA	Acenaphthene	µg/Kg	490	A	64	ND	NC			ND	ND	NC		
OLM04.2_SVOA	Acenaphthylene	µg/Kg	490	A	2200	1500	37.8%	Good	None	83	84	1.2%	Good	None
OLM04.2_SVOA	Acetophenone	µg/Kg	490	A	93	ND	NC			53	ND	NC		
OLM04.2_SVOA	Anthracene	µg/Kg	490	A	860	710	19.1%	Good	None	100	96	4.1%	Good	None
OLM04.2_SVOA	Benz(a)anthracene	µg/Kg	490	A	1500	1300	14.3%	Good	None	600	580	3.4%	Good	None
OLM04.2_SVOA	Benzo(a)pyrene	µg/Kg	490	A	2000	1700	16.2%	Good	None	730	710	2.8%	Good	None
OLM04.2_SVOA	Benzo(b)fluoranthene	µg/Kg	490	A	1000	1300	26.1%	Good	None	850	830	2.4%	Good	None
OLM04.2_SVOA	Benzo(g,h,i)perylene	µg/Kg	490	A	2600	2200	16.7%	Good	None	490	600	20.2%	Good	None
OLM04.2_SVOA	Benzo(k)fluoranthene	µg/Kg	490	A	2300	1300	55.6%	Good	None	610	580	5.0%	Good	None
OLM04.2_SVOA	Bis(2-ethylhexyl)phthalate	µg/Kg	490	A	ND	ND	NC			ND	56	NC		
OLM04.2_SVOA	Carbazole	µg/Kg	490	A	150	ND	NC			91	85	6.8%	Good	None
OLM04.2_SVOA	Chrysene	µg/Kg	490	A	1600	1400	13.3%	Good	None	920	860	6.7%	Good	None
OLM04.2_SVOA	Dibenz(a,h)anthracene	µg/Kg	490	A	1000	880	12.8%	Good	None	270	300	10.5%	Good	None
OLM04.2_SVOA	Dibenzofuran	µg/Kg	490	A	55	ND	NC			ND	ND	NC		
OLM04.2_SVOA	Fluoranthene	µg/Kg	490	A	3300	1700	64.0%	Good	None	940	890	5.5%	Good	None
OLM04.2_SVOA	Indeno(1,2,3-cd)pyrene	µg/Kg	490	A	2600	2300	12.2%	Good	None	620	720	14.9%	Good	None
OLM04.2_SVOA	Naphthalene	µg/Kg	490	A	98	ND	NC			ND	ND	NC		
OLM04.2_SVOA	Pentachlorophenol	µg/Kg	6400	A	ND	ND	NC			ND	200	NC		
OLM04.2_SVOA	Phenanthrene	µg/Kg	490	A	680	590	14.2%	Good	None	330	330	0.0%	Good	None
OLM04.2_SVOA	Pyrene	µg/Kg	490	A	1900	1600	17.1%	Good	None	630	650	3.1%	Good	None
OLM04.2_SVOA	_gamma_-Sitosterol	µg/Kg		T	NA	NA	NC			1000	670	39.5%	Good	None
OLM04.2_SVOA	1,2:7,8-Dibenzophenanthrene	µg/Kg		T	NA	NA	NC			NA	1100	NC		
OLM04.2_SVOA	1,2:7,8-Dibenzophenanthrene (30.377)	µg/Kg		T	NA	520	NC			NA	NA	NC		
OLM04.2_SVOA	1,2:7,8-Dibenzophenanthrene (31.008)	µg/Kg		T	NA	1100	NC			NA	NA	NC		
OLM04.2_SVOA	11H-Benzo(b)fluorene	µg/Kg		T	590	520	12.6%	Good	None	NA	NA	NC		
OLM04.2_SVOA	11H-Benzo(b)fluorene (24.298)	µg/Kg		T	2600	NA	NC			NA	NA	NC		
OLM04.2_SVOA	11H-Benzo(b)fluorene (24.412)	µg/Kg		T	790	NA	NC			NA	NA	NC		
OLM04.2_SVOA	17-(1,5-Dimethylhexyl)-10,13-dimethyl-2,	µg/Kg		T	NA	NA	NC			1000	470	72.1%	Poor	J Flag
OLM04.2_SVOA	2,6,10,14,18-Pentamethyl-2,6,10,14,18-ei	µg/Kg		T	720	NA	NC			NA	NA	NC		
OLM04.2_SVOA	3,4-Dihydrocyclopenta(cd)pyrene (acepyre	µg/Kg		T	910	NA	NC			NA	NA	NC		
OLM04.2_SVOA	3-Eicosene, (E)-	µg/Kg		T	NA	NA	NC			480	NA	NC		
OLM04.2_SVOA	4_alpha_,5_beta_-Epoxy-9_alpha_-	µg/Kg		T	NA	NA	NC			NA	230	NC		

Method	Analyte	Unit	PQL	Anal Type	SS02-0	SS02-D	RPD	RPD Rating	Samp Qual	SD01-0	SD01-D	RPD	RPD Rating	Samp Qual
	hydroxyg													
OLM04.2_SVOA	5,12-Naphthacenedione	µg/Kg		T	NA	NA	NC			350	520	39.1%	Good	None
OLM04.2_SVOA	7H-Benz(de)anthracen-7-one	µg/Kg		T	520	600	14.3%	Good	None	260	180	36.4%	Good	None
OLM04.2_SVOA	7H-Benz(de)anthracen-7-one (25.23)	µg/Kg		T	1600	NA	NC			NA	NA	NC		
OLM04.2_SVOA	7H-Benz(de)anthracen-7-one (25.571)	µg/Kg		T	1000	NA	NC			NA	NA	NC		
OLM04.2_SVOA	7H-Benz(de)anthracen-7-one (26.058)	µg/Kg		T	700	NA	NC			NA	NA	NC		
OLM04.2_SVOA	9,10-Anthracenedione	µg/Kg		T	NA	NA	NC			NA	120	NC		
OLM04.2_SVOA	9-Hexadecenoic acid	µg/Kg		T	NA	NA	NC			340	NA	NC		
OLM04.2_SVOA	9-Octadecenoic acid, (E)-	µg/Kg		T	2100	NA	NC			770	NA	NC		
OLM04.2_SVOA	Adenine	µg/Kg		T	NA	NA	NC			200	300	40.0%	Good	None
OLM04.2_SVOA	Androst-4-ene-3,17-dione, 15-hydroxy-, (	µg/Kg		T	NA	770	NC			NA	NA	NC		
OLM04.2_SVOA	Anthracene, 1-methyl-	µg/Kg		T	550	NA	NC			NA	240	NC		
OLM04.2_SVOA	Anthracene, 2-methyl-	µg/Kg		T	390	NA	NC			NA	NA	NC		
OLM04.2_SVOA	Benz(a)anthracene, 1-methyl-	µg/Kg		T	NA	820	NC			NA	NA	NC		
OLM04.2_SVOA	Benz(e)acephenanthrylene	µg/Kg	330	T	1000	NA	NC			NA	150	NC		
OLM04.2_SVOA	Benz(j)aceanthrylene, 3-methyl-	µg/Kg		T	NA	650	NC			NA	NA	NC		
OLM04.2_SVOA	Benzeneacetic acid	µg/Kg		T	NA	NA	NC			930	820	12.6%	Good	None
OLM04.2_SVOA	Benzo(a)naphthacene	µg/Kg		T	670	NA	NC			NA	NA	NC		
OLM04.2_SVOA	Benzo(b)chrysene	µg/Kg		T	1200	NA	NC			NA	200	NC		
OLM04.2_SVOA	Benzo(b)naphtho(2,1-d)thiophene	µg/Kg		T	1400	NA	NC			820	NA	NC		
OLM04.2_SVOA	Benzo(b)triphenylene	µg/Kg		T	1700	1100	42.9%	Good	None	NA	NA	NC		
OLM04.2_SVOA	Benzo(e)pyrene	µg/Kg		T	2200	1400	44.4%	Good	None	NA	870	NC		
OLM04.2_SVOA	Benzo(e)pyrene (28.015)	µg/Kg		T	1700	NA	NC			NA	NA	NC		
OLM04.2_SVOA	Benzo(e)pyrene (28.036)	µg/Kg		T	NA	NA	NC			940	NA	NC		
OLM04.2_SVOA	Benzo(e)pyrene (28.273)	µg/Kg		T	1200	NA	NC			NA	NA	NC		
OLM04.2_SVOA	Benzo(e)pyrene (28.295)	µg/Kg		T	NA	NA	NC			140	NA	NC		
OLM04.2_SVOA	Cholesterol	µg/Kg		T	NA	NA	NC			NA	370	NC		
OLM04.2_SVOA	Chrysene, 1-methyl-	µg/Kg		T	1200	NA	NC			NA	NA	NC		
OLM04.2_SVOA	Chrysene, 5-methyl-	µg/Kg		T	NA	NA	NC			NA	200	NC		
OLM04.2_SVOA	Chrysene, 6-methyl-	µg/Kg		T	NA	590	NC			NA	NA	NC		
OLM04.2_SVOA	Dibenzo(def,mno)chrysene	µg/Kg		T	NA	510	NC			NA	NA	NC		
OLM04.2_SVOA	Hexadecenoic acid, Z-11-	µg/Kg		T	NA	NA	NC			640	NA	NC		

Data Usability Summary Report	Project: NYSDEC PSA
Date Completed: March 13, 2002	Completed by: Marcia Meredith Galloway

Method	Analyte	Unit	PQL	Anal Type	SS02-0	SS02-D	RPD	RPD Rating	Samp Qual	SD01-0	SD01-D	RPD	RPD Rating	Samp Qual
OLM04.2_SVOA	Indeno(1,2,3-cd)fluoranthene	µg/Kg		T	2000	NA	NC			NA	NA	NC		
OLM04.2_SVOA	n-Hexadecanoic acid	µg/Kg		T	850	NA	NC			680	460	38.6%	Good	None
OLM04.2_SVOA	Oxirane, heptadecyl-	µg/Kg		T	NA	NA	NC			NA	1000	NC		
OLM04.2_SVOA	Perylene	µg/Kg		T	700	980	33.3%	Good	None	180	NA	NC		
OLM04.2_SVOA	Pyrene, 1-methyl-	µg/Kg		T	NA	NA	NC			140	140	0.0%	Good	None
OLM04.2_SVOA	Pyrene, 1-methyl- (24.091)	µg/Kg		T	1000	NA	NC			NA	NA	NC		
OLM04.2_SVOA	Pyrene, 1-methyl- (24.495)	µg/Kg		T	2100	NA	NC			NA	NA	NC		
OLM04.2_SVOA	Pyrene, 1-methyl- (24.712)	µg/Kg		T	1300	NA	NC			NA	NA	NC		
OLM04.2_SVOA	Pyrene, 4-methyl-	µg/Kg		T	1400	NA	NC			NA	NA	NC		
OLM04.2_SVOA	Stigmast-4-en-3-one	µg/Kg		T	4000	NA	NC			500	1200	82.4%	Poor	J Flag
OLM04.2_SVOA	Testosterone	µg/Kg		T	NA	3000	NC			NA	NA	NC		
OLM04.2_SVOA	Thymidine	µg/Kg		T	NA	NA	NC			NA	430	NC		
OLM04.2_SVOA	Thymine	µg/Kg		T	NA	NA	NC			820	NA	NC		
OLM04.2_SVOA	Triphenylene, 2-methyl-	µg/Kg		T	2400	NA	NC			200	NA	NC		

Key:
- A = Analyte
- NC = Not Calculated
- ND = Not Detected
- PQL = Practical Quantitation Limit
- RPD = Relative Percent Difference
- T = Tentatively Identified Compound

Data Usability Summary Report	Project: NYSDEC PSA
Date Completed: March 13, 2002	Completed by: Marcia Meredith Galloway

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

Project	Lab Work Order
Abandoned Chemical Sales	C2A160244
Abandoned Chemical Sales	C2A170000
Abandoned Chemical Sales	C2A230000

Table 1 Sample Summary Tables from Electronic Data Deliverable

Sample ID	Sample Date	Matrix	Lab ID	Lab QC	MSMS	ClientSampIDCorrected
ACS-GP01-SB-3-5-0	11/12/2001	S	C2A1602440	MS/MSD		GP01-3-5
GP01-SB-3-5-D	11/12/2001	S	C2A1602440			GP01-3-5-D
GP01-SB-3-5-D	11/12/2001	S	C2A1602440			GP0-3-5-D
GP04-SB-5-5.5-0	11/12/2001	S	C2A1602440			GP04-5-5.5
GP08-SB-4-4.9-0	11/12/2001	S	C2A1602440			GP08-4-4.9
GP21-SB-2.8-3.5-0	11/13/2001	S	C2A1602440			GP21-2.8-3.5
MW03-GW-0	11/29/2001	W	C2A1602440			MW03
MW04-GW-0	11/29/2001	W	C2A1602440			MW04
MW1-GW-0	11/30/2001	W	C2A1602440			MW01
MW1-GW-D	11/30/2001	W	C2A1602440			MW01-D
MW2-GW-0	11/30/2001	W	C2A1602440			MW02
SW01-0	11/30/2001	W	C2A1602440			SW01
SW01-D	11/30/2001	W	C2A1602440			SW01-D

Work Orders, Tests and Number of Samples included in this DUSR

Work Orders	Matrix	Test Method	Number of Samples
C2A160244	S	WW 160.3 MOD	5
C2A160244	S	ICLP ILM04.0	5
C2A160244	W	ICLP ILM04.0	7

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes
Did coolers arrive at lab between 2 and 6^{o}C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct?	Yes

Data Usability Summary Report	Project: NYSDEC PSA
Date Completed: March 13, 2002	**Completed by: Marcia Meredith Galloway**

General Sample Information	
Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes
Any holding time violations (See table below)?	No - All samples were prepared and analyzed within holding times.

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Metals by ICP and Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	Yes. All metals are present below the PQL.
For samples, if results are <5 times the blank then "U" flag data.	Samples are flagged U as noted on Table 2a for method blanks.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	Yes (see Table 4).
Were elements recovered ≤30%? If so, "R" flag associated NDs on Form 1's.	No.
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	No. The LCS range used for the solid LCS were based on manufacturer specifications.
Is there one serial dilution per 20 samples? Flag all data reported with an "E" as "J".	Yes
Spot check ICS recoveries 80-120%. Contact lab.	Yes, as noted in the case narrative.
Spot check ICV 95-105%. Contact lab.	Yes, as noted in the case narrative.
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	Yes, as noted in the case narrative.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
None

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
ICLP ILM04.0	INTRA-LAB BLANK	MBLK	Aluminum	46.8	B	A	µg/L	23.9	200
ICLP ILM04.0	INTRA-LAB BLANK	MBLK	Aluminum	35.6	B	A	mg/Kg	4.8	40
ICLP ILM04.0	INTRA-LAB BLANK	MBLK	Antimony	0.92	B	A	mg/Kg	0.38	12.0
ICLP ILM04.0	INTRA-LAB BLANK	MBLK	Beryllium	0.16	B	A	mg/Kg	0.12	1.0
ICLP ILM04.0	INTRA-LAB BLANK	MBLK	Calcium	9.7	B	A	mg/Kg	5.2	1000
ICLP ILM04.0	INTRA-LAB BLANK	MBLK	Calcium	49.2	B	A	µg/L	25.8	5000
ICLP ILM04.0	INTRA-LAB BLANK	MBLK	Chromium	0.49	B	A	mg/Kg	0.12	2.0
ICLP ILM04.0	INTRA-LAB BLANK	MBLK	Cobalt	0.79	B	A	µg/L	0.49	50
ICLP ILM04.0	INTRA-LAB BLANK	MBLK	Copper	0.90	B	A	mg/Kg	0.16	5.0
ICLP ILM04.0	INTRA-LAB BLANK	MBLK	Iron	5.1	B	A	mg/Kg	3.4	20
ICLP ILM04.0	INTRA-LAB BLANK	MBLK	Magnesium	40.5	B	A	µg/L	25.3	5000
ICLP ILM04.0	INTRA-LAB BLANK	MBLK	Magnesium	6.6	B	A	mg/Kg	5.1	1000
ICLP ILM04.0	INTRA-LAB BLANK	MBLK	Manganese	0.30	B	A	µg/L	0.23	15
ICLP ILM04.0	INTRA-LAB BLANK	MBLK	Manganese	0.10	B	A	mg/Kg	0.046	3.0
ICLP ILM04.0	INTRA-LAB BLANK	MBLK	Nickel	1.0	B	A	µg/L	0.59	40
ICLP ILM04.0	INTRA-LAB BLANK	MBLK	Nickel	0.31	B	A	mg/Kg	0.12	8.0
ICLP ILM04.0	INTRA-LAB BLANK	MBLK	Potassium	19.8	B	A	µg/L	8.3	5000
ICLP ILM04.0	INTRA-LAB BLANK	MBLK	Potassium	5.3	B	A	mg/Kg	1.7	1000
ICLP ILM04.0	INTRA-LAB BLANK	MBLK	Sodium	12.5	B	A	mg/Kg	11.9	1000
ICLP ILM04.0	INTRA-LAB BLANK	MBLK	Thallium	4.4	B	A	µg/L	2.4	10

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Result	Lab Qual	PQL	Affected Samples	Sample Flag
ICLP ILM04.0	C2A170000134B	W	Aluminum	46.8	64.1	B	200	MW04	U Flag
ICLP ILM04.0	C2A170000134B	W	Aluminum	46.8	2010	B	200	SW01-D	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Aluminum	46.8	354	B	200	MW03	Not Qualified
ICLP ILM04.0	C2A230000117B	S	Aluminum	35.6	6090	B	52.2	GP04-5-5.5	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Aluminum	46.8	50.5	B	200	MW01-D	U Flag
ICLP ILM04.0	C2A170000134B	W	Aluminum	46.8	1590	B	200	SW01	Not Qualified

Method	Lab Blank	Matrix	Analyte	Blank Result	Result	Lab Qual	PQL	Affected Samples	Sample Flag
ICLP ILM04.0	C2A170000134B	W	Aluminum	46.8	74.8	B	200	MW02	U Flag
ICLP ILM04.0	C2A230000117B	S	Aluminum	35.6	2340	B	45	GP0-3-5-D	Not Qualified
ICLP ILM04.0	C2A230000117B	S	Aluminum	35.6	3800	B	45.1	GP01-3-5	Not Qualified
ICLP ILM04.0	C2A230000117B	S	Aluminum	35.6	2660	B	51	GP21-2.8-3.5	Not Qualified
ICLP ILM04.0	C2A230000117B	S	Aluminum	35.6	4610	B	50.9	GP08-4-4.9	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Aluminum	46.8	50.0	B	200	MW01	U Flag
ICLP ILM04.0	C2A170000133B	S	Antimony	0.92	0.95	B	13.5	GP01-3-5	U Flag
ICLP ILM04.0	C2A170000133B	S	Antimony	0.92	0.62	B	13.5	GP0-3-5-D	U Flag
ICLP ILM04.0	C2A170000133B	S	Antimony	0.92	0.70	B	15.3	GP08-4-4.9	U Flag
ICLP ILM04.0	C2A170000133B	S	Antimony	0.92	0.74	B	15.3	GP21-2.8-3.5	U Flag
ICLP ILM04.0	C2A170000133B	S	Beryllium	0.16	0.67	B	1.1	GP01-3-5	U Flag
ICLP ILM04.0	C2A170000133B	S	Beryllium	0.16	0.63	B	1.1	GP0-3-5-D	U Flag
ICLP ILM04.0	C2A170000133B	S	Beryllium	0.16	1.3	B	1.3	GP21-2.8-3.5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Beryllium	0.16	1.3	B	1.3	GP04-5-5.5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Beryllium	0.16	0.90	B	1.3	GP08-4-4.9	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Calcium	9.7	70800	B	1130	GP01-3-5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Calcium	9.7	83200	B	1130	GP0-3-5-D	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Calcium	9.7	32500	B	1280	GP21-2.8-3.5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Calcium	9.7	90000	B	1270	GP08-4-4.9	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Calcium	9.7	9120	B	1300	GP04-5-5.5	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Calcium	49.2	265000	B	5000	MW03	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Calcium	49.2	237000	B	5000	MW01	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Calcium	49.2	141000	B	5000	MW04	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Calcium	49.2	210000	B	5000	MW02	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Calcium	49.2	11500	B	5000	SW01	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Calcium	49.2	228000	B	5000	MW01-D	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Calcium	49.2	12300	B	5000	SW01-D	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Chromium	0.49	13.3	B	2.6	GP04-5-5.5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Chromium	0.49	8.2	B	2.3	GP01-3-5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Chromium	0.49	11.8	B	2.5	GP08-4-4.9	Not Qualified

Data Usability Summary Report	Project: NYSDEC PSA
Date Completed: March 13, 2002	Completed by: Marcia Meredith Galloway

Method	Lab Blank	Matrix	Analyte	Blank Result	Result	Lab Qual	PQL	Affected Samples	Sample Flag
ICLP ILM04.0	C2A170000133B	S	Chromium	0.49	11.7	B	2.6	GP21-2.8-3.5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Chromium	0.49	6.7	B	2.3	GP0-3-5-D	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Cobalt	0.79	2.1	B	50	SW01-D	U Flag
ICLP ILM04.0	C2A170000134B	W	Cobalt	0.79	1.9	B	50	SW01	U Flag
ICLP ILM04.0	C2A170000134B	W	Cobalt	0.79	0.72	B	50	MW02	U Flag
ICLP ILM04.0	C2A170000134B	W	Cobalt	0.79	1.2	B	50	MW01-D	U Flag
ICLP ILM04.0	C2A170000134B	W	Cobalt	0.79	1.2	B	50	MW01	U Flag
ICLP ILM04.0	C2A170000134B	W	Cobalt	0.79	1.4	B	50	MW03	U Flag
ICLP ILM04.0	C2A170000134B	W	Cobalt	0.79	1.8	B	50	MW04	U Flag
ICLP ILM04.0	C2A170000133B	S	Copper	0.9	25.3	B	5.6	GP0-3-5-D	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Copper	0.9	27.3	B	5.6	GP01-3-5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Copper	0.9	23.1	B	6.4	GP08-4-4.9	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Copper	0.9	14.7	B	6.5	GP04-5-5.5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Copper	0.9	9.5	B	6.4	GP21-2.8-3.5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Iron	5.1	14800	B	26.1	GP04-5-5.5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Iron	5.1	23400	B	25.5	GP21-2.8-3.5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Iron	5.1	10300	B	22.5	GP0-3-5-D	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Iron	5.1	12900	B	22.6	GP01-3-5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Iron	5.1	17500	B	25.5	GP08-4-4.9	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Magnesium	6.6	31900	B	1130	GP0-3-5-D	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Magnesium	6.6	18400	B	1280	GP21-2.8-3.5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Magnesium	6.6	3310	B	1300	GP04-5-5.5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Magnesium	6.6	25200	B	1130	GP01-3-5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Magnesium	6.6	20700	B	1270	GP08-4-4.9	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Magnesium	40.5	42600	B	5000	MW02	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Magnesium	40.5	56400	B	5000	MW01	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Magnesium	40.5	54200	B	5000	MW01-D	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Magnesium	40.5	53000	B	5000	MW04	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Magnesium	40.5	77100	B	5000	MW03	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Magnesium	40.5	3740	B	5000	SW01	Not Qualified

Method	Lab Blank	Matrix	Analyte	Blank Result	Result	Lab Qual	PQL	Affected Samples	Sample Flag
ICLP ILM04.0	C2A170000134B	W	Magnesium	40.5	4060	B	5000	SW01-D	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Manganese	0.3	1040	B	15	MW01-D	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Manganese	0.1	149	B	3.9	GP04-5-5.5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Manganese	0.1	481	B	3.4	GP01-3-5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Manganese	0.1	378	B	3.4	GP0-3-5-D	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Manganese	0.1	253	B	3.8	GP21-2.8-3.5	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Manganese	0.3	68.7	B	15	SW01-D	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Manganese	0.3	222	B	15	MW03	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Manganese	0.3	54.1	B	15	SW01	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Manganese	0.3	374	B	15	MW04	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Manganese	0.3	1080	B	15	MW01	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Manganese	0.3	545	B	15	MW02	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Manganese	0.1	556	B	3.8	GP08-4-4.9	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Nickel	1	2.4	B	40	MW04	U Flag
ICLP ILM04.0	C2A170000133B	S	Nickel	0.31	9.4	B	9	GP0-3-5-D	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Nickel	0.31	13.5	B	10.2	GP08-4-4.9	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Nickel	0.31	12.8	B	10.2	GP21-2.8-3.5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Nickel	0.31	11.3	B	10.4	GP04-5-5.5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Nickel	0.31	11.8	B	9	GP01-3-5	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Nickel	1	18.2	B	40	MW03	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Nickel	1	10.9	B	40	MW01-D	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Nickel	1	3.1	B	40	SW01	U Flag
ICLP ILM04.0	C2A170000134B	W	Nickel	1	4.4	B	40	SW01-D	U Flag
ICLP ILM04.0	C2A170000134B	W	Nickel	1	5.6	B	40	MW02	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Nickel	1	11.1	B	40	MW01	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Potassium	19.8	3830	B	5000	SW01-D	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Potassium	19.8	3650	B	5000	SW01	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Potassium	5.3	1300	B	1130	GP01-3-5	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Potassium	19.8	2480	B	5000	MW04	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Potassium	19.8	1690	B	5000	MW02	Not Qualified

Method	Lab Blank	Matrix	Analyte	Blank Result	Result	Lab Qual	PQL	Affected Samples	Sample Flag
ICLP ILM04.0	C2A170000134B	W	Potassium	19.8	1320	B	5000	MW01-D	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Potassium	19.8	1370	B	5000	MW01	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Potassium	19.8	4290	B	5000	MW03	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Potassium	5.3	349	B	1300	GP04-5-5.5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Potassium	5.3	961	B	1130	GP0-3-5-D	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Potassium	5.3	1040	B	1270	GP08-4-4.9	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Potassium	5.3	1480	B	1280	GP21-2.8-3.5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Sodium	12.5	299	B	1130	GP01-3-5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Sodium	12.5	381	B	1130	GP0-3-5-D	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Sodium	12.5	86.3	B	1300	GP04-5-5.5	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Sodium	12.5	159	B	1270	GP08-4-4.9	Not Qualified
ICLP ILM04.0	C2A170000133B	S	Sodium	12.5	183	B	1280	GP21-2.8-3.5	Not Qualified
ICLP ILM04.0	C2A170000134B	W	Thallium	4.4	3.1	B	10	SW01	U Flag
ICLP ILM04.0	C2A170000134B	W	Thallium	4.4	2.7	B	10	MW02	U Flag
ICLP ILM04.0	C2A170000134B	W	Thallium	4.4	5.9	B	10	MW03	U Flag
ICLP ILM04.0	C2A170000134B	W	Thallium	4.4	3.3	B	10	MW04	U Flag
ICLP ILM04.0	C2A170000134B	W	Thallium	4.4	2.9	B	10	MW01-D	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination
None

Table 3 - List of Samples with Surrogates outside Control Limits
None

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
ICLP ILM04.0	GP01-3-5	MS	Aluminum	<45.1	451	0	1	75	125	4X
ICLP ILM04.0	GP01-3-5	MS	Antimony	<13.5	22.6	37	1	75	125	J Flag
ICLP ILM04.0	GP01-3-5	MS	Calcium	<1130	11300	0	1	75	125	4X
ICLP ILM04.0	GP01-3-5	MS	Iron	<22.6	226	0	1	75	125	4X
ICLP ILM04.0	GP01-3-5	MS	Lead	<0.68	4.5	0	1	75	125	4X
ICLP ILM04.0	GP01-3-5	MS	Magnesium	<1130	11300	0	1	75	125	J FLag
ICLP ILM04.0	GP01-3-5	MS	Manganese	<3.4	113	0	1	75	125	4X

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
ICLP ILM04.0	GP01-3-5	DUP	Cadmium	37	25	None
ICLP ILM04.0	GP01-3-5	DUP	Magnesium	27	25	None
ICLP ILM04.0	GP01-3-5	DUP	Silver	32	25	None

Table 5 - List LCS Recoveries outside Control Limits
None

Table 6 –Samples that were Reanalyzed
None

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	PQL	Anal Type	SW01	SW01-D	RPD	RPD Rating	Samp Qual	MW01	MW01-D	RPD	RPD Rating	Samp Qual
ICLP ILM04.0	Aluminum	µg/L	200	A	1590	2010	23.3%	Good	None	50	50.5	1.0%	Good	None
ICLP ILM04.0	Antimony	µg/L	60	A	ND	ND	NC			5.3	ND	NC		
ICLP ILM04.0	Arsenic	µg/L	10	A	2.5	2.5	0.0%	Good	None	10.2	9.9	3.0%	Good	None
ICLP ILM04.0	Barium	µg/L	200	A	17.6	21.6	20.4%	Good	None	81.9	78.8	3.9%	Good	None
ICLP ILM04.0	Beryllium	µg/L	5	A	0.78	ND	NC			ND	ND	NC		

Data Usability Summary Report	Project: NYSDEC PSA
Date Completed: March 13, 2002	Completed by: Marcia Meredith Galloway

Method	Analyte	Unit	PQL	Anal Type	SW01	SW01-D	RPD	RPD Rating	Samp Qual	MW01	MW01-D	RPD	RPD Rating	Samp Qual
ICLP ILM04.0	Cadmium	µg/L	5	A	ND	ND	NC			0.87	0.88	1.1%	Good	None
ICLP ILM04.0	Calcium	µg/L	5000	A	11500	12300	6.7%	Good	None	237000	228000	3.9%	Good	None
ICLP ILM04.0	Chromium	µg/L	10	A	3.3	3.8	14.1%	Good	None	1.1	0.74	39.1%	Good	None
ICLP ILM04.0	Cobalt	µg/L	50	A	1.9	2.1	10.0%	Good	None	1.2	1.2	0.0%	Good	None
ICLP ILM04.0	Copper	µg/L	25	A	7.6	10.4	31.1%	Good	None	1.8	7.3	######	Poor	J Flag
ICLP ILM04.0	Iron	µg/L	100	A	2450	3260	28.4%	Good	None	25300	24300	4.0%	Good	None
ICLP ILM04.0	Lead	µg/L	3	A	6.6	9.1	31.8%	Good	None	ND	2.2	NC		
ICLP ILM04.0	Magnesium	µg/L	5000	A	3740	4060	8.2%	Good	None	56400	54200	4.0%	Good	None
ICLP ILM04.0	Manganese	µg/L	15	A	54.1	68.7	23.8%	Good	None	1080	1040	3.8%	Good	None
ICLP ILM04.0	Nickel	µg/L	40	A	3.1	4.4	34.7%	Good	None	11.1	10.9	1.8%	Good	None
ICLP ILM04.0	Potassium	µg/L	5000	A	3650	3830	4.8%	Good	None	1370	1320	3.7%	Good	None
ICLP ILM04.0	Silver	µg/L	10	A	ND	0.39	NC			ND	ND	NC		
ICLP ILM04.0	Sodium	µg/L	5000	A	2630	2680	1.9%	Good	None	46600	44900	3.7%	Good	None
ICLP ILM04.0	Thallium	µg/L	10	A	3.1	ND	NC			ND	2.9	NC		
ICLP ILM04.0	Vanadium	µg/L	50	A	3.9	4.7	18.6%	Good	None	3.7	3.8	2.7%	Good	None
ICLP ILM04.0	Zinc	µg/L	20	A	54.2	69.2	24.3%	Good	None	4.7	23.6	######	Poor	J Flag

Method	Analyte	Unit	PQL	Anal Type	GP01-3-5	GP01-3-5-D	RPD	RPD Rating	Samp Qual
ICLP ILM04.0	Aluminum	mg/Kg	45.1	A	3800	2340	47.6%	Good	None
ICLP ILM04.0	Antimony	mg/Kg	13.5	A	0.95	0.62	42.0%	Good	None
ICLP ILM04.0	Arsenic	mg/Kg	2.3	A	4.8	3.5	31.3%	Good	None
ICLP ILM04.0	Barium	mg/Kg	45.1	A	34.4	25.3	30.5%	Good	None
ICLP ILM04.0	Beryllium	mg/Kg	1.1	A	0.67	0.63	6.2%	Good	None
ICLP ILM04.0	Cadmium	mg/Kg	1.1	A	0.67	0.52	25.2%	Good	None
ICLP ILM04.0	Calcium	mg/Kg	1130	A	70800	83200	16.1%	Good	None
ICLP ILM04.0	Chromium	mg/Kg	2.3	A	8.2	6.7	20.1%	Good	None
ICLP ILM04.0	Cobalt	mg/Kg	11.3	A	5	3.9	24.7%	Good	None
ICLP ILM04.0	Copper	mg/Kg	5.6	A	27.3	25.3	7.6%	Good	None
ICLP ILM04.0	Iron	mg/Kg	22.6	A	12900	10300	22.4%	Good	None
ICLP ILM04.0	Lead	mg/Kg	0.68	A	22.3	20.4	8.9%	Good	None

Data Usability Summary Report	Project: NYSDEC PSA
Date Completed: March 13, 2002	Completed by: Marcia Meredith Galloway

Method	Analyte	Unit	PQL	Anal Type	GP01-3-5	GP01-3-5-D	RPD	RPD Rating	Samp Qual
ICLP ILM04.0	Magnesium	mg/Kg	1130	A	25200	31900	23.5%	Good	None
ICLP ILM04.0	Manganese	mg/Kg	3.4	A	481	378	24.0%	Good	None
ICLP ILM04.0	Nickel	mg/Kg	9	A	11.8	9.4	22.6%	Good	None
ICLP ILM04.0	Potassium	mg/Kg	1130	A	1300	961	30.0%	Good	None
ICLP ILM04.0	Silver	mg/Kg	2.3	A	0.099	ND	NC		
ICLP ILM04.0	Sodium	mg/Kg	1130	A	299	381	24.1%	Good	None
ICLP ILM04.0	Vanadium	mg/Kg	11.3	A	12.9	9	35.6%	Good	None
ICLP ILM04.0	Zinc	mg/Kg	4.5	A	62.3	48.7	24.5%	Good	None

Key:
A = Analyte
NC = Not Calculated
ND = Not Detected
PQL = Practical Quantitation Limit
RPD = Relative Percent Difference
T = Tentatively Identified Compound

Data Usability Summary Report	Project: NYSDEC PSA
Date Completed: March 13, 2002	Completed by: Marcia Meredith Galloway

The analytical data provided by the laboratory were reviewed for precision, accuracy, and completeness per NYSDEC Division of Environmental Remediation Guidance for the Development of DUSRs (June 1999). Specific criteria for QC limits were obtained from the project QAPP. Compliance with the project QA program is indicated on the in the checklist and tables. Any major or minor concerns affected data usability are summarized listed below. The checklist and tables also indicate whether data qualification is required and/or the type of qualifier assigned.

Reference:

Project	Lab Work Order
Abandoned Chemical Sales	0111174
Abandoned Chemical Sales	0111292
Abandoned Chemical Sales	0111306

Table 1 Sample Summary Tables from Electronic Data Deliverable

Sample ID	Sample Date	Matrix	Lab ID	Lab QC	MS MS	ClientSampIDCorrected
GP09-SB-3-3.4-0	11/13/2001	Soil	0111174-01			GP09-3-3.4
GP10-SB-2.6-2.9-0	11/13/2001	Soil	0111174-02			GP10-2.6-2.9
GP11-SB-1.3-1.7-0	11/13/2001	Soil	0111174-03			GP11-1.3-1.7
GP12-SB-2.3-2.9-0	11/13/2001	Soil	0111174-04			GP12-2.3-2.9
GP13-SB-1.5-2.0-0	11/13/2001	Soil	0111174-05			GP13-1.5-2.0
GP14-SB-4-6.8-0	11/13/2001	Soil	0111174-06	MS/MSD	*	GP14-4-6.8
GP15-SB-5.3-6.2-0	11/13/2001	Soil	0111174-07			GP15-5.3-6.2
GP15-SB-5.3-6.2-0-DUP	11/13/2001	Soil	0111174-08			GP15-5.3-6.2-D
GP16-SB-6.1-7.1-0	11/13/2001	Soil	0111174-09			GP16-6.1-7.1
GP17-SB-4.0-5.8-0	11/13/2001	Soil	0111174-10	MS/MSD	*	GP17-4.0-5.8
GP18-SB-4-4.6-0	11/13/2001	Soil	0111174-11			GP18-4-4.6
GP19-SB-4-4.5-0	11/13/2001	Soil	0111174-12			GP19-4-4.5
GP20-SB-3.5-4.1-0	11/13/2001	Soil	0111174-13			GP20-3.5-4.1
GP21-SB-2.8-3.5-0	11/13/2001	Soil	0111174-14			GP21-2.8-3.5
ACS-GP01-SB-3-5-0	11/12/2001	Soil	0111174-15			GP01-3-5
GP01-SB-3-5-0	11/12/2001	Soil	0111174-15			GP01-3-5
GP01-SB-3-5-D	11/12/2001	Soil	0111174-16			GP01-3-5-D
GP01-SB-3-5-D	11/12/2001	Soil	0111174-16			GP01-3-5-D
GP02-SB-4-5-0	11/12/2001	Soil	0111174-17			GP02-4-5
GP03-SB-2.3-3.3-0	11/12/2001	Soil	0111174-18			GP03-2.3-3.3
GP04-SB-5-5.5-0	11/12/2001	Soil	0111174-19			GP04-5-5.5
GP05-SB-5-5.5-0	11/12/2001	Soil	0111174-20			GP05-5-5.5
GP06-SB-4.4-5-0	11/12/2001	Soil	0111174-21			GP06-4.4-5
GP07-SB-4-4.7-0	11/12/2001	Soil	0111174-22			GP07-4-4.7
GP08-SB-4-4.9-0	11/12/2001	Soil	0111174-23	MS/MSD		GP08-4-4.9
STORAGE BLANK	11/14/2001	Water	0111174-24			
MW03-GW-0	11/29/2001	Water	0111292-01			MW03
MW04-GW-0	11/29/2001	Water	0111292-02	MS/MSD	*	MW04
ACS-TB-112901	11/29/2001	Water	0111292-03			TB-112901
STORAGE BLANK	11/29/2001	Water	0111292-04			
TB2-113001	11/30/2001	Water	0111306-01			TB2-113001

Table 1 Sample Summary Tables from Electronic Data Deliverable

Sample ID	Sample Date	Matrix	Lab ID	Lab QC	MS MS	ClientSampIDCorrected
SW01-0	11/30/2001	Water	0111306-02	MS/MSD	*	SW01
SW01-D	11/30/2001	Water	0111306-03			SW01-D
MW1-GW-0	11/30/2001	Water	0111306-04			MW01
MW1-GW-D	11/30/2001	Water	0111306-05			MW01-D
MW2-GW-0	11/30/2001	Water	0111306-06			MW02
STORAGE BLANK	11/30/2001	Water	0111306-07			

Work Orders, Tests and Number of Samples included in this DUSR

Work Orders	Matrix	Test Method	Number of Samples
0111174	Soil	ILM04.0_CN	5
0111174	Soil	ILM04.0_HG	5
0111174	Soil	OLM04.2_PPCB	5
0111174	Soil	OLM04.2_SVOA	5
0111174	Soil	SW9045C	5
0111174	Soil	OLM04.2_VOA	23
0111174	Soil	ASTM_D2216	23
0111174	Water	OLM04.2_VOA	1
0111292	Water	OLM04.2_PPCB	2
0111292	Water	ILM04.0_HG	2
0111292	Water	OLM04.2_SVOA	2
0111306	Water	EPA130.2	2
0111292	Water	ILM04.0_CN	2
0111292	Water	OLM04.2_VOA	4
0111306	Water	ILM04.0_CN	5
0111306	Water	ILM04.0_HG	5
0111306	Water	OLM04.2_PPCB	5
0111306	Water	OLM04.2_SVOA	5
0111306	Water	OLM04.2_VOA	7

General Sample Information	
Do Samples and Analyses on COC check against Lab Sample Tracking Form?	Yes
Did coolers arrive at lab between 2 and 6^{o}C and in good condition as indicated on COC and Cooler Receipt Form?	Yes
Frequency of Field QC Samples Correct? Field Duplicate - 1/20 samples Trip Blank - Every cooler with VOCs waters only Equipment Blank - 1/ set of samples per day?	Yes
All ASP Forms complete?	Yes
Case narrative present and complete?	Yes
Any holding time violations (See table below)?	No - All samples were prepared and analyzed within holding times.

Data Usability Summary Report	Project: NYSDEC PSA
Date Completed: March 13, 2002	Completed by: Marcia Meredith Galloway

The following tables are presented at the end of this DUSR and provided summaries of results outside QC criteria.

- Method Blanks Results (Table 2)
- Surrogates Outside Limits (Table 3)
- MS/MSD Outside Limits (Table 4)
- LCS Outside Limits (Table 5)
- Re-analysis Results (Table 6)
- Field Duplicate Results (Table 7)

Go to Tables List

Volatile Organics and Semi-volatile Organics by GCMS	
Description	**Notes and Qualifiers**
Any compounds present in method, trip and field blanks (see Table 2)?	Yes, all compounds were TICs or below the PQL.
For samples, if results are <5 times the blank or < 10 times blank for common laboratory contaminants then "U" flag data. Qualification also applies to TICs.	Samples are flagged U as noted on Table 2a for method blanks.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). All samples should be re-analyzed for VOCs? Samples should re-analyzed if >1 BN and/or > AP for BNAs is out. Matrix effects should be established.	No. One surrogate was out for the samples.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	No. The MS showed high recoveries but no sample qualification is required.
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Do internal standards areas and retention time meet criteria? If not was sample re-analyzed to establish matrix (see Table 6)?	Not reviewed.
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes, as noted in the case narrative.
Is continuing calibration for target compounds < 20.5%D.	Yes, as noted in the case narrative.
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	Yes.
For TICs are there any system related compounds that should not be reported?	No
Do field duplicate results show good precision for all compounds except TICs (see Table 7)?	Yes except for some slightly high values for PAH in the subsurface soil samples. Most results are less than the PQL and no additional data qualification is required.

Pesticide and PCBs by GC/ECD	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are <5 times the blank then "U" flag data.	Not applicable.
Surrogate for method blanks and LCS within limits?	Yes
Surrogate for samples and MS/MSD within limits? (See Table 3). Matrix effects should be established.	No. One surrogate was high showing a positive interference. No sample qualification is required for one surrogate out.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? If out and LCS is compliant, then J flag positive data in original sample due to matrix?	No, a few compounds had slightly low recovery. No data qualification is required because no matrix effects are indicated.
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes, Endrin has a slightly high recovery but all the impacted results are already J flagged.
Is initial calibration for target compounds <15 %RSD or curve fit?	Yes, as noted in the case narrative.
Is continuing calibration for target compounds < 15.5%D.	Yes, as noted in the case narrative.
Were any samples re-analyzed or diluted (see Table 6)? For any sample re-analysis and dilutions is only one reportable result by flagged?	No
Spot check retention time windows and second column confirmations as complete.	Acceptable.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Mercury by CVAA	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are <5 times the blank then "U" flag data.	Not applicable.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount. All N flagged data for MS are flagged J as estimated.	No. All mercury results for waters are low.
Were elements recovered ≤30%? If so, “R” flag associated NDs on Form 1's.	Yes. 25 and 30% The samples results are all ND or below PQL. The recovery was sufficient to detect the compounds and the data are not rejected.
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Is there one serial dilution per 20 samples? Flag all data reported with an “E” as “J”.	Yes
Spot check ICS recoveries 80-120%. Contact lab.	Yes, as noted in the case narrative.

Mercury by CVAA	
Description	**Notes and Qualifiers**
Spot check ICV 95-105%. Contact lab.	Yes, as noted in the case narrative.
Spot check CCV 90-110% or 80-120% for Hg. Contact lab.	Yes, as noted in the case narrative.
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

General Analytical Methods	
Description	**Notes and Qualifiers**
Any compounds present in method and field blanks as noted on Table 2?	No.
For samples, if results are <5 times the blank then "U" flag data.	Not applicable.
Laboratory QC frequency one blank and LCS with each batch and one set of MS/MSD per 20 samples?	Yes
MS/MSD within QC criteria (see Table 4)? QC limits are not applicable to sample results greater than 4 times spike amount.	Yes
LCS within QC criteria (see Table 5)? If out, and the recovery high with no positive values, then no data qualification is required.	Yes
Do field duplicate results show good precision for all compounds (see Table 7)?	Yes

Summary of Potential Impacts on Data Usability
Major Concerns
None
Minor Concerns
None

Table 2 - List of Positive Results for Blank Samples

Method	Sample ID	Samp Type	Analyte	Result	Qual	Anal Type	Units	MDL	PQL
OLM04.2_SVOA	MB-200103040	MBLK	1,3-Dioxolane, 2-(methoxymethyl)-2-pheny	150	NJ	T	µg/Kg		
OLM04.2_SVOA	MB-200103040	MBLK	Unknown	200	J	T	µg/Kg		
OLM04.2_SVOA	MB-200103234	MBLK	1-Propene, 1,2,3-trichloro-, (Z)-	67	NJ	T	µg/L		
OLM04.2_SVOA	MB-200103234	MBLK	Bis(2-ethylhexyl)phthalate	1	J	A	µg/L		10
OLM04.2_SVOA	MB-200103234	MBLK	Unknown	7	J	T	µg/L		

Table 2A - List of Samples Qualified for Method Blank Contamination

Method	Lab Blank	Matrix	Analyte	Blank Result	Result	Lab Qual	PQL	Affected Samples	Sample Flag
OLM04.2_SVOA	MB-200103234	Water	Bis(2-ethylhexyl)phthalate	1	7	J	10	MW04-GW-0	Not Qualified
OLM04.2_SVOA	MB-200103234	Water	Bis(2-ethylhexyl)phthalate	1	2	J	10	SW01-0	U Flag
OLM04.2_SVOA	MB-200103234	Water	Bis(2-ethylhexyl)phthalate	1	3	J	10	MW2-GW-0	U Flag
OLM04.2_SVOA	MB-200103234	Water	Bis(2-ethylhexyl)phthalate	1	2	J	20	MW03-GW-0	U Flag
OLM04.2_SVOA	MB-200103234	Water	Bis(2-ethylhexyl)phthalate	1	2	J	10	MW03-GW-0	U Flag
OLM04.2_SVOA	MB-200103234	Water	Bis(2-ethylhexyl)phthalate	1	3	J	10	MW1-GW-0	U Flag
OLM04.2_SVOA	MB-200103234	Water	Unknown	7	8	J		MW2-GW-0	U Flag
OLM04.2_SVOA	MB-200103234	Water	Unknown	7	250	J		MW1-GW-D	Not Qualified
OLM04.2_SVOA	MB-200103234	Water	Unknown	7	14	J		MW1-GW-D	U Flag
OLM04.2_SVOA	MB-200103040	Soil	Unknown	200	110	J		GP04-SB-5-5.5-0	U Flag
OLM04.2_SVOA	MB-200103040	Soil	Unknown	200	250	J		GP08-SB-4-4.9-0	U Flag

Table 2B - List of Samples Qualified for Field Blank Contamination
None

Table 3 - List of Samples with Surrogates outside Control Limits

Method	Sample ID	Sample Type	Analyte	Rec.	Low Limit	High Limit	Dil Fac	Sample Qual.
OLM04.2_SVOA	MW1-GW-0	SAMP	Phenol-d5	133	10	110	1	None
OLM04.2_SVOA	MW1-GW-D	SAMP	Phenol-d5	125	10	110	1	None
OLM04.2_PPCB	GP01-SB-3-5-D	SAMP	Decachlorobiphenyl	194	30	150	1	J Flag

Table 4 - List MS/MSD Recoveries and RPDs outside Control Limits

Method	Sample ID	Sample Type	Analyte	Orig. Result	Spike Amount	Rec.	Dil Fac	Low Limit	High Limit	Sample Qual.
OLM04.2_SVOA	MW04-GW-0	MS	4-Nitrophenol	<25	75	107	1	10	80	None
OLM04.2_SVOA	MW04-GW-0	MSD	4-Nitrophenol	<25	75	111	1	10	80	None
OLM04.2_SVOA	MW04-GW-0	MS	Pentachlorophenol	<25	75	109	1	9	103	None
OLM04.2_SVOA	MW04-GW-0	MSD	Pentachlorophenol	<25	75	111	1	9	103	None
OLM04.2_SVOA	SW01-0	MS	4-Chloro-3-methylphenol	<10	75	99	1	23	97	None
OLM04.2_SVOA	SW01-0	MS	4-Nitrophenol	<25	75	120	1	10	80	None
OLM04.2_SVOA	SW01-0	MSD	4-Nitrophenol	<25	75	92	1	10	80	None
OLM04.2_SVOA	SW01-0	MS	Pentachlorophenol	<25	75	133	1	9	103	None
OLM04.2_PPCB	MW04-GW-0	MS	Endrin	<0.10	1	133	1	56	121	None
OLM04.2_PPCB	MW04-GW-0	MS	Endrin	<0.10	1	133	1	56	121	None
OLM04.2_PPCB	MW04-GW-0	MSD	Endrin	<0.10	1	128	1	56	121	None
OLM04.2_PPCB	MW04-GW-0	MSD	Endrin	<0.10	1	128	1	56	121	None
ILM04.0_HG	MW04-GW-0	MS	Mercury		1	25.5	1.00	75	125	None
ILM04.0_HG	SW01-0	MS	Mercury		1	30.3	1.00	75	125	None

Method	Sample ID	Sample Type	Analyte	RPD	RPD Limit	Sample Qual.
ILM04.0_CN	MW04-GW-0	DUP	Cyanide	200.0	20	None
ILM04.0_CN	SW01-0	DUP	Cyanide	112.3	20	None
ILM04.0_HG	GP08-SB-4-4.9-0	DUP	Mercury	45.6	20	None
OLM04.2_PPCB	SW01-0	MSD	Aldrin	28	22	None
OLM04.2_PPCB	SW01-0	MSD	Aldrin	28	22	None
OLM04.2_PPCB	SW01-0	MSD	Dieldrin	26	18	None
OLM04.2_PPCB	SW01-0	MSD	Dieldrin	26	18	None
OLM04.2_PPCB	SW01-0	MSD	gamma-BHC	24	15	None
OLM04.2_PPCB	SW01-0	MSD	gamma-BHC	24	15	None
OLM04.2_PPCB	SW01-0	MSD	Heptachlor	24	20	None
OLM04.2_PPCB	SW01-0	MSD	Heptachlor	24	20	None

Table 5 - List LCS Recoveries outside Control Limits

Method	Sample ID	Analyte	Rec.	Low Limit	High Limit	Affected Samples	Samp Qual
OLM04.2_PPCB	LCS-200103050	Endrin	143	42	139	ACS-GP01-SB-3-5-0	None
OLM04.2_PPCB	LCS-200103050	Endrin	143	42	139	GP01-SB-3-5-D	None
OLM04.2_PPCB	LCS-200103050	Endrin	143	42	139	GP04-SB-5-5.5-0	None
OLM04.2_PPCB	LCS-200103050	Endrin	143	42	139	GP08-SB-4-4.9-0	None
OLM04.2_PPCB	LCS-200103050	Endrin	143	42	139	GP21-SB-2.8-3.5-0	None
OLM04.2_PPCB	LCS-200103216	Endrin	140	56	121	MW03-GW-0	None
OLM04.2_PPCB	LCS-200103216	Endrin	140	56	121	MW04-GW-0	None
OLM04.2_PPCB	LCS-200103216	Endrin	140	56	121	MW1-GW-0	None
OLM04.2_PPCB	LCS-200103216	Endrin	140	56	121	MW1-GW-D	None
OLM04.2_PPCB	LCS-200103216	Endrin	140	56	121	MW2-GW-0	None
OLM04.2_PPCB	LCS-200103216	Endrin	140	56	121	SW01-0	None
OLM04.2_PPCB	LCS-200103216	Endrin	140	56	121	SW01-D	None
OLM04.2_PPCB	LCS-200103216	Endrin	142	56	121	MW03-GW-0	None
OLM04.2_PPCB	LCS-200103216	Endrin	142	56	121	MW04-GW-0	None
OLM04.2_PPCB	LCS-200103216	Endrin	142	56	121	MW1-GW-0	None
OLM04.2_PPCB	LCS-200103216	Endrin	142	56	121	MW1-GW-D	None
OLM04.2_PPCB	LCS-200103216	Endrin	142	56	121	MW2-GW-0	None
OLM04.2_PPCB	LCS-200103216	Endrin	142	56	121	SW01-0	None
OLM04.2_PPCB	LCS-200103216	Endrin	142	56	121	SW01-D	None

Table 6 –Samples that were Reanalyzed

Sample ID	Lab ID	Method	Sample Type	Action
GP01-SB-3-5-D	0111174-16	OLM04.2_SVOA	SAMP	Report, add J and UJ flags
GP01-SB-3-5-D	0111174-16	OLM04.2_SVOA	RA	Do Not Report
GP04-SB-5-5.5-0	0111174-19	OLM04.2_VOA	SAMP	Report, add J and UJ flags
GP04-SB-5-5.5-0	0111174-19	OLM04.2_VOA	DL	Report for E flag data only
MW03-GW-0	0111292-01	OLM04.2_VOA	SAMP	Report
MW03-GW-0	0111292-01	OLM04.2_VOA	DL	Report for E flag data only
MW03-GW-0	0111292-01	OLM04.2_SVOA	SAMP	Report

Sample ID	Lab ID	Method	Sample Type	Action
MW03-GW-0	0111292-01	OLM04.2_SVOA	DL	Report for E flag data only
MW1-GW-0	0111306-04	OLM04.2_VOA	SAMP	Report
MW1-GW-0	0111306-04	OLM04.2_VOA	DL	Report for E flag data only
MW1-GW-0	0111306-04	OLM04.2_SVOA	SAMP	Report
MW1-GW-0	0111306-04	OLM04.2_SVOA	DL	Report for E flag data only
MW1-GW-D	0111306-05	OLM04.2_VOA	SAMP	Report
MW1-GW-D	0111306-05	OLM04.2_VOA	DL	Report for E flag data only
MW1-GW-D	0111306-05	OLM04.2_SVOA	SAMP	Report
MW1-GW-D	0111306-05	OLM04.2_SVOA	DL	Report for E flag data only
MW2-GW-0	0111306-06	OLM04.2_VOA	SAMP	Report
MW2-GW-0	0111306-06	OLM04.2_VOA	DL	Report for E flag data only

Table 7 – Summary of Field Duplicate Results

Method	Analyte	Unit	PQL	Anal Type	SW01	SW01-D	RPD	RPD Rating	Samp Qual	MW01	MW01-D	RPD	RPD Rating	Samp Qual
EPA130.2	Hardness (As CaCO3)	mg/L	1.00	A	75.2	57.4	26.8%	Good	None	NA	NA	NC		
ILM04.0_CN	Cyanide	µg/L	10.0	A	1	1.5	40.0%	Poor	J Flag	1.2	1.1	8.7%	Good	None
ILM04.0_HG	Mercury	µg/L	0.20	A	ND	0.12	NC			ND	ND	NC		
OLM04.2_PPCB	Aldrin	µg/L	0.050	A	0.24	ND	NC			ND	ND	NC		
OLM04.2_PPCB	Aroclor 1254	µg/L	1.0	A	1.4	ND	NC			ND	ND	NC		
OLM04.2_PPCB	Dieldrin	µg/L	0.10	A	0.037	ND	NC			ND	ND	NC		
OLM04.2_PPCB	gamma-BHC	µg/L	0.050	A	ND	ND	NC			0.0082	ND	NC		
OLM04.2_PPCB	gamma-Chlordane	µg/L	0.050	A	0.023	ND	NC			ND	ND	NC		
OLM04.2_PPCB	Heptachlor epoxide	µg/L	0.050	A	0.26	ND	NC			ND	ND	NC		
OLM04.2_SVOA	1,1´-Biphenyl	µg/L	50	A	ND	ND	NC			37	34	8.5%	Good	None
OLM04.2_SVOA	4-Methylphenol	µg/L	50	A	ND	ND	NC			350	310	12.1%	Good	None
OLM04.2_SVOA	Bis(2-ethylhexyl)phthalate	µg/L	50	A	2	ND	NC			3	ND	NC		
OLM04.2_SVOA	Naphthalene	µg/L	50	A	ND	ND	NC			4	3	28.6%	Good	None
OLM04.2_SVOA	1,8-Naphthalic anhydride	µg/L		T	2	2	0.0%	Good	None	NA	NA	NC		
OLM04.2_SVOA	1H-Indole-1-carboxaldehyde, 2,3-dihydro-	µg/L		T	NA	NA	NC			31	NA	NC		
OLM04.2_SVOA	2(3H)-Benzothiazolone	µg/L		T	NA	NA	NC			39	31	22.9%	Good	None

Data Usability Summary Report	Project: NYSDEC PSA
Date Completed: March 13, 2002	Completed by: Marcia Meredith Galloway

Method	Analyte	Unit	PQL	Anal Type	SW01	SW01-D	RPD	RPD Rating	Samp Qual	MW01	MW01-D	RPD	RPD Rating	Samp Qual
OLM04.2_SVOA	2-Propanol, 1-(2-ethoxypropoxy)-	µg/L		T	NA	NA	NC			200	NA	NC		
OLM04.2_SVOA	2-Propanol, 1-(2-methoxy-1-methylethoxy)	µg/L		T	NA	NA	NC			NA	120	NC		
OLM04.2_SVOA	2-Propanol, 1-(2-methoxypropoxy)-	µg/L		T	NA	NA	NC			NA	70	NC		
OLM04.2_SVOA	9,10-Anthracenedione	µg/L		T	NA	3	NC			NA	NA	NC		
OLM04.2_SVOA	Benzene, (1-methylpropyl)-	µg/L		T	NA	NA	NC			NA	42	NC		
OLM04.2_SVOA	Benzene, 1,2,3-trimethyl-	µg/L		T	NA	NA	NC			220	NA	NC		
OLM04.2_SVOA	Benzene, 1,2,3-trimethyl- (10.65)	µg/L		T	NA	NA	NC			1100	NA	NC		
OLM04.2_SVOA	Benzene, 1,2,3-trimethyl- (10.66)	µg/L		T	NA	NA	NC			NA	1200	NC		
OLM04.2_SVOA	Benzene, 1,2,3-trimethyl- (9.221)	µg/L		T	NA	NA	NC			630	NA	NC		
OLM04.2_SVOA	Benzene, 1,2,3-trimethyl- (9.915)	µg/L		T	NA	NA	NC			2700	NA	NC		
OLM04.2_SVOA	Benzene, 1,2,3-trimethyl- (9.936)	µg/L		T	NA	NA	NC			NA	2900	NC		
OLM04.2_SVOA	Benzene, 1,2,4-trimethyl-	µg/L		T	NA	NA	NC			NA	440	NC		
OLM04.2_SVOA	Benzene, 1,3,5-trimethyl-	µg/L		T	NA	NA	NC			220	660	######	Poor	J Flag
OLM04.2_SVOA	Benzene, 1-ethyl-2,3-dimethyl-	µg/L		T	NA	NA	NC			NA	27	NC		
OLM04.2_SVOA	Benzene, 1-ethyl-2-methyl-	µg/L		T	NA	NA	NC			360	470	26.5%	Good	None
OLM04.2_SVOA	Benzene, 1-ethyl-2-methyl- (10.045)	µg/L		T	NA	NA	NC			NA	140	NC		
OLM04.2_SVOA	Benzene, 1-ethyl-2-methyl- (10.048)	µg/L		T	NA	NA	NC			68	NA	NC		
OLM04.2_SVOA	Benzene, 1-ethyl-2-methyl- (9.559)	µg/L		T	NA	NA	NC			NA	360	NC		
OLM04.2_SVOA	Benzene, 1-ethyl-2-methyl- (9.572)	µg/L		T	NA	NA	NC			380	NA	NC		
OLM04.2_SVOA	Benzene, 1-ethyl-3-methyl-	µg/L		T	NA	NA	NC			1100	NA	NC		
OLM04.2_SVOA	Benzene, 1-ethyl-4-methyl-	µg/L		T	NA	NA	NC			NA	1100	NC		
OLM04.2_SVOA	Benzene, 1-methyl-2-(1-methylethyl)-	µg/L		T	NA	NA	NC			NA	160	NC		
OLM04.2_SVOA	Benzene, 1-methyl-3-propyl-	µg/L		T	NA	NA	NC			36	220	######	Poor	J Flag
OLM04.2_SVOA	Benzene, 1-methyl-4-(1-methylethyl)-	µg/L		T	NA	NA	NC			79	NA	NC		
OLM04.2_SVOA	Benzene, 2-ethyl-1,4-dimethyl-	µg/L		T	NA	NA	NC			NA	37	NC		
OLM04.2_SVOA	Benzene, propyl-	µg/L		T	NA	NA	NC			170	180	5.7%	Good	None
OLM04.2_SVOA	Benzeneacetic acid	µg/L		T	NA	NA	NC			120	33	######	Poor	J Flag
OLM04.2_SVOA	Benzenepropanoic acid	µg/L		T	NA	NA	NC			47	NA	NC		
OLM04.2_SVOA	Butanoic acid, 2-methyl-	µg/L		T	NA	NA	NC			NA	45	NC		
OLM04.2_SVOA	Butanoic acid, 3-methyl-	µg/L		T	NA	NA	NC			43	43	0.0%	Good	None
OLM04.2_SVOA	Cyclic octaatomic sulfur	µg/L		T	NA	NA	NC			30	NA	NC		
OLM04.2_SVOA	Diphenyl ether	µg/L		T	NA	NA	NC			100	80	22.2%	Good	None

Method	Analyte	Unit	PQL	Anal Type	SW01	SW01-D	RPD	RPD Rating	Samp Qual	MW01	MW01-D	RPD	RPD Rating	Samp Qual
OLM04.2_SVOA	Dodecanoic acid	µg/L		T	NA	NA	NC			65	65	0.0%	Good	None
OLM04.2_SVOA	Ethanol, 2-(2-(2-butoxyethoxy)ethoxy)-	µg/L		T	NA	NA	NC			40	NA	NC		
OLM04.2_SVOA	Ethanol, 2-(2-(2-methoxyethoxy)ethoxy)-	µg/L		T	NA	NA	NC			63	NA	NC		
OLM04.2_SVOA	Heptanoic acid	µg/L		T	NA	NA	NC			NA	100	NC		
OLM04.2_SVOA	Heptanoic acid (13.109)	µg/L		T	NA	NA	NC			NA	130	NC		
OLM04.2_SVOA	Heptanoic acid (13.15)	µg/L		T	NA	NA	NC			NA	59	NC		
OLM04.2_SVOA	Heptanoic acid (13.226)	µg/L		T	NA	NA	NC			590	NA	NC		
OLM04.2_SVOA	Heptanoic acid (13.267)	µg/L		T	NA	NA	NC			320	NA	NC		
OLM04.2_SVOA	Hexanoic acid	µg/L		T	NA	NA	NC			6900	1500	######	Poor	J Flag
OLM04.2_SVOA	Hexanoic acid, 2-ethyl-	µg/L		T	NA	NA	NC			160	38	######	Poor	J Flag
OLM04.2_SVOA	Hexanoic acid, 2-methyl-	µg/L		T	NA	NA	NC			420	91	######	Poor	J Flag
OLM04.2_SVOA	Methane, diethoxy-	µg/L		T	NA	NA	NC			23	NA	NC		
OLM04.2_SVOA	Nonanoic acid	µg/L		T	NA	NA	NC			490	160	######	Poor	J Flag
OLM04.2_SVOA	Octanoic Acid	µg/L		T	NA	NA	NC			2200	2900	27.5%	Good	None
OLM04.2_SVOA	Propanoic acid, 3-(methylthio)-	µg/L		T	NA	NA	NC			50	NA	NC		
OLM04.2_SVOA	Propenylbenzene isomer	µg/L		T	NA	NA	NC			NA	150	NC		
OLM04.2_SVOA	Propylbenzene isomer	µg/L		T	NA	NA	NC			250	27	######	Poor	J Flag
OLM04.2_SVOA	Undecanoic acid	µg/L		T	NA	NA	NC			54	33	48.3%	Poor	J Flag
OLM04.2_SVOA	Unknown	µg/L		T	NA	NA	NC			NA	250	NC		
OLM04.2_SVOA	Unknown (12.212)	µg/L		T	NA	NA	NC			32	NA	NC		
OLM04.2_SVOA	Unknown (18.309)	µg/L		T	NA	NA	NC			41	NA	NC		
OLM04.2_SVOA	Unknown (19.35)	µg/L		T	NA	2	NC			NA	NA	NC		

Method	Analyte	Unit	PQL	Anal Type	GP01-3-5	GP01-3-5-D	RPD	RPD Rating	Samp Qual	GP15-5_3-6_2	GP15-5_3-6_2-D	RPD	RPD Rating	Samp Qual
ILM04.0_CN	Cyanide	mg/Kg	0.56	A	ND	0.062	NC			NA	NA	NC		
ILM04.0_HG	Mercury	mg/Kg	0.11	A	0.22	0.23	4.4%	Good	None	NA	NA	NC		
OLM04.2_PPCB	4,4´-DDD	µg/Kg	3.5	A	1.8	ND	NC			NA	NA	NC		
OLM04.2_PPCB	4,4´-DDT	µg/Kg	3.5	A	5.5	ND	NC			NA	NA	NC		
OLM04.2_PPCB	Aldrin	µg/Kg	1.8	A	6.2	20	105.3%	Poor	J Flag	NA	NA	NC		
OLM04.2_PPCB	alpha-Chlordane	µg/Kg	1.8	A	3.8	13	109.5%	Poor	J Flag	NA	NA	NC		

Data Usability Summary Report	Project: NYSDEC PSA
Date Completed: March 13, 2002	Completed by: Marcia Meredith Galloway

Method	Analyte	Unit	PQL	Anal Type	GP01-3-5	GP01-3-5-D	RPD	RPD Rating	Samp Qual	GP15-5_3-6_2	GP15-5_3-6_2-D	RPD	RPD Rating	Samp Qual
OLM04.2_PPCB	Endosulfan I	µg/Kg	1.8	A	ND	2.8	NC			NA	NA	NC		
OLM04.2_PPCB	Endosulfan II	µg/Kg	3.5	A	1.4	ND	NC			NA	NA	NC		
OLM04.2_PPCB	Endosulfan sulfate	µg/Kg	3.5	A	2.4	ND	NC			NA	NA	NC		
OLM04.2_PPCB	Endrin aldehyde	µg/Kg	3.5	A	0.67	ND	NC			NA	NA	NC		
OLM04.2_PPCB	Endrin ketone	µg/Kg	3.5	A	9.7	7.8	21.7%	Good	None	NA	NA	NC		
OLM04.2_PPCB	gamma-Chlordane	µg/Kg	1.8	A	ND	1.8	NC			NA	NA	NC		
OLM04.2_PPCB	Heptachlor epoxide	µg/Kg	1.8	A	ND	20	NC			NA	NA	NC		
OLM04.2_PPCB	Methoxychlor	µg/Kg	18	A	8	21	89.7%	Poor	J Flag	NA	NA	NC		
OLM04.2_SVOA	2-Methylnaphthalene	µg/Kg	360	A	ND	51	NC			NA	NA	NC		
OLM04.2_SVOA	Acenaphthene	µg/Kg	360	A	96	180	60.9%	Good	None	NA	NA	NC		
OLM04.2_SVOA	Acenaphthylene	µg/Kg	360	A	55	39	34.0%	Good	None	NA	NA	NC		
OLM04.2_SVOA	Acetophenone	µg/Kg	360	A	47	40	16.1%	Good	None	NA	NA	NC		
OLM04.2_SVOA	Anthracene	µg/Kg	360	A	260	460	55.6%	Good	None	NA	NA	NC		
OLM04.2_SVOA	Benz(a)anthracene	µg/Kg	360	A	550	880	46.2%	Good	None	NA	NA	NC		
OLM04.2_SVOA	Benzo(a)pyrene	µg/Kg	360	A	580	870	40.0%	Good	None	NA	NA	NC		
OLM04.2_SVOA	Benzo(b)fluoranthene	µg/Kg	360	A	320	740	79.2%	Poor	J Flag	NA	NA	NC		
OLM04.2_SVOA	Benzo(g,h,i)perylene	µg/Kg	360	A	91	260	96.3%	Poor	J Flag	NA	NA	NC		
OLM04.2_SVOA	Benzo(k)fluoranthene	µg/Kg	360	A	570	710	21.9%	Good	None	NA	NA	NC		
OLM04.2_SVOA	Bis(2-ethylhexyl)phthalate	µg/Kg	360	A	ND	380	NC			NA	NA	NC		
OLM04.2_SVOA	Carbazole	µg/Kg	360	A	76	140	59.3%	Good	None	NA	NA	NC		
OLM04.2_SVOA	Chrysene	µg/Kg	360	A	530	870	48.6%	Good	None	NA	NA	NC		
OLM04.2_SVOA	Dibenz(a,h)anthracene	µg/Kg	360	A	51	140	93.2%	Poor	J Flag	NA	NA	NC		
OLM04.2_SVOA	Dibenzofuran	µg/Kg	360	A	46	120	89.2%	Poor	J Flag	NA	NA	NC		
OLM04.2_SVOA	Fluoranthene	µg/Kg	360	A	2300	2300	0.0%	Good	None	NA	NA	NC		
OLM04.2_SVOA	Fluorene	µg/Kg	360	A	79	190	82.5%	Poor	J Flag	NA	NA	NC		
OLM04.2_SVOA	Indeno(1,2,3-cd)pyrene	µg/Kg	360	A	140	350	85.7%	Poor	J Flag	NA	NA	NC		
OLM04.2_SVOA	Naphthalene	µg/Kg	360	A	ND	77	NC			NA	NA	NC		
OLM04.2_SVOA	Phenanthrene	µg/Kg	360	A	900	1600	56.0%	Good	None	NA	NA	NC		
OLM04.2_SVOA	Pyrene	µg/Kg	360	A	770	1000	26.0%	Good	None	NA	NA	NC		
OLM04.2_SVOA	(Z)14-Tricosenyl formate	µg/Kg		T	NA	130	NC			NA	NA	NC		
OLM04.2_SVOA	11H-Benzo(b)fluorene	µg/Kg		T	130	74	54.9%	Good	None	NA	NA	NC		
OLM04.2_SVOA	11-Tricosene	µg/Kg		T	260	NA	NC			NA	NA	NC		

Data Usability Summary Report	Project: NYSDEC PSA
Date Completed: March 13, 2002	Completed by: Marcia Meredith Galloway

Method	Analyte	Unit	PQL	Anal Type	GP01-3-5	GP01-3-5-D	RPD	RPD Rating	Samp Qual	GP15-5_3-6_2	GP15-5_3-6_2-D	RPD	RPD Rating	Samp Qual
OLM04.2_SVOA	1H-Cyclopropa(l)phenanthrene,1a,9b-dihyd	µg/Kg		T	NA	180	NC			NA	NA	NC		
OLM04.2_SVOA	2-Phenylnaphthalene	µg/Kg		T	NA	120	NC			NA	NA	NC		
OLM04.2_SVOA	3,4-Dihydrocyclopenta(cd)pyrene (acepyre	µg/Kg		T	160	300	60.9%	Good	None	NA	NA	NC		
OLM04.2_SVOA	4H-Cyclopenta(def)phenanthrene	µg/Kg		T	NA	400	NC			NA	NA	NC		
OLM04.2_SVOA	7H-Benzo(c)carbazole	µg/Kg		T	NA	100	NC			NA	NA	NC		
OLM04.2_SVOA	9,10-Anthracenedione	µg/Kg		T	140	140	0.0%	Good	None	NA	NA	NC		
OLM04.2_SVOA	9,10-Dimethylanthracene	µg/Kg		T	NA	130	NC			NA	NA	NC		
OLM04.2_SVOA	9H-Fluoren-9-ol	µg/Kg		T	NA	100	NC			NA	NA	NC		
OLM04.2_SVOA	Anthracene, 1-methyl-	µg/Kg		T	NA	180	NC			NA	NA	NC		
OLM04.2_SVOA	Anthracene, 2-methyl-	µg/Kg		T	190	NA	NC			NA	NA	NC		
OLM04.2_SVOA	Anthracene, 2-methyl- (21.71)	µg/Kg		T	NA	170	NC			NA	NA	NC		
OLM04.2_SVOA	Anthracene, 2-methyl- (21.772)	µg/Kg		T	NA	230	NC			NA	NA	NC		
OLM04.2_SVOA	Benz(a)anthracene, 12-methyl-	µg/Kg		T	NA	170	NC			NA	NA	NC		
OLM04.2_SVOA	Benz(e)acephenanthrylene	µg/Kg	330	T	320	640	66.7%	Good	None	NA	NA	NC		
OLM04.2_SVOA	Benzo(b)naphtho(2,1-d)thiophene	µg/Kg		T	82	100	19.8%	Good	None	NA	NA	NC		
OLM04.2_SVOA	Benzo(e)pyrene	µg/Kg		T	560	750	29.0%	Good	None	NA	NA	NC		
OLM04.2_SVOA	Benzonaphthothiophene isomer	µg/Kg		T	NA	87	NC			NA	NA	NC		
OLM04.2_SVOA	Chrysene, 5-methyl-	µg/Kg		T	NA	220	NC			NA	NA	NC		
OLM04.2_SVOA	Cyclopenta(def)phenanthrenone	µg/Kg		T	160	150	6.5%	Good	None	NA	NA	NC		
OLM04.2_SVOA	Dibenzothiophene	µg/Kg		T	NA	93	NC			NA	NA	NC		
OLM04.2_SVOA	Fluoranthene, 2-methyl-	µg/Kg		T	NA	150	NC			NA	NA	NC		
OLM04.2_SVOA	Fluoranthene, 2-methyl- (24.28)	µg/Kg		T	NA	130	NC			NA	NA	NC		
OLM04.2_SVOA	Fluoranthene, 2-methyl- (24.694)	µg/Kg		T	NA	120	NC			NA	NA	NC		
OLM04.2_SVOA	Naphthalene, 2-phenyl-	µg/Kg		T	180	170	5.7%	Good	None	NA	NA	NC		
OLM04.2_SVOA	n-Hexadecanoic acid	µg/Kg		T	410	NA	NC			NA	NA	NC		
OLM04.2_SVOA	Octadecanal	µg/Kg		T	NA	150	NC			NA	NA	NC		
OLM04.2_SVOA	Oxybenzone	µg/Kg		T	310	NA	NC			NA	NA	NC		
OLM04.2_SVOA	Phenanthrene, 1-methyl-	µg/Kg		T	150	270	57.1%	Good	None	NA	NA	NC		
OLM04.2_SVOA	Phenanthrene, 2,5-dimethyl-	µg/Kg		T	NA	110	NC			NA	NA	NC		
OLM04.2_SVOA	Phenanthrene, 3,6-dimethyl-	µg/Kg		T	NA	89	NC			NA	NA	NC		
OLM04.2_SVOA	Phenanthrene, 3-methyl-	µg/Kg		T	NA	230	NC			NA	NA	NC		
OLM04.2_SVOA	Phenanthrene, 4-methyl-	µg/Kg		T	130	NA	NC			NA	NA	NC		

Data Usability Summary Report	Project: NYSDEC PSA
Date Completed: March 13, 2002	Completed by: Marcia Meredith Galloway

Method	Analyte	Unit	PQL	Anal Type	GP01-3-5	GP01-3-5-D	RPD	RPD Rating	Samp Qual	GP15-5_3-6_2	GP15-5_3-6_2-D	RPD	RPD Rating	Samp Qual
OLM04.2_SVOA	Pyrene, 1-methyl-	µg/Kg		T	77	160	70.0%	Poor	J Flag	NA	NA	NC		
OLM04.2_SVOA	Pyrene, 2-methyl-	µg/Kg		T	NA	140	NC			NA	NA	NC		
OLM04.2_SVOA	Unknown (10.201)	µg/Kg		T	NA	250	NC			NA	NA	NC		
OLM04.2_SVOA	Unknown (9.756)	µg/Kg		T	NA	200	NC			NA	NA	NC		
OLM04.2_SVOA	Unknown aromatic	µg/Kg		T	NA	160	NC			NA	NA	NC		
OLM04.2_SVOA	Unknown oxygenated PAH	µg/Kg		T	NA	120	NC			NA	NA	NC		
OLM04.2_SVOA	Unknown PAH (21.938)	µg/Kg		T	320	NA	NC			NA	NA	NC		
OLM04.2_SVOA	Unknown PAH (21.948)	µg/Kg		T	NA	390	NC			NA	NA	NC		
OLM04.2_SVOA	Unknown PAH (22.91)	µg/Kg		T	130	NA	NC			NA	NA	NC		
OLM04.2_SVOA	Unknown PAH (25.44)	µg/Kg		T	NA	150	NC			NA	NA	NC		
OLM04.2_SVOA	Unknown PAH (25.446)	µg/Kg		T	96	NA	NC			NA	NA	NC		
OLM04.2_SVOA	Unknown PAH (25.457)	µg/Kg		T	NA	120	NC			NA	NA	NC		
OLM04.2_SVOA	Unknown PAH (25.978)	µg/Kg		T	NA	320	NC			NA	NA	NC		
OLM04.2_SVOA	Unknown PAH (26.63)	µg/Kg		T	NA	140	NC			NA	NA	NC		
OLM04.2_SVOA	Unknown PAH (26.636)	µg/Kg		T	230	NA	NC			NA	NA	NC		
OLM04.2_VOA	1,1,1-Trichloroethane	µg/Kg	15	A	15	24	46.2%	Good	None	ND	ND	NC		
OLM04.2_VOA	cis-1,2-Dichloroethene	µg/Kg	15	A	ND	2	NC			ND	ND	NC		
OLM04.2_VOA	Tetrachloroethene	µg/Kg	15	A	2	3	40.0%	Good	None	ND	ND	NC		
OLM04.2_VOA	Trichloroethene	µg/Kg	15	A	14	34	83.3%	Poor	J Flag	ND	ND	NC		

Key:
- A = Analyte
- NC = Not Calculated
- ND = Not Detected
- PQL = Practical Quantitation Limit
- RPD = Relative Percent Difference
- T = Tentatively Identified Compound

Table E-1
Summary of Tentatively Identified Compound Results for Surface Soil Samples
Abandoned Chemical Sales Facility Site

Analyte	Sample ID: / Date:	SS01 11/14/01	SS02 11/14/01	SS02-D 11/14/01	SS03 11/14/01	SS04 11/14/01	SS05 11/14/01
Semivolatile Organics by Method OLM04.2 (µg/Kg)							
Z-7-Tetradecenoic acid		NF	NF	NF	NF	990 NJ	NF
Unknown triterpene		NF	NF	NF	NF	NF	NF
Unknown terpane		18360 NJ	NF	NF	NF	NF	NF
Unknown PAH		NF	16620 NJ	7530 NJ	61200 NJ	6690 NJ	960 NJ
Unknown oxygenated PAH		NF	1350 NJ	1470 NJ	5100 NJ	NF	NF
Unknown oxygenated hydrocarbon		4410 NJ	NF	1500 NJ	8100 NJ	840 NJ	3810 NJ
Unknown hydrocarbon		NF	3600 NJ	NF	NF	1380 NJ	18060 NJ
Unknown carboxylic acid		NF	NF	NF	NF	NF	NF
Unknown aromatic		3990 NJ	NF	NF	19200 NJ	NF	NF
Unknown		1020 NJ	NF	7200 NJ	5100 NJ	4290 NJ	42960 NJ
Triphenylene, 2-methyl-		NF	7200 NJ	NF	7500 NJ	NF	NF
Tetradecanoic acid		1380 NJ	NF	NF	NF	NF	NF
Tetradecanal		NF	NF	NF	NF	NF	NF
Testosterone		NF	NF	9000 NJ	NF	NF	NF
Stigmast-4-en-3-one		NF	3300 NJ	NF	NF	NF	NF
Pyrene, 4-methyl-		NF	4200 NJ	NF	NF	930 NJ	NF
Pyrene, 2-methyl-		NF	NF	NF	18900 NJ	NF	NF
Pyrene, 1-methyl-		NF	13200 NJ	NF	8700 NJ	2160 NJ	NF
Phenanthrene, 4-methyl-		450 NJ	NF	NF	NF	NF	NF
Phenanthrene, 1-methyl-		NF	NF	NF	11100 NJ	NF	NF
Perylene		NF	2100 NJ	2940 NJ	5100 NJ	NF	1350 NJ
Oxirane, tetradecyl-		NF	NF	NF	NF	NF	NF
Oxirane, hexadecyl-		NF	NF	NF	NF	NF	NF
Oxirane, heptadecyl-		NF	NF	NF	NF	NF	NF
o-Terphenyl		NF	NF	NF	8400 NJ	NF	NF
Oleic Acid		NF	NF	NF	NF	NF	630 NJ
o-Hydroxybiphenyl		NF	NF	NF	NF	NF	NF

Table E-1

Summary of Tentatively Identified Compound Results for Surface Soil Samples

Abandoned Chemical Sales Facility Site

Analyte	Sample ID: Date:	SS01 11/14/01	SS02 11/14/01	SS02-D 11/14/01	SS03 11/14/01	SS04 11/14/01	SS05 11/14/01
Octadecanoic acid		NF	NF	NF	NF	NF	NF
Octadecanal		NF	NF	NF	NF	NF	NF
Octadec-9-enoic acid		NF	NF	NF	NF	NF	NF
n-Hexadecanoic acid		NF	2550 NJ	NF	NF	1470 NJ	2550 NJ
Naphtho(2,1,8,7-klmn)xanthene		NF	NF	NF	NF	NF	NF
Naphthalene, 2-phenyl-		NF	NF	NF	4500 NJ	NF	NF
Methylbenzaldehyde isomer		NF	NF	NF	NF	NF	NF
Hydroxybenzoic acid isomer		NF	NF	NF	NF	NF	NF
Hexadecenoic acid, Z-11-		NF	NF	NF	NF	780 NJ	1440 NJ
Hexadecanoic acid, 2-hydroxy-, methyl es		NF	NF	NF	6900 NJ	NF	NF
Fluoranthene, 2-methyl-		NF	NF	NF	NF	1410 NJ	NF
Ethanol, 2-(tetradecyloxy)-		NF	NF	NF	NF	NF	780 NJ
Dibenzo(def,mno)chrysene		NF	NF	1530 NJ	NF	NF	NF
Cyclopenta(def)phenanthrenone		NF	NF	NF	NF	390 NJ	NF
Chrysene, 6-methyl-		NF	NF	1770 NJ	15300 NJ	NF	NF
Chrysene, 5-methyl-		NF	NF	NF	NF	NF	570 NJ
Chrysene, 1-methyl-		NF	3600 NJ	NF	NF	2220 NJ	NF
Benzoic acid, 2-(((4-((acetylamino)sulfo		NF	NF	NF	NF	870 NJ	NF
Benzo(kl)xanthene		NF	NF	NF	NF	NF	NF
Benzo(j)fluoranthene		NF	NF	NF	NF	2820 NJ	NF
Benzo(h)quinoline		NF	NF	NF	NF	NF	NF
Benzo(e)pyrene		9900 NJ	6600 NJ	4200 NJ	13800 NJ	1350 NJ	4500 NJ
Benzo(c)phenanthrene		NF	NF	NF	20400 NJ	NF	NF
Benzo(b)triphenylene		NF	NF	3300 NJ	6600 NJ	NF	NF
Benzo(b)naphtho(2,3-d)furan		NF	NF	NF	NF	NF	NF
Benzo(b)naphtho(2,1-d)thiophene		NF	4200 NJ	NF	11700 NJ	NF	390 NJ
Benzo(b)naphtho(2,1-d)furan		NF	NF	NF	6300 NJ	NF	NF
Benzo(b)carbazole		NF	NF	NF	NF	NF	NF
Benzene, (2-isothiocyanatoethyl)-		NF	NF	NF	NF	NF	NF

Table E-1
Summary of Tentatively Identified Compound Results for Surface Soil Samples
Abandoned Chemical Sales Facility Site

Analyte	Sample ID: Date:	SS01 11/14/01	SS02 11/14/01	SS02-D 11/14/01	SS03 11/14/01	SS04 11/14/01	SS05 11/14/01
Benz(j)aceanthrylene, 3-methyl-		NF	NF	1950 NJ	NF	NF	NF
Benz(e)acephenanthrylene		NF	2880 NJ	NF	NF	NF	960 NJ
Benz(a)anthracene, 3-methyl-		NF	NF	NF	5100 NJ	NF	NF
Benz(a)anthracene, 1-methyl-		NF	NF	2460 NJ	NF	NF	NF
Benz(a)anthracene, 12-methyl-		NF	NF	NF	NF	NF	NF
Anthrone		NF	NF	NF	NF	NF	NF
Anthracene, 2-methyl-		NF	1170 NJ	NF	12600 NJ	NF	NF
Anthracene, 1-methyl-		NF	1650 NJ	NF	10500 NJ	NF	NF
Androst-4-ene-3,17-dione, 15-hydroxy-, (		NF	NF	2310 NJ	NF	NF	NF
Adenine		NF	NF	NF	NF	NF	480 NJ
Acenaphtho(1,2-B)pyridine		NF	NF	NF	5700 NJ	NF	NF
Straight-chain alkane		NF	11870 NJ	11150 NJ	15800 NJ	1550 NJ	8250 NJ
Branched alkane		NF	NF	NF	NF	3670 NJ	NF
Cycloalkane		NF	NF	NF	NF	NF	NF
9-Octadecenoic acid, (E)-		NF	6300 NJ	NF	NF	NF	NF
9H-Tribenzo(a,c,E)cycloheptene		NF	NF	NF	NF	NF	NF
9-Hexadecenoic acid		NF	NF	NF	NF	NF	NF
9,10-Anthracenedione		NF	NF	NF	10800 NJ	360 NJ	NF
7-Tetradecene		NF	NF	NF	NF	570 NJ	NF
7H-Benzo(c)fluorene		NF	NF	NF	14400 NJ	NF	NF
7H-Benzo(c)carbazole		NF	NF	NF	10200 NJ	NF	NF
7H-Benz(de)anthracen-7-one		NF	9900 NJ	1800 NJ	24900 NJ	2280 NJ	NF
5,12-Naphthacenedione		NF	NF	NF	9300 NJ	NF	NF
4-O-Methylphenylhydrazono-3-methyl-2-pyr		NF	NF	NF	NF	NF	NF
4H-Cyclopenta(def)phenanthrene		NF	NF	NF	NF	NF	NF
3-Tetradecene,-		NF	NF	NF	NF	NF	690 NJ
3,4-Dihydrocyclopenta(cd)pyrene (acepyre		NF	2730 NJ	NF	12000 NJ	1140 NJ	NF
2-Phenylnaphthalene		NF	NF	NF	NF	NF	NF
2,6,10,14,18-Pentamethyl-2,6,10,14,18-ei		NF	2160 NJ	NF	NF	NF	NF

Table E-1
Summary of Tentatively Identified Compound Results for Surface Soil Samples
Abandoned Chemical Sales Facility Site

Analyte	Sample ID: / Date:	SS01 11/14/01	SS02 11/14/01	SS02-D 11/14/01	SS03 11/14/01	SS04 11/14/01	SS05 11/14/01
2,2´-Binaphthalene		NF	NF	NF	8700 NJ	NF	NF
1-Pyrene-carboxaldehyde		NF	NF	NF	NF	NF	285 NJ
1-Octadecene		NF	NF	NF	NF	NF	NF
1H-Purine, 6-methoxy-		NF	NF	NF	NF	NF	NF
1H-Phenalene		NF	NF	NF	NF	660 NJ	NF
1-Docosanol		NF	NF	NF	NF	NF	NF
14-Octadecenal		NF	NF	NF	NF	NF	NF
11H-Benzo(b)fluorene		NF	10170 NJ	1560 NJ	9900 NJ	NF	NF
11H-Benzo(a)fluorene		NF	NF	NF	24900 NJ	NF	NF
11H-Benzo(a)carbazole		NF	NF	NF	8100 NJ	NF	NF
1,3,5-Triazine-2,4-diamine, 6-phenyl-		NF	NF	NF	NF	450 NJ	NF
1,2:7,8-Dibenzophenanthrene		NF	NF	4860 NJ	6600 NJ	NF	NF

Note: Results are reported as total for similar TICs.

Key:

NF = Not found.

NJ = Identification not confirmed, estimated value.

µg/Kg = Micrograms per kilogram.

Table E-1
Summary of Tentatively Identified Compound Results for Surface Soil Samples
Abandoned Chemical Sales Facility Site

Analyte	Sample ID: Date:	SS06 11/14/01	SS07 11/14/01	SS08 11/14/01	SS09 11/14/01	SS10 11/14/01	SS11 11/14/01
Semivolatile Organics by Method OLM04.2 (µg/Kg)							
Z-7-Tetradecenoic acid		NF	NF	NF	NF	NF	NF
Unknown triterpene		17100 NJ	NF	NF	NF	NF	NF
Unknown terpane		NF	NF	NF	NF	NF	NF
Unknown PAH		480 NJ	3570 NJ	1737 NJ	30510 NJ	4317 NJ	9150 NJ
Unknown oxygenated PAH		NF	NF	NF	1140 NJ	630 NJ	450 NJ
Unknown oxygenated hydrocarbon		4320 NJ	1830 NJ	1110 NJ	NF	1290 NJ	4080 NJ
Unknown hydrocarbon		NF	2760 NJ	4320 NJ	NF	NF	1350 NJ
Unknown carboxylic acid		NF	NF	NF	4800 NJ	NF	NF
Unknown aromatic		NF	NF	NF	18000 NJ	NF	3810 NJ
Unknown		3600 NJ	4710 NJ	5430 NJ	24780 NJ	1530 NJ	9453 NJ
Triphenylene, 2-methyl-		NF	NF	NF	3300 NJ	NF	NF
Tetradecanoic acid		NF	NF	NF	5700 NJ	NF	NF
Tetradecanal		NF	NF	NF	6000 NJ	NF	NF
Testosterone		NF	NF	NF	NF	NF	NF
Stigmast-4-en-3-one		1620 NJ	NF	NF	NF	NF	NF
Pyrene, 4-methyl-		NF	810 NJ	690 NJ	NF	570 NJ	2010 NJ
Pyrene, 2-methyl-		NF	1410 NJ	1800 NJ	NF	NF	NF
Pyrene, 1-methyl-		NF	NF	1530 NJ	10800 NJ	1920 NJ	2610 NJ
Phenanthrene, 4-methyl-		NF	NF	NF	5700 NJ	NF	NF
Phenanthrene, 1-methyl-		NF	720 NJ	NF	5100 NJ	540 NJ	420 NJ
Perylene		NF	NF	NF	19200 NJ	4200 NJ	NF
Oxirane, tetradecyl-		NF	2310 NJ	NF	NF	NF	NF
Oxirane, hexadecyl-		NF	NF	NF	NF	NF	18600 NJ
Oxirane, heptadecyl-		NF	NF	NF	NF	NF	8400 NJ
o-Terphenyl		NF	NF	NF	NF	NF	NF
Oleic Acid		NF	NF	NF	NF	NF	NF
o-Hydroxybiphenyl		NF	NF	NF	2730 NJ	NF	1020 NJ

Table E-1
Summary of Tentatively Identified Compound Results for Surface Soil Samples
Abandoned Chemical Sales Facility Site

Analyte	Sample ID: Date:	SS06 11/14/01	SS07 11/14/01	SS08 11/14/01	SS09 11/14/01	SS10 11/14/01	SS11 11/14/01
Octadecanoic acid		NF	NF	300 NJ	NF	NF	840 NJ
Octadecanal		NF	NF	NF	8400 NJ	NF	NF
Octadec-9-enoic acid		NF	2670 NJ	NF	NF	NF	NF
n-Hexadecanoic acid		2100 NJ	1470 NJ	1530 NJ	NF	1050 NJ	2760 NJ
Naphtho(2,1,8,7-klmn)xanthene		NF	NF	NF	NF	840 NJ	NF
Naphthalene, 2-phenyl-		NF	NF	NF	NF	NF	NF
Methylbenzaldehyde isomer		NF	NF	NF	NF	NF	294 NJ
Hydroxybenzoic acid isomer		NF	NF	360 NJ	NF	NF	NF
Hexadecenoic acid, Z-11-		930 NJ	NF	NF	NF	NF	NF
Hexadecanoic acid, 2-hydroxy-, methyl es		NF	NF	NF	NF	NF	NF
Fluoranthene, 2-methyl-		NF	3000 NJ	NF	NF	NF	NF
Ethanol, 2-(tetradecyloxy)-		NF	NF	2130 NJ	NF	NF	NF
Dibenzo(def,mno)chrysene		NF	NF	NF	NF	NF	NF
Cyclopenta(def)phenanthrenone		NF	300 NJ	330 NJ	NF	360 NJ	630 NJ
Chrysene, 6-methyl-		420 NJ	NF	NF	NF	NF	NF
Chrysene, 5-methyl-		NF	NF	NF	NF	NF	NF
Chrysene, 1-methyl-		690 NJ	1740 NJ	NF	NF	NF	NF
Benzoic acid, 2-(((4-((acetylamino)sulfo		NF	NF	NF	NF	NF	NF
Benzo(kl)xanthene		NF	NF	390 NJ	NF	450 NJ	1500 NJ
Benzo(j)fluoranthene		NF	NF	NF	4200 NJ	NF	NF
Benzo(h)quinoline		NF	NF	NF	1680 NJ	300 NJ	NF
Benzo(e)pyrene		3300 NJ	2610 NJ	2070 NJ	19500 NJ	NF	6000 NJ
Benzo(c)phenanthrene		NF	NF	NF	NF	NF	NF
Benzo(b)triphenylene		NF	NF	NF	NF	NF	NF
Benzo(b)naphtho(2,3-d)furan		NF	720 NJ	NF	3000 NJ	NF	NF
Benzo(b)naphtho(2,1-d)thiophene		390 NJ	1350 NJ	NF	7380 NJ	2400 NJ	2070 NJ
Benzo(b)naphtho(2,1-d)furan		NF	NF	NF	NF	297 NJ	NF
Benzo(b)carbazole		NF	NF	NF	2550 NJ	NF	NF
Benzene, (2-isothiocyanatoethyl)-		NF	NF	570 NJ	NF	NF	NF

Table E-1
Summary of Tentatively Identified Compound Results for Surface Soil Samples
Abandoned Chemical Sales Facility Site

Analyte	Sample ID: Date:	SS06 11/14/01	SS07 11/14/01	SS08 11/14/01	SS09 11/14/01	SS10 11/14/01	SS11 11/14/01
Benz(j)aceanthrylene, 3-methyl-		NF	NF	NF	NF	NF	NF
Benz(e)acephenanthrylene		NF	NF	NF	NF	NF	NF
Benz(a)anthracene, 3-methyl-		NF	NF	NF	NF	NF	NF
Benz(a)anthracene, 1-methyl-		NF	NF	NF	NF	NF	NF
Benz(a)anthracene, 12-methyl-		NF	NF	NF	NF	2310 NJ	NF
Anthrone		NF	NF	NF	NF	330 NJ	NF
Anthracene, 2-methyl-		NF	NF	NF	6000 NJ	NF	1530 NJ
Anthracene, 1-methyl-		NF	NF	NF	NF	480 NJ	NF
Androst-4-ene-3,17-dione, 15-hydroxy-, (		NF	NF	NF	NF	NF	NF
Adenine		600 NJ	420 NJ	NF	NF	NF	NF
Acenaphtho(1,2-B)pyridine		NF	NF	NF	NF	NF	NF
Straight-chain alkane		4300 NJ	690 NJ	5100 NJ	4900 NJ	3000 NJ	3260 NJ
Branched alkane		1010 NJ	4400 NJ	NF	NF	NF	NF
Cycloalkane		NF	450 NJ	NF	NF	NF	NF
9-Octadecenoic acid, (E)-		294 NJ	NF	2400 NJ	NF	NF	NF
9H-Tribenzo(a,c,E)cycloheptene		NF	NF	NF	3900 NJ	NF	NF
9-Hexadecenoic acid		NF	NF	1350 NJ	NF	NF	NF
9,10-Anthracenedione		NF	420 NJ	450 NJ	12600 NJ	930 NJ	1740 NJ
7-Tetradecene		NF	NF	NF	NF	NF	NF
7H-Benzo(c)fluorene		NF	NF	NF	8400 NJ	NF	NF
7H-Benzo(c)carbazole		NF	NF	NF	3900 NJ	NF	NF
7H-Benz(de)anthracen-7-one		297 NJ	1590 NJ	480 NJ	7200 NJ	1920 NJ	480 NJ
5,12-Naphthacenedione		NF	NF	NF	3600 NJ	NF	NF
4-O-Methylphenylhydrazono-3-methyl-2-pyr		NF	NF	NF	2610 NJ	NF	NF
4H-Cyclopenta(def)phenanthrene		NF	NF	NF	NF	600 NJ	NF
3-Tetradecene,-		NF	NF	NF	NF	NF	NF
3,4-Dihydrocyclopenta(cd)pyrene (acepyre		NF	990 NJ	NF	6900 NJ	2250 NJ	NF
2-Phenylnaphthalene		NF	NF	NF	3600 NJ	NF	480 NJ
2,6,10,14,18-Pentamethyl-2,6,10,14,18-ei		NF	NF	NF	NF	NF	NF

Table E-1
Summary of Tentatively Identified Compound Results for Surface Soil Samples
Abandoned Chemical Sales Facility Site

Analyte	Sample ID: Date:	SS06 11/14/01	SS07 11/14/01	SS08 11/14/01	SS09 11/14/01	SS10 11/14/01	SS11 11/14/01
2,2´-Binaphthalene		NF	NF	NF	NF	NF	NF
1-Pyrene-carboxaldehyde		NF	NF	NF	NF	NF	NF
1-Octadecene		NF	NF	NF	NF	NF	1470 NJ
1H-Purine, 6-methoxy-		297 NJ	NF	NF	NF	NF	NF
1H-Phenalene		NF	NF	NF	NF	NF	NF
1-Docosanol		390 NJ	NF	NF	NF	NF	NF
14-Octadecenal		2310 NJ	NF	NF	NF	NF	NF
11H-Benzo(b)fluorene		NF	NF	NF	2820 NJ	2220 NJ	4920 NJ
11H-Benzo(a)fluorene		NF	NF	NF	13200 NJ	1080 NJ	NF
11H-Benzo(a)carbazole		NF	NF	NF	NF	NF	NF
1,3,5-Triazine-2,4-diamine, 6-phenyl-		NF	NF	NF	NF	NF	NF
1,2:7,8-Dibenzophenanthrene		NF	NF	NF	NF	NF	NF

Note: Results are reported as total for similar TICs.

Key:

NF = Not found.

NJ = Identification not confirmed, estimated value.

µg/Kg = Micrograms per kilogram.

Table E-2
Summary of Tentatively Identified Compound Results for Surface Water Samples

Abandoned Chemical Sales Facility Site

Analyte	Sample ID: / Date:	SW01 / 11/30/01	SW01-D / 11/30/01
Semivolatile Organics by Method OLM04.2 (µg/L)			
Unknown oxygenated PAH		NF	3 NJ
Unknown oxygenated hydrocarbon		3 NJ	3 NJ
Unknown hydrocarbon		3 NJ	3 NJ
Unknown		13 NJ	14 NJ
Straight-chain alkane		63 NJ	35 NJ
9,10-Anthracenedione		NF	3 NJ
1,8-Naphthalic anhydride		2 NJ	2 NJ

Note: Results are reported as total for similar TICs.

Key:

NF = Not found.

NJ = Identification not confirmed, estimated value.

µg/L = Micrograms per liter.

Table E-3
Summary of Tentatively Identified Compound Results for Sediment Samples

Abandoned Chemical Sales Facility Site

Analyte	Sample ID: Date:	SD01 11/14/01	SD01-D 11/14/01
Semivolatile Organics by Method OLM04.2 (µg/Kg)			
Unknown PAH		1770 NJ	900 NJ
Unknown oxygenated PAH		NF	750 NJ
Unknown oxygenated hydrocarbon		7650 NJ	2580 NJ
Unknown hydrocarbon		450 NJ	1230 NJ
Unknown chlorinated hydrocarbon		600 NJ	570 NJ
Unknown		4140 NJ	4890 NJ
Triphenylene, 2-methyl-		600 NJ	NF
Thymine		2460 NJ	NF
Thymidine		NF	1290 NJ
Stigmast-4-en-3-one		1500 NJ	3600 NJ
Pyrene, 1-methyl-		420 NJ	360 NJ
Perylene		540 NJ	NF
Oxirane, heptadecyl-		NF	3000 NJ
n-Hexadecanoic acid		2040 NJ	1380 NJ
Hexadecenoic acid, Z-11-		1920 NJ	NF
Chrysene, 5-methyl-		NF	600 NJ
Benzo(e)pyrene		3240 NJ	2580 NJ
Benzo(b)naphtho(2,1-d)thiophene		2460 NJ	NF
Benzo(b)chrysene		NF	600 NJ
Benzeneacetic acid		2790 NJ	2460 NJ
Anthracene, 1-methyl-		NF	720 NJ
Adenine		600 NJ	900 NJ
Straight-chain alkane		3170 NJ	1960 NJ
Branched alkane		NF	1400 NJ
9-Octadecenoic acid, (E)-		2310 NJ	NF
9-Hexadecenoic acid		1020 NJ	NF
9,10-Anthracenedione		NF	360 NJ
7H-Benz(de)anthracen-7-one		780 NJ	NF
5,12-Naphthacenedione		1050 NJ	630 NJ

Table E-3
Summary of Tentatively Identified Compound Results for Sediment Samples

Abandoned Chemical Sales Facility Site

Analyte	Sample ID: Date:	SD01 11/14/01	SD01-D 11/14/01
4_alpha_,5_beta_-Epoxy-9_alpha_-hydroxyg		NF	690 NJ
3-Eicosene,-		1440 NJ	NF
17-(1,5-Dimethylhexyl)-10,13-dimethyl-2,		3000 NJ	1410 NJ
1,2:7,8-Dibenzophenanthrene		NF	3300 NJ
gamma-Sitosterol		3000 NJ	2010 NJ

Note: Results are reported as total for similar TICs.

Key:

NF = Not found.

NJ = Identification not confirmed, estimated value.

μg/Kg = Micrograms per kilogram.

Table E-4
Summary of Tentatively Identified Compound Results for Subsurface Soil Samples

Abandoned Chemical Sales Facility Site

Analyte	Sample ID: Date:	GP01-3-5 11/12/01	GP01-3-5-D 11/12/01	GP04-5-5.5 11/12/01	GP08-4-4.9 11/12/01	GP21-2.8-3.5 11/13/01	GP22-2.2-4.5 11/14/01
VOCs by Method OLM04.2 (µg/Kg)							
Unknown oxygenated hydrocarbon		NF	NF	16800 NJ	NF	NF	NF
Unknown hydrocarbon		NF	NF	900 NJ	NF	NF	NF
Unknown		NF	NF	45300 NJ	NF	NF	39 NJ
Straight-chain alkane		NF	NF	10530 NJ	NF	NF	NF
Propylbenzene isomer		NF	NF	138000 NJ	NF	NF	NF
Methylbenzene Isomer		NF	NF	18600 NJ	NF	NF	NF
Cycloalkane		NF	NF	13290 NJ	NF	NF	NF
Butylbenzene Isomer		NF	NF	66600 NJ	NF	NF	NF
Branched alkane (Br)		NF	NF	26730 NJ	NF	NF	NF
Benzenepropanal		NF	NF	10500 NJ	NF	NF	NF
Benzeneacetaldehyde, _alpha_-methyl-		NF	NF	7200 NJ	NF	NF	NF
Benzeneacetaldehyde		NF	NF	17100 NJ	NF	NF	NF
Benzene, propyl-		NF	NF	10500 NJ	NF	NF	NF
Benzene, 4-ethyl-1,2-dimethyl-		NF	NF	20400 NJ	NF	NF	NF
Benzene, 2-ethyl-1,3-dimethyl-		NF	NF	2190 NJ	NF	NF	NF
Benzene, 1-methyl-4-(1-methylethyl)-		NF	NF	1200 NJ	NF	NF	NF
Benzene, 1-methyl-3-(1-methylethyl)-		NF	NF	17100 NJ	NF	NF	NF
Benzene, 1-methyl-2-(1-methylethyl)-		NF	NF	7110 NJ	NF	NF	NF
Benzene, 1-ethyl-4-methyl-		NF	NF	60000 NJ	NF	NF	NF
Benzene, 1-ethyl-2,4-dimethyl-		NF	NF	11340 NJ	NF	NF	NF
Benzene, 1-ethyl-2,3-dimethyl-		NF	NF	780 NJ	NF	NF	NF
Benzene, 1,3-diethyl-		NF	NF	540 NJ	NF	NF	NF
Benzene, 1,3,5-trimethyl-		NF	NF	42000 NJ	NF	NF	NF
Benzene, 1,2,4,5-tetramethyl-		NF	NF	300 NJ	NF	NF	NF
Benzene, 1,2,3-trimethyl-		NF	NF	22800 NJ	NF	NF	NF
Benzene, (1-methylpropyl)-		NF	NF	5400 NJ	NF	NF	NF
Benzene, (1-methylethyl)-		NF	NF	15300 NJ	NF	NF	NF
1,3-Cyclopentadiene, 1,2,3,4-tetramethyl		NF	NF	1080 NJ	NF	NF	NF

Table E-4
Summary of Tentatively Identified Compound Results for Subsurface Soil Samples

Abandoned Chemical Sales Facility Site

Analyte	Sample ID: / Date:	GP01-3-5 11/12/01	GP01-3-5-D 11/12/01	GP04-5-5.5 11/12/01	GP08-4-4.9 11/12/01	GP21-2.8-3.5 11/13/01	GP22-2.2-4.5 11/14/01
Semivolatile Organics by Method OLM04.2 (μg/Kg)							
Unknown PAH		2328 NJ	1530 NJ	NF	NF	NF	NF
Unknown oxygenated PAH		NF	360 NJ	NF	NF	NF	NF
Unknown oxygenated hydrocarbon		NF	NF	NF	NF	420 NJ	291 NJ
Unknown hydrocarbon		NF	NF	NF	NF	798 NJ	NF
Unknown aromatic		NF	480 NJ	NF	NF	NF	NF
Unknown		NF	1350 NJ	330 NJ	750 NJ	1260 NJ	600 NJ
Pyrene, 2-methyl-		NF	420 NJ	NF	NF	NF	NF
Pyrene, 1-methyl-		231 NJ	246 NJ	NF	NF	NF	NF
Phosphonic acid, dioctadecyl ester		NF	NF	570 NJ	NF	NF	NF
Phenanthrene, 4-methyl-		390 NJ	NF	NF	NF	NF	NF
Phenanthrene, 3,6-dimethyl-		NF	267 NJ	NF	NF	NF	NF
Phenanthrene, 2,5-dimethyl-		NF	330 NJ	NF	NF	NF	NF
Phenanthrene, 1-methyl-		450 NJ	660 NJ	NF	NF	NF	NF
Oxybenzone		930 NJ	NF	NF	NF	NF	NF
n-Hexadecanoic acid		1230 NJ	NF	NF	NF	NF	NF
Naphthalene, 2-phenyl-		540 NJ	NF	NF	NF	NF	NF
Indane		NF	NF	1110 NJ	NF	NF	NF
Fluoranthene, 2-methyl-		NF	450 NJ	NF	NF	NF	NF
Dibenzothiophene		NF	279 NJ	NF	NF	NF	NF
Cyclopenta(def)phenanthrenone		480 NJ	NF	NF	NF	NF	NF
Benzonaphthothiophene isomer		NF	261 NJ	NF	NF	NF	NF
Benzo(e)pyrene		1680 NJ	2250 NJ	NF	NF	NF	NF
Benzo(b)naphtho(2,1-d)thiophene		246 NJ	NF	NF	NF	NF	NF
Benzene, propyl-		NF	NF	2340 NJ	NF	NF	NF

Table E-4
Summary of Tentatively Identified Compound Results for Subsurface Soil Samples

Abandoned Chemical Sales Facility Site

Analyte	Sample ID: / Date:	GP01-3-5 11/12/01	GP01-3-5-D 11/12/01	GP04-5-5.5 11/12/01	GP08-4-4.9 11/12/01	GP21-2.8-3.5 11/13/01	GP22-2.2-4.5 11/14/01
Benzene, butyl-		NF	NF	3000 NJ	NF	NF	NF
Benzene, 4-ethyl-1,2-dimethyl-		NF	NF	1140 NJ	NF	NF	NF
Benzene, 2-ethyl-1,4-dimethyl-		NF	NF	3600 NJ	NF	NF	NF
Benzene, 1-methyl-3-propyl-		NF	NF	6000 NJ	NF	NF	NF
Benzene, 1-methyl-3-(1-methylethyl)-		NF	NF	288 NJ	NF	NF	NF
Benzene, 1-methyl-2-(1-methylethyl)-		NF	NF	1110 NJ	NF	NF	NF
Benzene, 1-ethyl-2-methyl-		NF	NF	17700 NJ	NF	NF	NF
Benzene, 1-ethyl-2,4-dimethyl-		NF	NF	1140 NJ	NF	NF	NF
Benzene, 1,3,5-trimethyl-		NF	NF	9300 NJ	NF	NF	NF
Benzene, 1,2-diethyl-		NF	NF	291 NJ	NF	NF	NF
Benzene, 1,2,3-trimethyl-		NF	NF	48000 NJ	NF	NF	NF
Benzene, (2-methylpropyl)-		NF	NF	1020 NJ	NF	NF	NF
Benzene, (1-methylpropyl)-		NF	NF	1110 NJ	NF	NF	NF
Benz(e)acephenanthrylene		960 NJ	NF	NF	NF	NF	NF
Benz(a)anthracene, 12-methyl-		NF	510 NJ	NF	NF	NF	NF
Anthracene, 2-methyl-		570 NJ	1200 NJ	NF	NF	NF	NF
9H-Fluoren-9-ol		NF	300 NJ	NF	NF	NF	NF
9,10-Anthracenedione		420 NJ	330 NJ	NF	NF	NF	NF
3,4-Dihydrocyclopenta(cd)pyrene (acepyre		480 NJ	900 NJ	NF	NF	NF	NF
2-Phenylnaphthalene		NF	360 NJ	NF	NF	NF	NF
11-Tricosene		780 NJ	NF	NF	NF	NF	NF
11H-Benzo(b)fluorene		390 NJ	NF	NF	NF	NF	NF
(Z)14-Tricosenyl formate		NF	390 NJ	NF	NF	NF	NF

Note: Results are reported as total for similar TICs.

Key:

NF = Not found.

NJ = Identification not confirmed, estimated value.

µg/Kg = Micrograms per kilogram.

Table E-5
Summary of Tentatively Identified Compound Results for Groundwater Samples

Abandoned Chemical Sales Facility Site

Analyte	Sample ID: Date:	MW01 11/30/01	MW01-D 11/30/01	MW02 11/30/01	MW03 11/29/01	MW04 11/29/01
VOCs by Method OLM04.2 (µg/L)						
Unknown aromatic		NF	260 NJ	NF	NF	NF
Unknown alcohol		NF	210 NJ	NF	NF	NF
Unknown		400 NJ	53 NJ	16 NJ	NF	NF
Indane		NF	NF	75 NJ	NF	NF
Indan, 1-methyl-		NF	NF	5 NJ	NF	NF
Ethane, (methylthio)-		NF	NF	210 NJ	NF	NF
Dimethyl sulfide		2900 NJ	2900 NJ	250 NJ	NF	NF
Benzeneacetaldehyde, _alpha_-methyl-		NF	65 NJ	NF	NF	NF
Benzene, propyl-		NF	380 NJ	95 NJ	NF	NF
Benzene, 4-ethyl-1,2-dimethyl-		NF	56 NJ	NF	NF	NF
Benzene, 2-ethyl-1,4-dimethyl-		NF	NF	12 NJ	NF	NF
Benzene, 1-methyl-4-propyl-		NF	NF	10 NJ	NF	NF
Benzene, 1-methyl-4-(1-methylethyl)-		NF	285 NJ	32 NJ	NF	NF
Benzene, 1-methyl-3-propyl-		NF	180 NJ	47 NJ	NF	NF
Benzene, 1-methyl-3-(1-methylethyl)-		NF	38 NJ	NF	NF	NF
Benzene, 1-methyl-2-propyl-		NF	50 NJ	NF	NF	NF
Benzene, 1-methyl-2-(1-methylethyl)-		NF	64 NJ	24 NJ	NF	NF
Benzene, 1-ethyl-4-methyl-		520 NJ	1800 NJ	NF	NF	NF
Benzene, 1-ethyl-2-methyl-		NF	700 NJ	1320 NJ	NF	NF
Benzene, 1-ethyl-2,4-dimethyl-		NF	NF	10 NJ	NF	NF
Benzene, 1-ethyl-2,3-dimethyl-		NF	NF	7 NJ	NF	NF
Benzene, 1,3,5-trimethyl-		880 NJ	2060 NJ	280 NJ	NF	NF
Benzene, 1,2-difluoro-		NF	50 NJ	NF	NF	NF
Benzene, 1,2,4-trimethyl-		920 NJ	NF	NF	NF	NF
Benzene, 1,2,3-trimethyl-		10700 NJ	9900 NJ	3180 NJ	NF	NF
Benzene, (2-methylpropyl)-		NF	51 NJ	7 NJ	NF	NF
1H-Indene, 2,3-dihydro-2-methyl-		NF	27 NJ	NF	NF	NF

Table E-5
Summary of Tentatively Identified Compound Results for Groundwater Samples

Abandoned Chemical Sales Facility Site

Analyte	Sample ID: Date:	MW01 11/30/01	MW01-D 11/30/01	MW02 11/30/01	MW03 11/29/01	MW04 11/29/01
Semivolatile Organics by Method OLM04.2 (µg/L)						
Unknown oxygenated hydrocarbon		211 NJ	NF	NF	108 NJ	NF
Unknown glycol		407 NJ	762 NJ	35 NJ	1108 NJ	NF
Unknown carboxylic acid		43017 NJ	5450 NJ	8 NJ	74 NJ	NF
Unknown aromatic		NF	NF	9 NJ	NF	NF
Unknown		73 NJ	250 NJ	8 NJ	314 NJ	NF
Undecanoic acid		54 NJ	33 NJ	NF	NF	NF
Propylbenzene isomer		250 NJ	27 NJ	NF	NF	NF
Propenylbenzene isomer		NF	150 NJ	NF	NF	NF
Propanoic acid, 3-(methylthio)-		50 NJ	NF		NF	NF
Phenol, 2,6-dimethyl-		NF	NF	NF	20 NJ	NF
Pentanoic acid, 4-methyl-		NF	NF	NF	36 NJ	NF
Octanoic Acid		2200 NJ	2900 NJ	NF	170 NJ	NF
Nonanoic acid		490 NJ	160 NJ	NF	4 NJ	NF
Methane, diethoxy-		23 NJ	NF	NF	NF	NF
Indane		NF	NF	27 NJ	NF	NF
Hexanoic acid, 2-methyl-		420 NJ	91 NJ	NF	NF	NF
Hexanoic acid, 2-ethyl-		160 NJ	38 NJ	NF	10 NJ	NF
Hexanoic acid		6900 NJ	1500 NJ	NF	95 NJ	NF
Heptanoic acid		910 NJ	289 NJ	NF	9 NJ	NF
Ethanol, 2-(2-(2-methoxyethoxy)ethoxy)-		63 NJ	NF	NF	NF	NF
Ethanol, 2-(2-(2-butoxyethoxy)ethoxy)-		40 NJ	NF	NF	NF	NF
Dodecanoic acid		60 NJ	35 NJ	NF	NF	NF
Diphenyl ether		100 NJ	62 NJ	14 NJ	NF	NF
Dimethyltetralin isomer		NF	NF	NF	20 NJ	NF
Dimethyl trisulfide		NF	NF	NF	34 NJ	NF
Dimethyl tetrasulphide		NF	NF	NF	17 NJ	NF
Diethyl trisulfide		NF	NF	NF	17 NJ	NF

Table E-5
Summary of Tentatively Identified Compound Results for Groundwater Samples

Abandoned Chemical Sales Facility Site

Analyte	Sample ID: Date:	MW01 11/30/01	MW01-D 11/30/01	MW02 11/30/01	MW03 11/29/01	MW04 11/29/01
Cyclic octaatomic sulfur		30 NJ	NF	NF	NF	NF
Butylbenzene isomer		NF	NF	10 NJ	NF	NF
Butanoic acid, 3-methyl-		43 NJ	43 NJ	NF	NF	NF
Butanoic acid, 2-methyl-		NF	45 NJ	NF	NF	NF
Benzenepropanoic acid		28 NJ	NF	NF	9 NJ	NF
Benzeneacetic acid		120 NJ	33 NJ	NF	56 NJ	NF
Benzene, propyl-		170 NJ	180 NJ	39 NJ	NF	NF
Benzene, 2-ethyl-1,4-dimethyl-		NF	37 NJ	NF	NF	NF
Benzene, 1-methyl-4-(1-methylethyl)-		79 NJ	NF	NF	NF	NF
Benzene, 1-methyl-3-propyl-		36 NJ	73 NJ	18 NJ	NF	NF
Benzene, 1-methyl-2-(1-methylethyl)-		NF	160 NJ	13 NJ	NF	NF
Benzene, 1-ethyl-4-methyl-		NF	1100 NJ	NF	NF	NF
Benzene, 1-ethyl-3-methyl-		1100 NJ	NF	NF	NF	NF
Benzene, 1-ethyl-2-methyl-		808 NJ	970 NJ	292 NJ	NF	NF
Benzene, 1-ethyl-2,4-dimethyl-		NF	NF	15 NJ	NF	NF
Benzene, 1-ethyl-2,3-dimethyl-		NF	27 NJ	NF	NF	NF
Benzene, 1,3,5-trimethyl-		220 NJ	230 NJ	130 NJ	NF	NF
Benzene, 1,2,4-trimethyl-		NF	440 NJ	NF	NF	NF
Benzene, 1,2,3-trimethyl-		4650 NJ	4100 NJ	810 NJ	NF	NF
Benzene, (2-methylpropyl)-		NF	NF	5 NJ	NF	NF
Benzene, (1-methylpropyl)-		NF	42 NJ	6 NJ	NF	NF
Straight-chain alkane		NF	NF	11 NJ	NF	6 NJ
2-Propanol, 1-(2-methoxypropoxy)-		NF	70 NJ	NF	NF	NF
2-Propanol, 1-(2-methoxy-1-methylethoxy)		NF	37 NJ	15 NJ	NF	NF
2-Propanol, 1-(2-ethoxypropoxy)-		200 NJ	NF	NF	NF	NF
2(3H)-Benzothiazolone		33 NJ	31 NJ	5 NJ	22 NJ	NF
2(1H)-Quinolinone		NF	NF	NF	9 NJ	NF
1H-Indole-2,3-dione		NF	NF	4 NJ	NF	NF
1H-Indole-1-carboxaldehyde, 2,3-dihydro-		31 NJ	NF	NF	30 NJ	NF

Source: Ecology and Environment, Inc., 2002

Table E-5
Summary of Tentatively Identified Compound Results for Groundwater Samples

Abandoned Chemical Sales Facility Site

Analyte	Sample ID: Date:	MW01 11/30/01	MW01-D 11/30/01	MW02 11/30/01	MW03 11/29/01	MW04 11/29/01
1H-Benzotriazole, 5-methyl-		NF	NF	5 NJ	138 NJ	NF

Note: Results are reported as total for similar TICs.

Key:

NF = Not found.

NJ = Identification not confirmed, estimated value.

µg/L = Micrograms per liter.