NEW YORK STATE SUPERFUND STANDBY CONTRACT

PRELIMINARY SITE ASSESSMENT REPORT

Volume I • Report

Camarota Cleaners Site
325-327 Park Avenue
Site No. 5-46-044

Work Assignment No. D002676-45
April 2000

Prepared for:

New York State Department of Environmental Conservation

50 Wolf Road, Albany, New York 12233
John Cahill, *Commissioner*

Division of Environmental Remediation
Michael J. O'Toole, Jr., P.E., *Director*

By:
Lawler, Matusky & Skelly Engineers LLP

NEW YORK STATE SUPERFUND STANDBY CONTRACT

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325 - 327 Park Avenue
Mechanicville, New York
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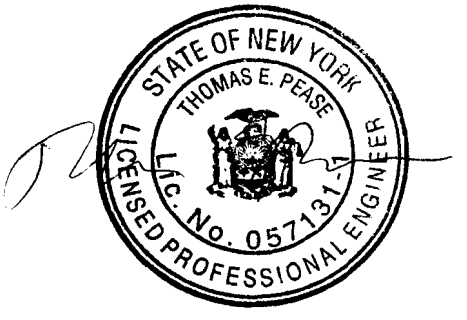

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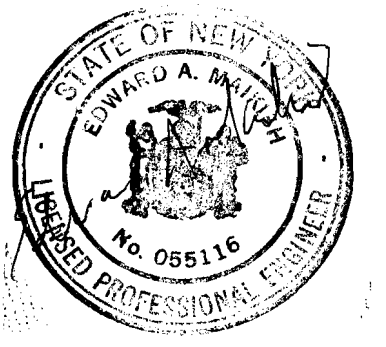

LAWLER, MATUSKY & SKELLY ENGINEERS LLP
ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS
One Blue Hill Plaza
Pearl River, New York 10965

PRELIMINARY SITE ASSESSMENT REPORT

CAMAROTA CLEANERS SITE
325-327 PARK AVENUE

WORK ASSIGNMENT NO. D002676-45

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1.0 NYSDEC SITE INVESTIGATION INFORMATION

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
Camarota Cleaners	5-46-044	Mechanicville	Saratoga

5. REGION	6. CLASSIFICATION
5	CURRENT PROPOSED MODIFY

7. LOCATION OF SITE (Attach U.S.G.S. Topographic Map showing site location) See Figure 1.

a. Quadrangle Mechanicville, NY

b. Site Latitude 42° 54' 11" Site Longitude 73° 41' 26"

c. Tax Map Numbers 262.61, Block 4, Lot 1

d. Site Street Address 325-327 Park Avenue Mechanicville, New York 12118

8. BRIEFLY DESCRIBE THE SITE (Attach site plan showing disposal/sampling locations) See Figures 2, 3, 4, and 5; Tables 1,2,3, and 4.

The 0.115-acre site consists of a building that was constructed in the mid- to late-1970s for the purpose of housing a dry cleaning business. Dry cleaning operations occurred at the site from around this time until about 1991. Previous history and investigation activities at the site has suggested that a release of contamination may have occurred at the site. In July 1991, a soil gas survey was conducted at the site at request of the owner (Mr. Fred Camarota). Sample results showed that VOCs (including tetrachloroethylene [PCE] and petroleum compounds) were present in the subsurface. After a review of the 1991 data, NYSDEC and New York State Department of Health (NYSDOH) expressed concerns about the subsurface contamination and potential impacts to human health and the environment.

A subsequent investigation was conducted in 1992 by Environmental Products & Services (EPS) to further assess potential petroleum and dry cleaning fluid releases that may have occurred at the site. This investigation included both soil and groundwater sampling. Soil sampling in the asphalt area located south of the building revealed the presence of PCE at levels (9.7 mg/kg) in exceedances of New York State cleanup guidelines. Three monitoring wells were also installed at the site. Groundwater samples obtained from these monitoring wells showed that VOCs were present in shallow, on-site groundwater in concentrations above the Class GA groundwater standards. A groundwater sample from monitoring well EPS-2, located north of the on-site building along Park Avenue, contained a PCE concentration of 46 ug/l (exceeding Class GA standard of 5 ug/l). Several VOCs were detected at levels above the applicable standards in monitoring well EPS-3, located in the asphalt area south of the building, as follows: PCE (1100 ug/l), benzene (130 ug/l), trans-1,2-Dichloroethylene (t-1,2-DCE, 6 ug/l), and cis-1,2-DCE (34 ug/l).

EPS completed additional investigation work at the site in 1993. Five well points were installed and groundwater samples were obtained. Groundwater samples from the three previously installed monitoring wells were also collected. Analytical results showed that PCE was present in the groundwater at levels exceeding the Class GA standards in six of the eight samples; however, the PCE concentrations in EPS-2 (9 ug/l) and EPS-3 (590 ug/l) had decreased since 1992. Some typical PCE breakdown products were also detected in the groundwater samples. EPS also collected indoor air samples from the basements of three residences in the vicinity of the site. Results indicated the presence of PCE in one of the residences (highest concentration of 83 ug/m^3; below NYSDOH recommended average ambient air level of 100 ug/m^3), and toluene (20 ug/m^3) in another of the homes. After the second EPS report was issued in 1993, it was determined that chlorinated VOCs (predominately PCE) were the main contaminants of concern at the site. In July 1996, NYSDEC added the Camarota Cleaners site to the list of potential Inactive Hazardous Waste Disposal sites.

Additional investigations were conducted at the site in September 1998 (by Rowan Environmental Services, Inc.) and in May 1999 (by NYSDEC). The 1998 groundwater sampling event showed that PCE and other VOCs were still present in on-site groundwater in concentrations exceeding the Class GA groundwater standards. However, the 1998 PCE concentrations in groundwater sampled from previous monitoring well and well point locations had decreased since 1993 (refer to Table 3).

Groundwater samples were collected from ESP-1, ESP-2, ESP-3, and two of the previously installed well points (WP-2 and WP-4) in May 1999 and analyzed for volatiles. The results for PCE and trichloroethylene (TCE) were 1.1 µg/l and 2.3 µg/l; 12 µg/l and ND; 86 µg/l and 36 µg/l; 92 µg/l and 52 µg/l; and 1.2 µg/l and ND, respectively. When compared to the September 1998 data, these samples showed a decrease in PCE concentration at EPS-3, but a slight increase in TCE. WP-2 showed increases in both PCE and TCE. Soil samples were also collected at the site during the May 1999 sampling episode. Five samples were collected from locations around the on-site building at depths of 2 to 4 ft bgs. The results for PCE (and all VOCs analyzed for) were below the soil cleanup criteria in all of the soil samples.

In September of 1999, a PSA at the site was initiated by Lawler, Matusky & Skelly Engineers LLP (LMS) with the collection of soil and groundwater samples in the area surrounding the Camarota Cleaners building. The PSA was conducted to attempt to locate an on-site source of the PCE contamination. Nine soil samples (depth of 4 to 8 ft bgs) were collected from the asphalt area located south of the Camarota Cleaners building (Figure 3, inset). The samples were collected in this area because the highest on-site PCE concentrations were found here historically. All soil samples had levels of PCE and VOCs that were less than the recommended soil cleanup objectives

(Table1). Four groundwater probe samples were also collected in September 1999 (refer to Figures 3 and 4). The analytical results showed that three of the four samples had individual contaminants exceeding groundwater standards. Groundwater probe GW-1, located to the east of a private dwelling along Park Avenue, contained an elevated level of PCE (12 ug/l) as compared to the standard of 5 ug/l). GW-3, located to the southeast of the on-site building, exhibited elevated levels of vinyl chloride (14 ug/l), 1,2-dichloroethylene (1,2-DCE, 8 ug/l), TCE (10 ug/l), and PCE (18 ug/l). Each of these concentrations is above the applicable Class GA groundwater standard. Groundwater probe GW-4 was located along First Avenue. A groundwater sample from GW-4 was obtained at 6.5-ft (because bedrock was encountered at approximately 7-ft); there were no detections of any VOCs in this sample. Groundwater probe GW-5 was located southwest of the Camarota building and had two contaminants exceed the NYSDEC groundwater standards. 1,2-dichloropropane (1,2-DCP) was detected at 2 ug/l (above the groundwater standard of 1 ug/l). The concentrations of PCE was found to be 62 ug/l; above the NYSDEC groundwater standard of 5 mg/l. The concentrations of total VOCs were below the groundwater effluent limitation of 100 ug/l in all four groundwater probe samples collected for the PSA. Refer to Table 2 for a summary of the PSA groundwater sampling results.

A soil gas and air sampling event was conducted at the site in November 1999 as part of the PSA to further characterize existing indoor air quality (within the on-site building) and subsurface conditions at the site. An indoor air sample was collected from the southern area of the on-site building, and an outdoor ("background") air sample was obtained from the east side of the building. No VOCs were detected in either sample. Two soil gas samples (SG-01 and SG-02) were collected from beneath the floor slab of the on-site building, in areas that were presumed to have historically contained dry cleaning equipment. PCE was detected in both soil gas samples, at concentrations of 105 ppb (SG-01) and 426 ppb (SG-02). Air and soil gas sample locations are depicted in Figure 5. Table 4 provides a summary of the sample data. Additional indoor air samples were collected in the basement of 108 Second Avenue on December 8 and 9, 1999 by NYSDOH. PCE was detected at a maximum concentration of 27 ug/m^3.

a. Area 0.115 acres b. EPA ID Number none given
c. Completed ( )Phase I ( )Phase II (X) PSA ( )RI/FS ( )PA/SI ( )Other

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

No documented disposal.

10. ANALYTICAL DATA AVAILABLE

a. (X)Air (X)Groundwater ( )Surface Water ( )Sediment (X)Soil ( )Waste ( )Leachate ( )EPTox ( )TCLP
b. Contravention of Standards or Guidance Values Refer to attached Tables 1, 2, 3, and 4.

11. CONCLUSION

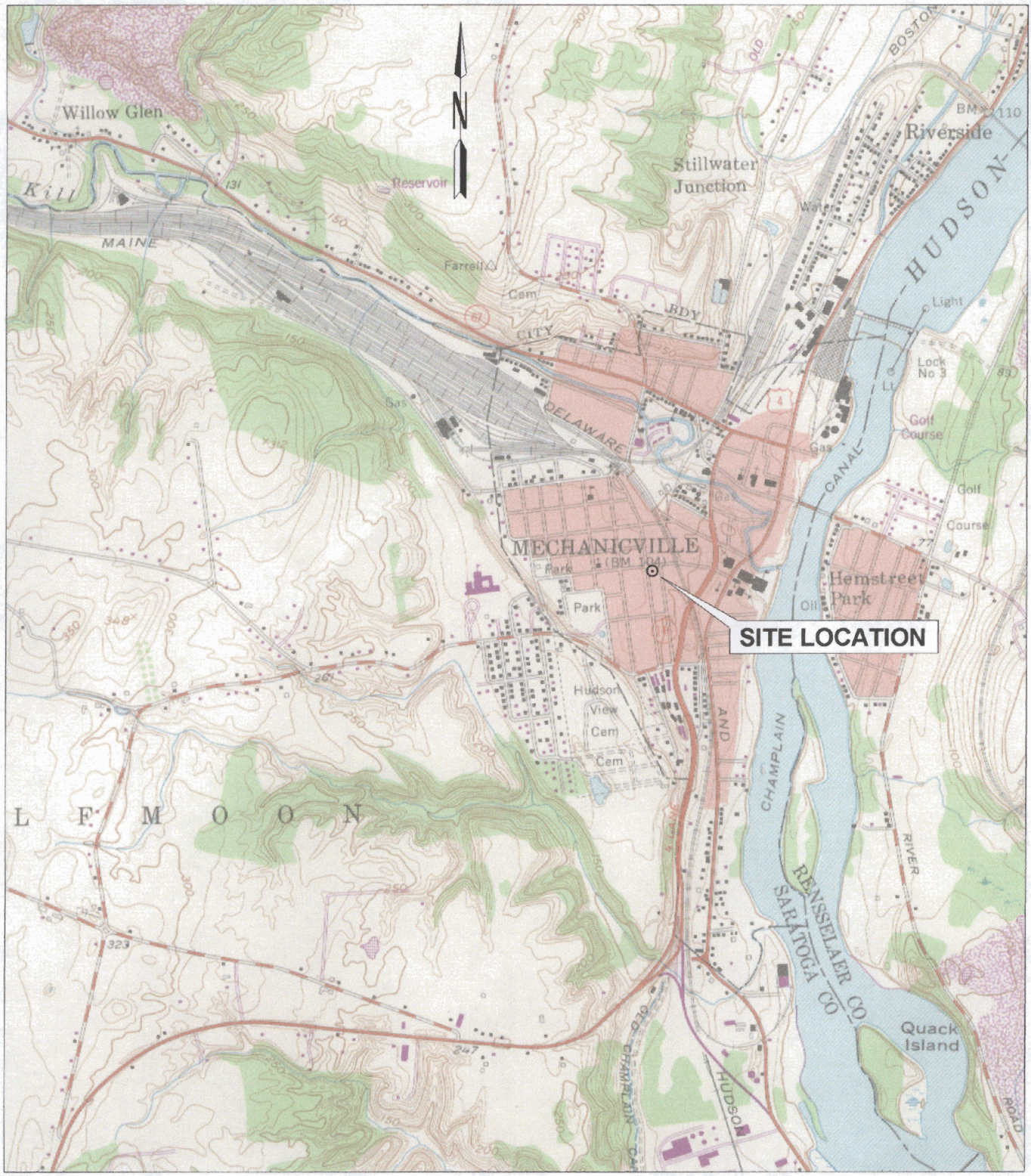
12. SITE DATA

a. Nearest Surface Water: Distance 1400 ft Direction: east Classification: D (Anthony Kill) _____
b. Nearest Groundwater: Depth 5 ft Flow Direction: East to ENE ( )Sole Source ( )Primary ( )Principal
c. Nearest Water Supply: Distance 2 mi Direction: northwest Active (X)Yes ( )No
d. Nearest Building: Distance (on- Direction: Not applicable Uses: former dry cleaner; currently vacant

e. In State Economic Development Zone?	( )Y	(x)N	i. Controlled Site Access?	( )Y	(X)N
f. Crops or livestock on site?	( )Y	(x)N	j. Exposed hazardous waste?	( )Y	(x)N
g. Documented fish or wildlife mortality?	( )Y	(x)N	k. HRS Score _____		
h. Impact on special status fish or wildlife resource?	( )Y	(x)N	l. For Class 2: Priority Category		

13. SITE OWNER'S NAME	**14. ADDRESS**	**15. TELEPHONE**
City of Mechanicville Contact: Paul Guilianelle, Commissioner of Accounts	36 North Main Street Mechanicville, New York 12118	(518) 664 - 9884

16. PREPARER		**17. APPROVED**	
Signature	Date	Signature	Date
Name, Title, Organization		Name, Title, Organization	



0 2000 ft

SCALE
1" = 2000'

Map source: USGS 7.5 minute quadrangle, Mechanicville, NY, 1954, photorevised 1980.

Figure 1

Site Location

MULTI-SITE PSA
Camarota Cleaners
NYSDEC I.D. No. 5-46-044

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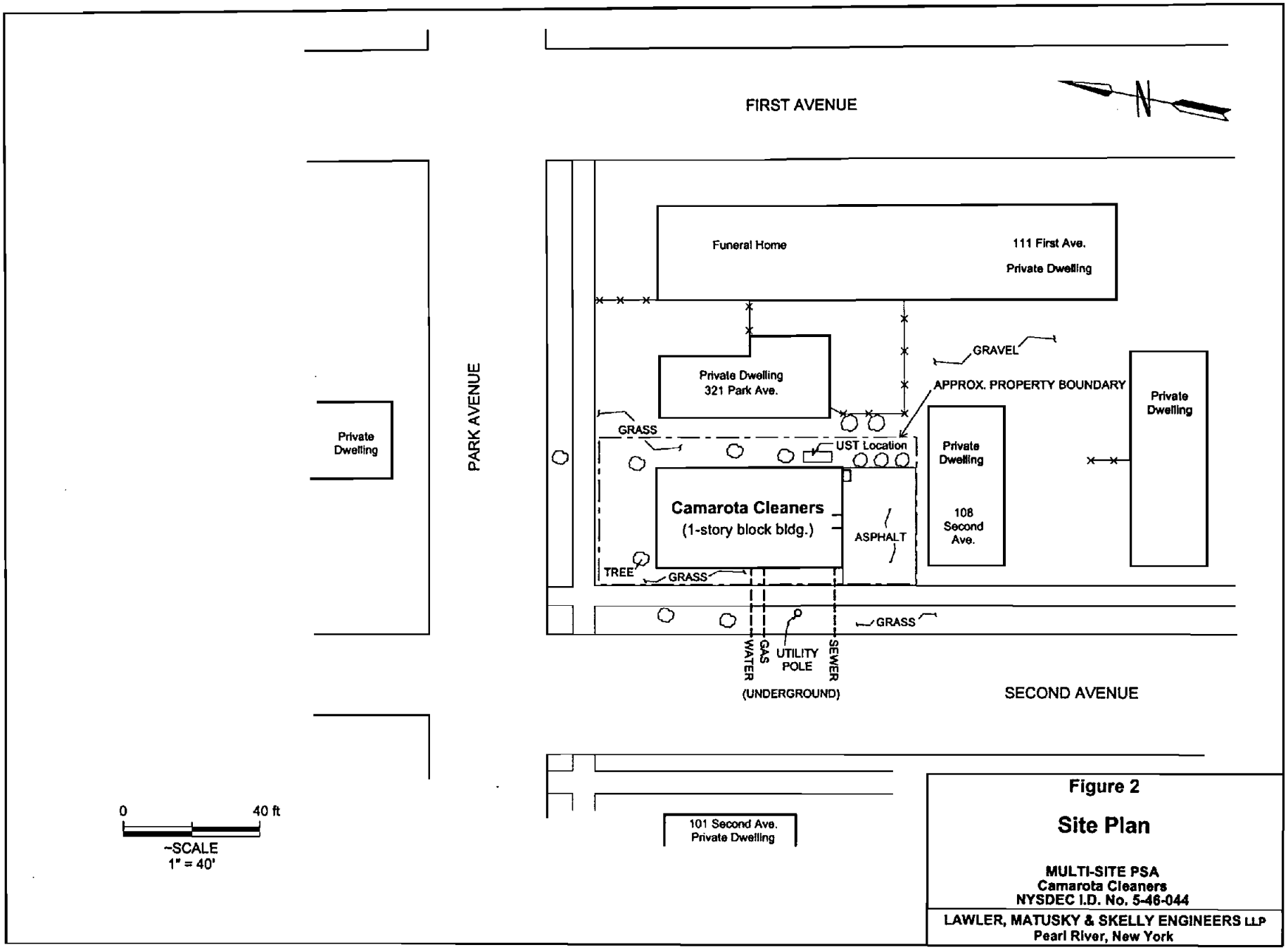

Figure 2

Site Plan

MULTI-SITE PSA
Camarota Cleaners
NYSDEC I.D. No. 5-46-044

LAWLER, MATUSKY & SKELLY ENGINEERS LLP
Pearl River, New York

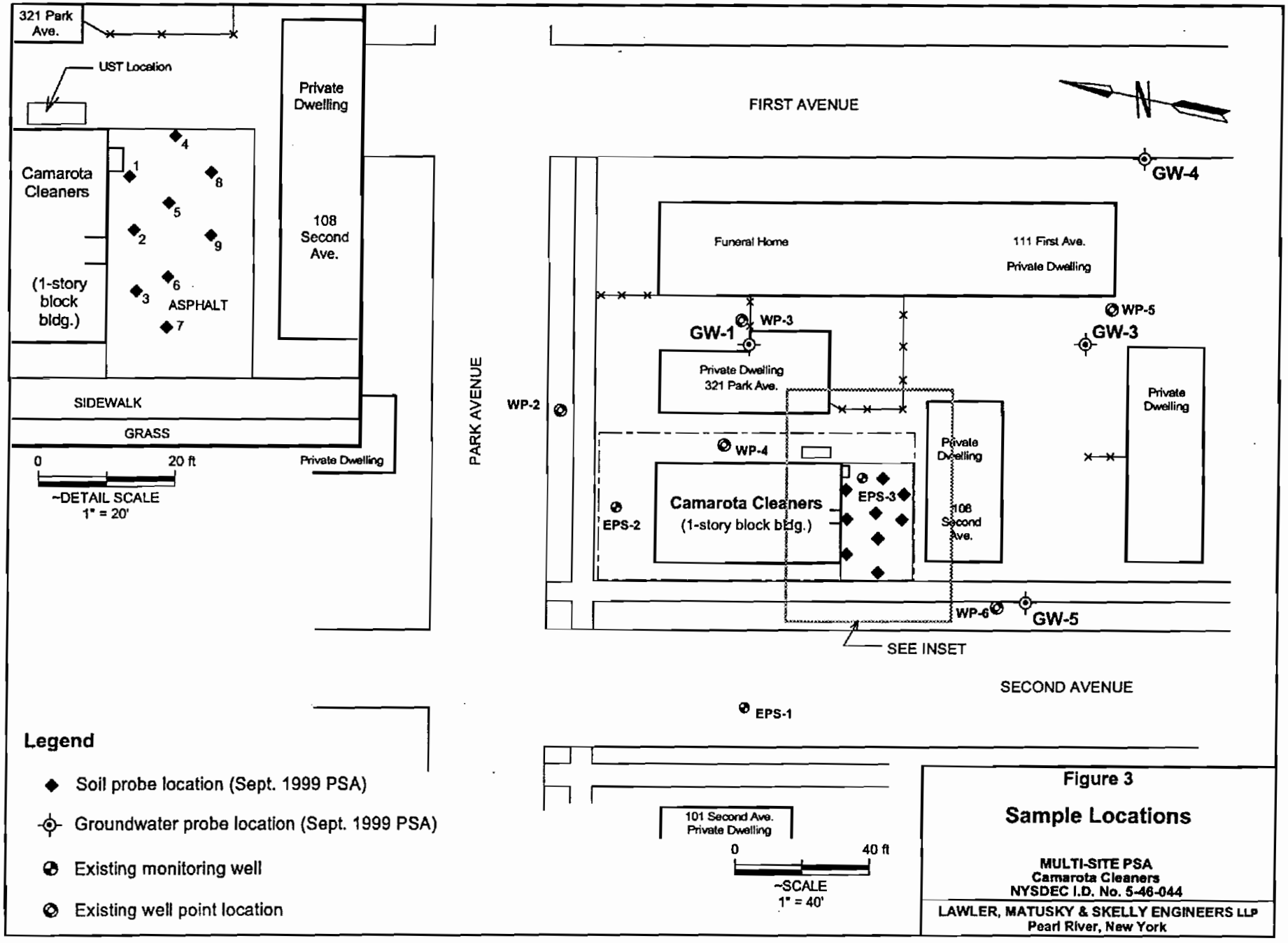

Figure 3

Sample Locations

MULTI-SITE PSA
Camarota Cleaners
NYSDEC I.D. No. 5-46-044

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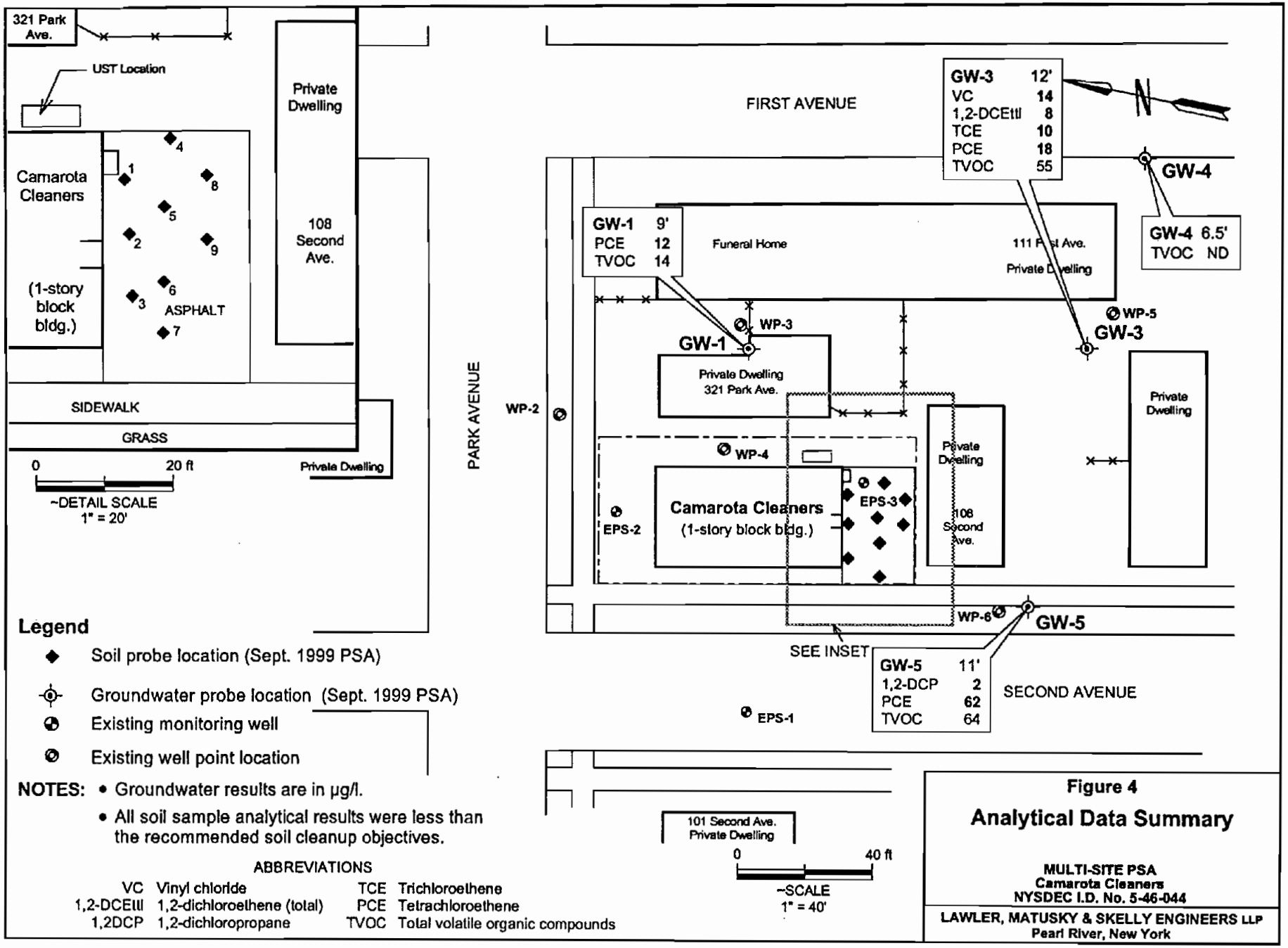
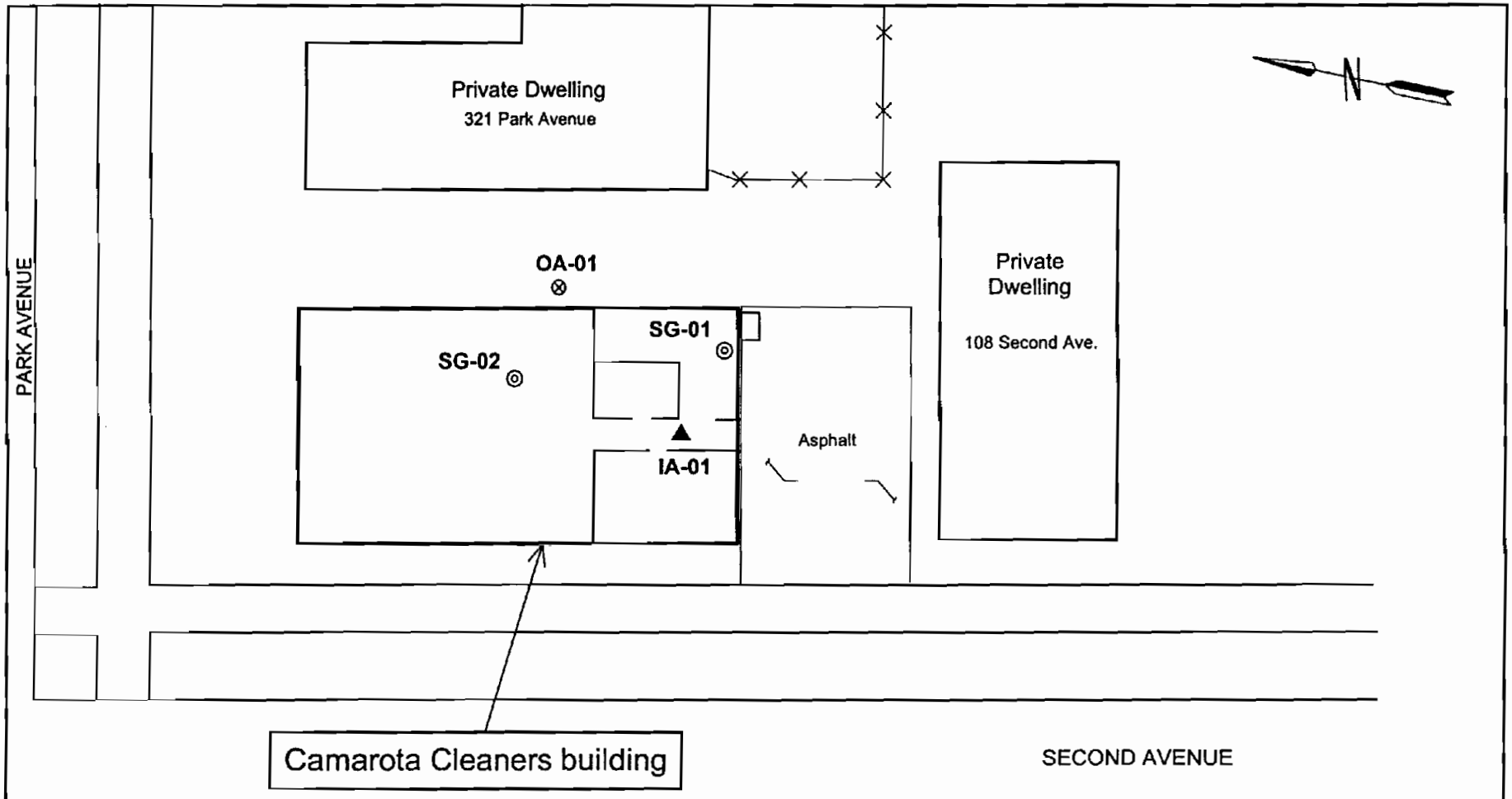


Figure 4

Analytical Data Summary

MULTI-SITE PSA
Camarota Cleaners
NYSDEC I.D. No. 5-46-044

LAWLER, MATUSKY & SKELLY ENGINEERS LLP
Pearl River, New York



NOTE:
All samples were collected in Tedlar bags and analyzed for VOCs by Chazen Environmental Services, Inc. of Clifton Park, NY.

LEGEND

- ⊙ Soil gas sample location
- ▲ Indoor air sample location
- ⊗ Outdoor (background) air sample location

0 20 ft

~SCALE
1" = 20'

Figure 5
Soil Gas and Air Sample Locations November 1999

MULTI-SITE PSA
Camarota Cleaners
NYSDEC I.D. No. 5-46-044

LAWLER, MATUSKY & SKELLY ENGINEERS LLP
Pearl River, New York

Table 1 (Page 1 of 2)

SOIL DATA SUMMARY

Camarota Cleaners

Site No.: 546044

Sample ID Date Collected	GP-1(4-8) 09/14/1999	GP-2(4-8) 09/14/1999	GP-3(4-8) 09/14/1999	GP-4(4-8) 09/14/1999	GP-5(4-8) 09/14/1999	RECOMMENDED SOIL CLEANUP OBJECTIVE (a)
Volatile Organic Compounds (mg/kg)						
Acetone	0.004 J	ND	ND	ND	ND	0.2
Carbon Disulfide	ND g	ND g	ND g	ND g	ND g	2.7
Chloroform	0.002 J	ND	ND	ND	ND	0.3
1,1,1-Trichloroethane	ND g	ND g	ND g	ND g	ND g	0.8
Trichloroethylene	0.004 J	0.001 J	ND	ND	0.004 J	0.7
Tetrachloroethylene	0.390*	0.18	0.035	0.062	0.12	1.4
Total VOCs:	0.4	0.181	0.035	0.062	0.124	<10

(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
* - Analysis performed on a reduced sample weight.
g - Value considered estimated based on data validator's report (Appendix B)
J - Estimated concentration; compound present below quantitation limit.
ND - Not detected at analytical detection limit.
Note: - Numbers in bold exceed standard.
- Numbers in parentheses denote sample depths (ft bgs).

SOIL DATA SUMMARY

Camarota Cleaners
Site No.: 546044

Sample ID Date Collected	GP-6(4-8) 09/14/1999	GP-7(4-8) 09/14/1999	GP-8(4-8) 09/14/1999	GP-9(4-8) 09/14/1999	RECOMMENDED SOIL CLEANUP OBJECTIVE (a)
Volatile Organic Compounds (mg/kg)					
Acetone	ND	ND	ND	ND	0.2
Carbon Disulfide	ND g	ND g	ND g	ND g	2.7
Chloroform	ND	ND	ND	ND	0.3
1,1,1-Trichloroethane	ND g	ND g	ND g	ND g	0.8
Trichloroethylene	ND	ND	0.003 J	0.002 J	0.7
Tetrachloroethylene	0.12	0.053	0.25*	0.054	1.4
Total VOCs:	0.12	0.053	0.253	0.056	<10

(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
* - Analysis performed on a reduced sample weight.
g - Value considered estimated based on data validator's report (Appendix B)
J - Estimated concentration; compound present below quantitation limit.
ND - Not detected at analytical detection limit.
Note: - Numbers in bold exceed standard.
- Numbers in parentheses denote sample depths (ft bgs).

Table 2

GROUNDWATER DATA SUMMARY

Camarota Cleaners

Site No.: 546044

Sample ID Date Collected	GW-1(9) 09/15/1999	GW-3(12) 09/15/1999	GW-4(6.5) 09/15/1999	GW-5(11) 09/14/1999	GW-13(12) 09/15/1999	ER-1 09/14/1999	ER-2 09/14/1999	TB-1 09/15/1999	NYSDEC CLASS GA STANDARDS (b)
Volatile Organic Compounds (ug/l)									
Vinyl Chloride	ND	**14 g**	ND	ND	**14 g**	ND	ND	ND	**2**
Methylene Chloride	ND	5	ND	ND	ND	ND	ND	ND	**5**
1,2-Dichloroethylene (total)	ND	**8**	ND	ND	**8**	ND	ND	ND	**5**
Chloroform	2	ND	ND	ND	ND	ND	ND	ND	**7**
1,2-Dichloropropane	ND	ND	ND	**2**	ND	ND	ND	ND	**1**
Trichloroethylene	ND	**10**	ND	ND	**9**	ND	ND	ND	**5**
Tetrachloroethylene	**12**	**18**	ND	**62**	**17**	ND	ND	ND	**5**
Total VOCs:	14	55	ND	64	48	ND	ND	ND	**100[1]**

1 - This value applies to the total of all organic substances listed in the New York State Groundwater Effluent Limitations table from the Division of Water Technical and Operational Guidance Series (1.1.1) with a groundwater effluent limitation less than 100 ug/l.

(b) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.

g - Value considered estimated based on data validator's report (Appendix B).

ND - Not detected at analytical detection limit.

Note: - Numbers in bold exceed standard.

- Sample GW-13 is a blind duplicate of sample GW-3.

- Numbers in parentheses denote sample depths (ft bgs).

Table 3

Historical Groundwater Sampling Results

(Tetrachloroethylene / Trichlorothylene)

Camarota Cleaners

Site No.: 546044

Sample Identification	16 July 1992 PCE (µg/l)	16 July 1992 TCE (µg/l)	26 May 1993 PCE (µg/l)	26 May 1993 TCE (µg/l)	25 May 1998 PCE (µg/l)	25 May 1998 TCE (µg/l)	26 May 1999 PCE (µg/l)	26 May 1999 TCE (µg/l)	15 Sept 1999 PCE (µg/l)	15 Sept 1999 TCE (µg/l)
EPS-1	5	ND	0.9	ND	NS	NS	1.1	2.3	NS	NS
EPS-2	**46**	5	1.7	1.7	NS	NS	1.2	ND	NS	NS
EPS-3	**1100**	ND	**590**	**67**	**260**	2	**86**	**36**	NS	NS
WP-2	NS	NS	**38**	**7.3**	**20**	**27**	**92**	**52**	NS	NS
WP-3 [1]	NS	NS	**10**	0.5	NS	NS	NS	NS	**12**	ND
WP-4	NS	NS	1	ND	1	ND	1.2	ND	ND	ND
WP-5 [2]	NS	NS	**22**	**6.1**	NS	NS	NS	NS	**18**	**10**
WP-6 [3]	NS	NS	**360**	**23**	NS	NS	NS	NS	**62**	ND

1 - Sample collected 15 September 1999 was taken from nearby location GW-1.
2 - Sample collected 15 September 1999 was taken from nearby location GW-3.
3 - Sample collected 15 September 1999 was taken from nearby location GW-5.
ND - Not Detectable.
NS - Not Sampled.
bold - Exceeds the NYSDEC Class GA Standard (both PCE and TCE have standards of 5 µg/l).

Table 4

SOIL GAS AND AIR SAMPLES

CAMAROTA CLEANERS

Site No.: 546044

Sample ID Date Collected	OA-01 11/17/1999	IA-01 11/17/1999	SG-01 11/17/1999	SG-02 11/17/1999
Volatile Organic Compounds (ppb)				
Freon-113	ND	ND	ND	ND
1,1-dichloroethane	ND	ND	ND	ND
cis 1,2-dichloroethylene	ND	ND	ND	ND
1,1,1-trichloroethane	ND	ND	ND	ND
Trichloroethylene	ND	ND	ND	ND
Tetrachloroethylene	ND	ND	105.454	425.622

ND - Not detected in the sample at a concentration above the method detection limit.

2.0 USEPA SITE INSPECTION QUESTIONNAIRE

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 preliminary site assessment and other investigations, if available.

SITE CONDITIONS AND BACKGROUND

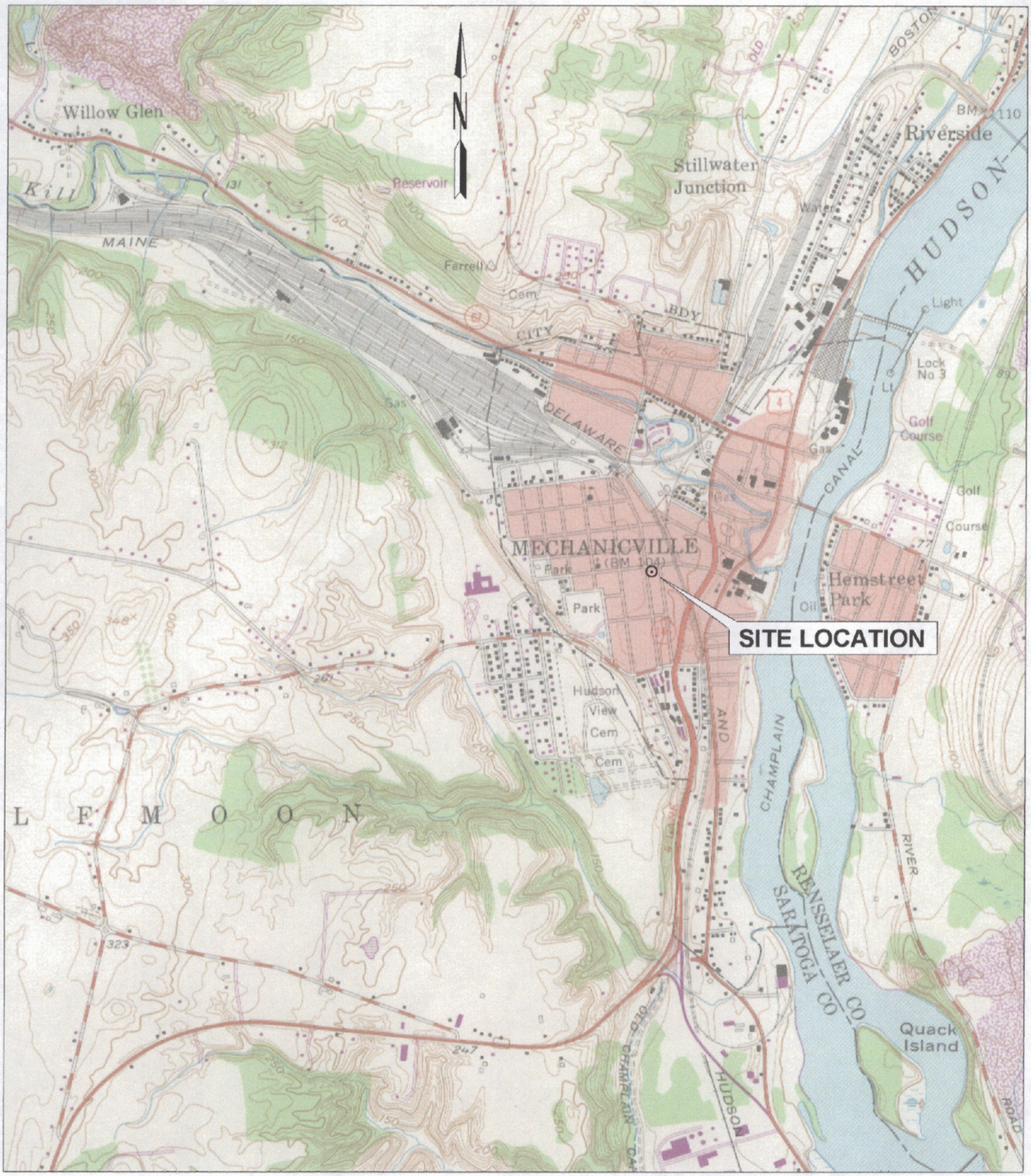
1. PHYSICAL LOCATION (Address, Lat-Long, Map Ref.)

The Camarota Cleaners site is a former dry cleaning facility (the site is currently inactive) located at 325-327 Park Avenue in Mechanicville, Saratoga County, New York. The site coordinates are 42°54' 11" N (latitude) and 73° 41' 26" W (longitude). The site is located in a primarily residential area (see Figures 1 and 2). **Ref: 1, 2, 3.**

2. SITE CHARACTERISTICS (include a description of the buildings or structures on site and their physical condition).

The Camarota Cleaners site is located at the southeast corner of the intersection of Park Avenue and Second Avenue (Tax Map 262.61, Block 4, Lot 1). The total site property acreage is 0.115 acres. A one-story concrete block and brick building exists on the site. The building has been abandoned for several years and has not been actively maintained. It is presumed that the building was constructed in the mid- to late-1970s, that it was built on-grade on a concrete floor slab, and that a basement or sub-story does not exist. The building is surrounded by grass on three sides, and an asphalt area lies south of the building (see Figure 2). There is one documented heating fuel oil underground storage tank (UST) located near the southeast corner of the building (refer to Figure 2).

The building is tied into the municipal sewer system. It is unknown whether a septic or other on-site disposal system has ever existed at the site. Figure 2 depicts the approximate location of the building's sewer line. The connection exits the building from the southwest corner and runs into a main line located in Second Avenue. No floor drains were identified inside of the building. As shown in Figure 2, the Camarota Cleaners site is situated in a predominantly residential area and is surrounded by private dwellings. A funeral home exists east of the site. **Ref: 3, 4, 5.**



0 2000 ft

SCALE
1" = 2000'

Map source: USGS 7.5 minute quadrangle, Mechanicville, NY, 1954, photorevised 1980.

Figure 1

Site Location

MULTI-SITE PSA
Camarota Cleaners
NYSDEC I.D. No. 5-46-044

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Pearl River, New York

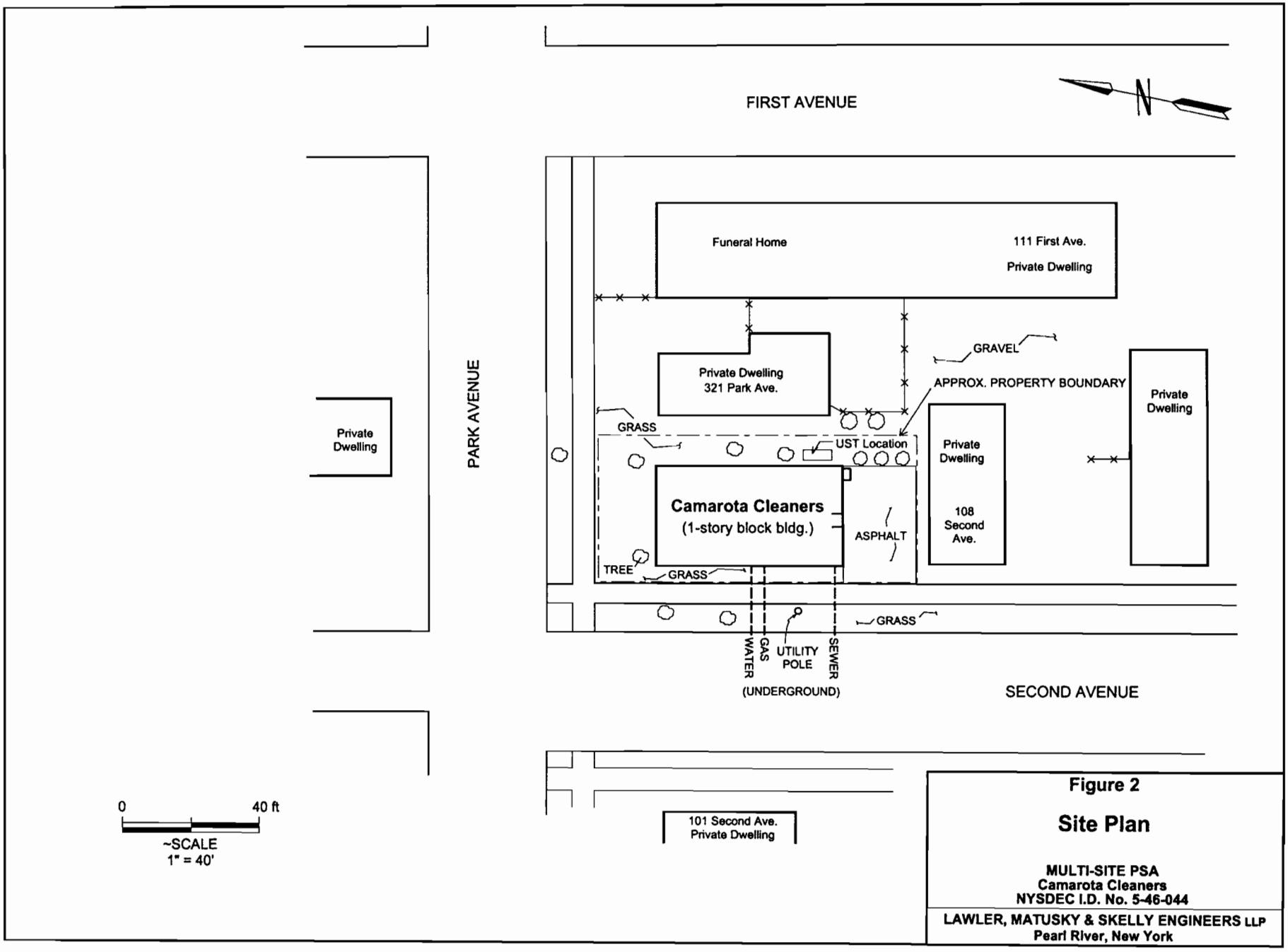


Figure 2

Site Plan

MULTI-SITE PSA
Camarota Cleaners
NYSDEC I.D. No. 5-46-044

LAWLER, MATUSKY & SKELLY ENGINEERS LLP
Pearl River, New York

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)

Previous history and investigations of the Camarota Cleaners property suggest that a release of contamination may have occurred at the site. A detailed summary of historical environmental investigation work along with a description of the Preliminary Site Assessment (PSA) conducted in September and November 1999 at the site are described in detail below (see Item No. 4). The major contaminant of concern at the site was identified to be tetrachloroethylene (PCE), a compound commonly used in dry cleaning. Since no other users or possible sources of PCE were identified in the vicinity of the Camarota Cleaners site during the PSA (the site is located in an area that is and has historically been predominantly residential), and since PCE contamination in the on-site subsurface has been documented, it is suspected that a release of PCE occurred at the site. **Ref: 6, 7, 8.**

No definite source of contamination was identified during the PSA. It appears that improper handling of PCE/PCE waste or poor housekeeping practices while the dry cleaning facility was in operation may have resulted in a release of PCE to the subsurface at the site.

4. SITE ASSESSMENT ACTIVITIES / OBSERVATIONS

In July 1991, a soil gas survey was completed at the site by Adirondack Environmental Investigations, Inc. (AEI) of Cambridge, New York, and Specialized Environmental Monitoring (SEM) of Wilton, New York, at the request of the then current owner (Mr. Fred Camarota) for a property transfer. A total of eight soil gas points were sampled. All samples from the property were subsequently analyzed for ten VOCs (i.e., chlorinated and petroleum-based compounds). The survey indicated that VOCs (predominantly PCE) were present in the subsurface. The highest soil gas concentration of total VOCs was found directly south of the building (83,400 ppb; PCE concentration of 82,300 ppb), while other concentrations of VOCs were found north and west of the building.

A soil gas point installed north of the building exhibited the presence of petroleum-based compounds (concentration range of 40 - 478 ppb). However, the concentrations found in this area were not highly significant in confirming if subsurface contamination had occurred from the on-site UST located near the southeast corner of the building (see Figure 2). Another soil gas point was established near this UST location, and no petroleum-based compound was detected in this sample. The SEM report concluded that the on-site soil gas samples provided a qualitative representation of horizontal contamination, but not necessarily of vertical contamination. The report also surmised that a potential source of PCE contamination was located in the asphalt area south of the building. The complete 1991 soil gas survey report is included as Reference No. 9. **Ref: 9.**

Based on the analytical results from the soil gas survey (i.e., detected presence of petroleum compounds), a spill report was filed for the property by AEI with the NYSDEC Region 5 Environmental Quality office (Spill No. 9104582). At that time, detailed information about the on-site contamination, including the quantity of VOCs in the subsurface media, was not able to be determined. **Ref: 9, 10.**

After review of the 1991 investigation, NYSDEC and NYSDOH expressed concerns about the subsurface contamination and potential impacts to nearby residences. NYSDEC made several attempts to contact the property owner (Mr. Fred Camarota) with regard to him conducting further site characterization at the property. After several unsuccessful attempts to contact the property owner, NYSDEC contracted Environmental Products & Services, Inc. (EPS) of Albany, New York to further characterize the horizontal and vertical extent of VOC contamination at the site. Three 2 in. diameter PVC monitoring wells were installed by EPS in July 1992 (EPS-1, EPS-2, and EPS-3). EPS-1 was installed west of the site in Second Avenue to a depth of approximately 12 ft bgs. EPS-2 was installed in the northern part of the site property to an approximate depth of 8 ft bgs. EPS-3 was installed south of the on-site building, in the asphalt area, to a depth of approximately 11.5 ft bgs. Locations of the three wells are shown on Figure 3. Boring logs and descriptions of well construction are included in Reference No. 11. Based on land topography, groundwater in the vicinity of the site was presumed to flow toward the east. **Ref: 11.**

One groundwater sample was obtained from each monitoring well and analyzed for VOCs (SW-846 Method 8240) by CTM Analytical Labs, Ltd. (CTM). In EPS-1, chloromethane and acetone were detected at concentrations of 16 ug/l and 11 ug/l, respectively. No other compound was detected at or above quantitation limits. In EPS-2, PCE and acetone were detected at concentrations of 46 ug/l and 20 ug/l, respectively. PCE exceeded the Class GA standard of 5 ug/l. No other VOC was detected at or above quantitation limits in the sample from EPS-2. Groundwater sampled from EPS-3 had detectable concentrations of the following compounds: trans-1,2-Dichloroethylene (trans-1,2-DCE) (6 ug/l), cis-1,2-DCE (34 ug/l), benzene (130 ug/l), and PCE (1100 ug/l). In this sample, cis- and trans-1,2-DCE exceeded the groundwater criterion of 5 ug/l; benzene exceeded the criterion of 1 ug/l; and PCE exceeded the standard of 5 ug/l. Based on these findings, the area around EPS-3 (i.e., the asphalt area located south of the building) was identified to have the highest VOC groundwater concentrations at the site. **Ref: 11.**

Soil was also sampled during the July 1992 investigation. Two composite samples (FH 26 and FH 27) of drums containing auger cuttings from the installation of the monitoring wells were obtained and analyzed for VOCs (SW-846 Method 8240) and Total Petroleum Hydrocarbons (TPHC, Method 418.1) by CTM. Sample FH 26 was found to have detectable concentration of methylene chloride, acetone, and TPHC (1700 mg/kg). Sample FH 27 had detectable concentrations of methylene chloride, toluene (0.010 mg/kg), PCE (0.16 mg/kg), acetone, xylenes (0.027 mg/kg), and TPHC (1400 mg/kg). **Ref: 11.**

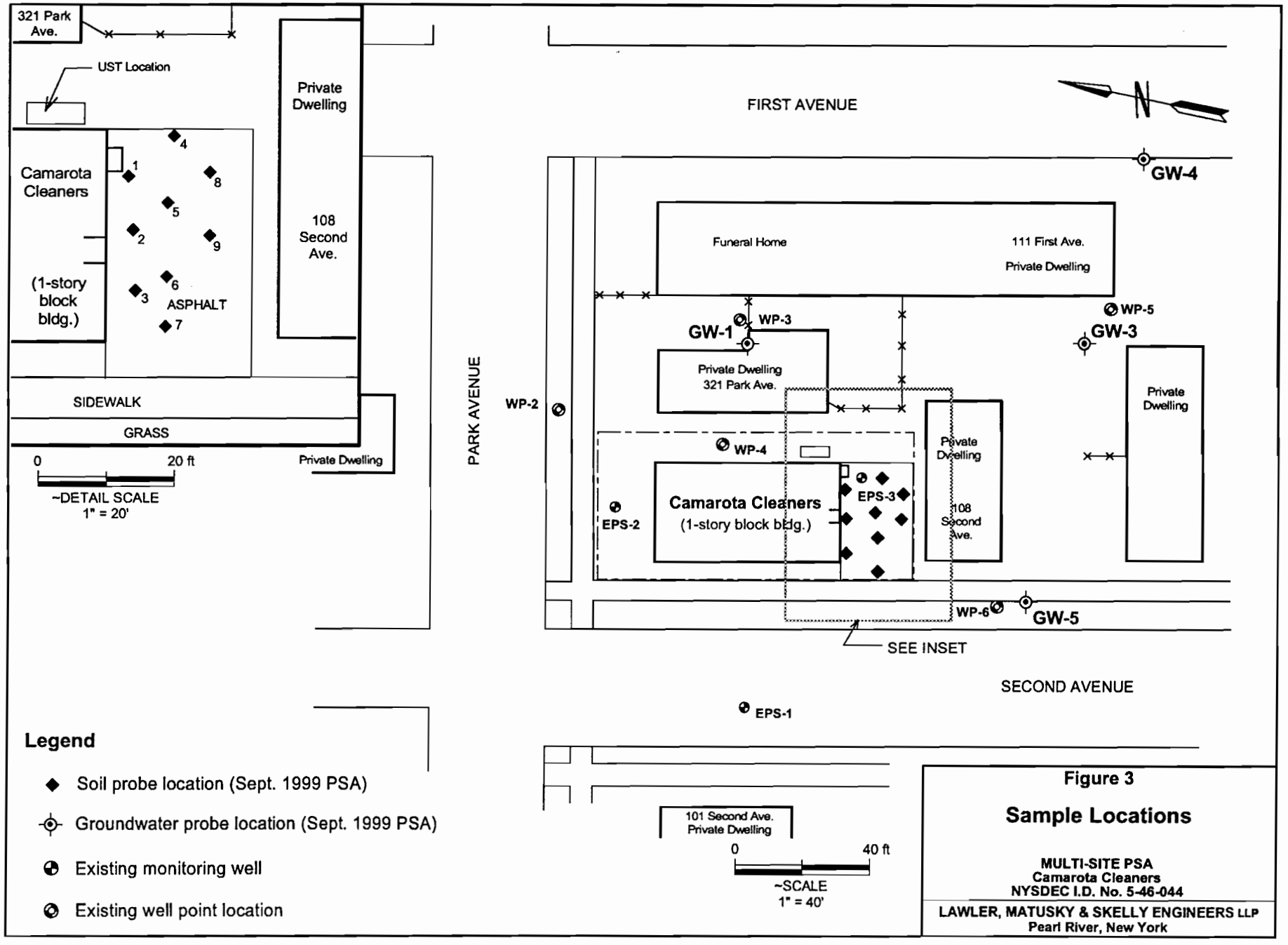


Figure 3

Sample Locations

MULTI-SITE PSA
Camarota Cleaners
NYSDEC I.D. No. 5-46-044

LAWLER, MATUSKY & SKELLY ENGINEERS LLP
Pearl River, New York

Three soil samples were collected during the installation of EPS-1 at depths of 0-4 ft bgs ("cuttings"), 5-7 ft bgs, and 10-10.2 ft bgs. Methylene chloride and acetone were the only compounds detected. Three soil sample were collected from the EPS-2 location at depths of 0-2 ft bgs, 5-7 ft bgs, and 7.5-8 ft bgs. Methylene chloride was detected in all three samples. Acetone was detected in the deepest sample at a concentration of 0.017 mg/kg. PCE was detected in the 5-7 ft bgs interval at 0.033 mg/kg and in the 7.5-8 ft bgs interval 0.027 ft bgs; both concentrations of PCE were below the soil cleanup criteria (i.e., New York State Technical and Administrative Guidance Memorandum HWR-94-4046 [TAGM #4046]) of 1.4 mg/kg. Three soil samples were also obtained from EPS-3 at depths of 0.5-2.5 ft bgs, 5-7 ft bgs, and 10-11 ft bgs. In the shallow sample at EPS-3, methylene chloride and PCE (0.53 mg/kg) were detected. In the 5-7 ft bgs interval, methylene chloride, acetone, PCE (9.7 mg/kg), and 4-methyl-2-pentanone (MIBK) (2.2 mg/kg) were detected. The soil criteria for PCE (1.4 mg/kg) and MIBK (1.0 mg/kg) were exceeded in this sample. In the deep (10-11 ft bgs) EPS-3 soil sample, methylene chloride, cis-1,2-DCE (0.01 mg/kg), PCE (0.12 mg/kg), and acetone were detected. None of the soil criteria was exceeded in the deep sample. All soil samples were analyzed by CTM for VOCs using SW-846 Method 8240. The CTM lab report for the drum and soil samples noted that the presence of methylene chloride and acetone may have been attributed to laboratory artifacts. Analytical data sheets for the July 1992 EPS investigation are included in Reference No.11. **Ref: 11.**

Additional site characteristic information was also obtained by EPS during the July 1992 investigation. A bedrock map was created from information obtained from field data. Bedrock appears to dip toward the southwest across the site. The bedrock topography map is included in Reference No.11. A groundwater flow map was also created based on water level measurements obtained from the three monitoring wells in September 1992. Groundwater flow was noted to be generally to the east or ESE direction. This assessment is in general agreement with the land topography. An average hydraulic conductivity value of 4.65×10^{-3} cm/sec was also calculated by EPS. The EPS report (issued September 1992) is included as Reference No. 11. **Ref: 11.**

In May 1993, additional investigation activities were conducted at the site by EPS. Five well points were installed and indoor air samples were collected from nearby residences to further assess the potential horizontal migration of the subsurface VOC contamination. EPS collected indoor air quality samples from the basements of three residences in the immediate vicinity of the Camarota Cleaners site: 321 Park Avenue, 108 Second Avenue, and 101 Second Avenue (see Figure 2). Air samples were also obtained from a control home in Mechanicville located at distance from the site for QA/QC purposes. A detailed inventory of the contents of each basement was completed, and air sampling was conducted. All air samples were collected with Porapak tubes and analyzed for organic compounds in accordance with NYSDOH Method 311-6. Analytical results from the air quality assessment were provided by Adirondack Environmental Services, Inc. of Albany, New York. The results indicated the presence of PCE in the residence at 108 Second Avenue (with the highest PCE concentration of 83 ug/m^3, which is below the NYSDOH recommended average ambient air level for PCE of 100 ug/m^3) and the presence of toluene (at a maximum concentration

of 20 ug/m^3) at the residence at 101 Second Avenue. A complete description of the air sampling program and analytical results are described in Reference No. 12. **Ref: 12.**

Groundwater samples were collected from the five new well points (designated WP-2, WP-3, WP-4, WP-5, and WP-6 - see Figure 3 for locations) and also from the three previously installed monitoring wells (EPS-1, EPS-2, and EPS-3) in May 1993. All groundwater samples were analyzed for principal organic contaminants (EPA Method 524.2) by CTM. These samples revealed concentrations of PCE exceeding the Class GA groundwater standard in six of the eight samples (EPS-2 at 9 ug/l; EPS-3 at 590 ug/l; WP-2 at 38 ug/l; WP-3 at 10 ug/l; WP-5 at 22 ug/l; and WP-6 at 360 ug/l). Groundwater sampled from monitoring wells ESP-1 and WP-4 had detectable levels of PCE but did not exceed the PCE criterion. The PCE concentrations in EPS-2 and EPS-3 were observed to have decreased since the July 1992 groundwater sampling episode. Some of the wells and well points also had concentrations of typical PCE breakdown products. Trichloroethylene (TCE) was detected at concentrations above the Class GA criterion of 5 ug/l in EPS-3 (67 ug/l), WP-2 (7.3 ug/l), WP-5 (6.1 ug/l), and WP-6 (23 ug/l). Groundwater flow contours were again developed by EPS from water levels measured in the five new well points and the three existing monitoring wells. EPS concluded that groundwater flow was found to be toward the east and ENE on and in the vicinity of the site. Reference 12 includes detailed sampling information and laboratory results from the May 1993 investigation. **Ref: 12.**

After the second EPS report was issued in June 1993, it was determined that chlorinated VOCs (predominantly PCE) were the main contaminants of concern at the site. Petroleum product contamination was no longer targeted for investigation at the site. Around this time, the NYSDEC Region 5 office (Division of Spills Management) transferred the administrative management of the site to the NYSDEC Division of Hazardous Waste Remediation (DHWR) and NYSDOH Bureau of Environmental Exposure. **Ref: 13.**

In January 1995, The NYSDOH conducted additional indoor air sampling at two homes adjacent to the site: 108 Second Avenue and 321 Park Avenue. The sampling activity was prompted by the VOC concentrations detected in indoor air samples previously collected by EPS. A control home was also sampled by NYSDOH so that background levels could be assessed. Air samples were collected for a two-hour period from both the basement and first floor living areas of each home using Porapak tubes. An outdoor air sample was also collected in the backyard of one of the homes. All samples were analyzed by NYSDOH's laboratory in Albany, New York using Method 311-6. PCE and some other VOCs were detected in the home at 321 Park Avenue at levels typically found in indoor air. An elevated level of PCE (81 ug/m^3) was again detected in the basement at 108 Second Avenue, but at a concentration below the NYSDOH recommended level of 100 ug/m^3. Analytical data sheets from this NYSDOH indoor air sampling episode are included within Reference No. 14. **Ref: 14.**

After a review of the subsurface investigations conducted at the site (as described above), NYSDEC

decided that on-site PCE disposal activities could not be documented, and that there apparently was not a significant quantity of waste in the on-site subsurface. It was surmised that improper handling of PCE/PCE waste or poor facility management practices (that could have historically occurred when the site was active as a dry cleaners) may have been responsible for the contamination that had been found in the subsurface. NYSDEC also stated in April 1996 that no significant threat to human health or the environment from the site was found to exist. **Ref: 16.**

In June 1996, NYSDOH identified some outstanding issues related to the subsurface contamination found at the site, the existing site conditions, and the surrounding land use. NYSDOH stated that additional investigation could be conducted at the site to better understand changes in groundwater contaminant levels, to better delineate the extent of any residual groundwater contamination, to investigate whether existing subsurface utilities are acting as pathways for soil gas migration, to inspect the on-site building for a possible continuing contamination source, and to investigate if indoor air at nearby residents is continuing to be impacted. In July 1996, NYSDEC determined that the Camarota Cleaners site was a potential Inactive Hazardous Waste Disposal, or "P", site (Site No. 5-46-044). **Ref: 15, 16, 17.**

In September 1998, additional groundwater samples were collected from the site by Rowan Environmental Services, Inc. (Rowan) of Delmar, New York, at the request of NYSDEC. A total of three groundwater samples were obtained from WP-2 (Rowan ID No. MW-1), WP-4 (MW-2) and EPS-3 (MW-3) and analyzed for VOCs by Scilab Albany, Inc. (Scilab) of Latham, New York. The analytical results showed concentrations of VOCs that exceeded Class GA groundwater standards in EPS-3 and WP-2. EPS-3 contained concentrations of PCE of 260 ug/l, TCE of 19 ug/l, and vinyl chloride of 18 ug/l. WP-2 had concentrations of PCE of 20 ug/l, TCE of 27 ug/l, cis-1,2-DCE of 48 ug/l, and vinyl chloride of 22 ug/l. The PCE concentrations present in EPS-3 and WP-2 were lower than the levels found at these locations during the previous groundwater sampling event. PCE was the only VOC detected in the sample from WP-4, at a concentration of 1 ug/l (below the groundwater criterion). Laboratory data sheets from the September 1998 sampling event are included in Reference No. 18. **Ref: 18.**

Groundwater and soil samples, and one solids sample, were collected at the site by NYSDEC in May 1999 and analyzed for VOCs by CHEMTECH of Englewood, New Jersey. A copy of the field notes with sample locations is included as Reference No. 19. A total of five groundwater samples were collected during the sampling episode from monitoring wells EPS-1 (NYSDEC sample ID No. CAM-01), EPS-2 (CAM-02), and EPS-3 (CAM-05), and from well points WP-2 (CAM-03) and WP-4 (CAM-04). Volatile compounds were detected in the samples, with the following parameters exceeding the Class GA groundwater criteria: EPS-1 (xylenes 5.8 ug/l); EPS-2 (PCE at 12 ug/l); EPS-3 (PCE at 86 ug/l, TCE at 36 ug/l, cis-1,2-DCE at 29 ug/l, trans-1,2-DCE at 6.8 ug/l, vinyl chloride at 12 ug/l, and chloroform at 12 ug/l); and WP-2 (PCE at 92 ug/l, TCE at 52 ug/l, cis-1,2-DCE at 27 ug/l, vinyl chloride at 6.7 ug/l, and xylenes at 28.5 ug/l). Sample WP-4 did not have any VOCs with concentrations that exceeded the criteria. When compared with the September 1998

data, these samples show a decrease in PCE concentration at EPS-3, but a slight increase in TCE (a breakdown product of PCE). WP-2 showed increases in both PCE and TCE. **Ref: 19, 20.**

Five soil samples were also collected at locations outside of the on-site building during the May 1999 investigation. All soil samples were collected at depths of 2 to 4 ft below ground surface and analyzed for VOCs. Sample CAM-10 was collected approximately 4 ft south of the building's southeast corner. CAM-11 was collected from the middle of the asphalt area (about 12 ft south of the building). CAM-12 was collected south of the asphalt area, near the property boundary. CAM-13 and CAM-14 were collected along the east side of the building, approximately 2 ft and 15 ft north of the building's southeast corner, respectively. PCE was detected in soil at concentrations of 0.012 mg/kg, 0.015 mg/kg, and 0.0086 mg/kg in samples CAM-10, CAM-11, and CAM-14, respectively. All of these concentrations were below the PCE soil cleanup criteria of 1.4 mg/kg. Acetone was the only other compound detected in the soil samples, at a concentration of 0.0042 mg/kg in sample CAM-12 (criterion 0.2 mg/kg). **Ref: 19, 20.**

A sample (CAM-09) was also collected from a container found in the former boiler room (located in the southeast section of the on-site building). The material in the container (likely associated with former dry cleaning activities) was described to be cloth-like with a slight chemical odor. Analytical results showed that PCE and methylene chloride were present at concentrations of 2,783.4 mg/kg and 103.4 mg/kg, respectively. A description of the soil sampling procedures and sample locations is included within the NYSDEC field notes from the investigation (refer to Reference No. 19). Laboratory data sheets for this May 1999 sampling event are included as Reference No. 20. **Ref 19, 20.**

Based on the above-described site investigation information, NYSDEC decided to conduct a PSA at the site to attempt to identify an on-site source of PCE contamination. In June 1999, NYSDEC retained Lawler, Matusky & Skelly Engineers LLP (LMS) to conduct a PSA at the Camarota Cleaners site. As previously mentioned, the site was listed as a potential site for the New York State Registry of Inactive Hazardous Waste Disposal sites and assigned site identification number 5-46-044. In September of 1999, the on-site PSA work was initiated with the collection of soil and groundwater probe samples in the area surrounding the Camarota Cleaners building. Soil gas and indoor and outdoor air samples were also collected by LMS as part of the PSA in November 1999. Appendix C contains a copy of all PSA field notes.

The Camarota Cleaners facility operated as a dry cleaners from approximately the mid- to late-1970s to about 1991. No exact records of dates of operation or dry cleaning practices could be identified during the file review. A review of the site area on historic Sanborn maps dated 1892, 1897, 1904, 1911, and 1927 was conducted as part of the PSA. A two-story brick veneered on wood frame building was present on the property since at least 1892. At this time, the structure was divided in use: about half of the building was used as a residence and the other half was occupied by a grocery store. A small addition was added onto the southwest portion of the structure by 1897. The building

(and building use) remained relatively unchanged until 1911. Around this time, a furniture store occupied the half of the building that had previously been used for residential purposes (a grocery store still occupied the other section of the structure). In the 1927 map, two unspecified stores are shown in the building. None of the maps reviewed showed the presence of a basement or substory in the building. Only residential structures were identified west (upgradient) of the site on the historic maps up to 1927. On this map, a veterinary office is shown south and west of the site at the rear of the 119 Second Avenue property, and an undertaker is shown northwest of the site at 406 Park Avenue. The current on-site building was reportedly constructed in the mid- to late-1970s by the former owner of the dry cleaners. **Ref: 5, 7, 21.**

A review of the Site Assessment Plus Report generated for the PSA by VISTA Information Solutions, Inc. (VISTA) of San Diego, California, revealed that there are no identifiable sites or potential significant users of PCE located upgradient of the Camarota Cleaners site. A "yellow pages" computer search for dry cleaning facilities within the City of Mechanicville found that there are currently no dry cleaners in the town. A conversation with the City of Mechanicville Tax Assessor revealed that no dry cleaning operations existed upgradient of the site in Mechanicville at any time. The site is presently listed as a Resource Conservation and Recovery Act (RCRA) program registered small or large quantity generator of hazardous waste (No. 5896). Under this program, EPA maintains a database of facilities which report generation, storage, transportation, treatment, or disposal of hazardous waste. The site is also included on the New York State Spills and LUST database (No. 5936). A handler and facility identification number (NYD981076458) was also identified. No signs of dumping were noted at the site during PSA work. **Ref: 6, 8, 22, 23.**

Probe soil sampling was conducted at nine locations in the asphalt area located south of the Camarota Cleaners building (soil sample locations are depicted on Figure 3, inset). The area , which may have served as a parking lot, has been paved since at least 1991. This area was targeted for soil sampling because the highest concentrations of PCE were historically located in this area. One soil sample from each of the nine locations was selected for laboratory analysis based on visual observation and field screening readings with a photoionization detector (PID). The samples were analyzed by H2M Labs, Inc. (H2M) of Melville, New York. Some of the soil samples contained relatively low concentrations of some VOCs; however, all concentrations were below the recommended soil cleanup objectives (refer to Table1). A copy of the laboratory data sheets are included in Appendix A.

Four groundwater probe samples were also collected in September 1999 in the vicinity of the site (refer to Figure 3 for probe locations) and analyzed for VOCs by H2M. The probes were installed to investigate the shallow groundwater present above the bedrock layer at the site. The analytical results showed that three of the four samples collected had individual VOC contaminants with concentrations exceeding the Class GA groundwater standards. Groundwater probe GW-1 was located east of the Camarota Cleaners site on the east side of the private dwelling at 321 Park Avenue. Groundwater at this location was sampled at approximately 9-ft bgs and contained a PCE

SOIL DATA SUMMARY

Camarota Cleaners

Site No.: 546044

Sample ID Date Collected	GP-1(4-8) 09/14/1999	GP-2(4-8) 09/14/1999	GP-3(4-8) 09/14/1999	GP-4(4-8) 09/14/1999	GP-5(4-8) 09/14/1999	RECOMMENDED SOIL CLEANUP OBJECTIVE (a)
Volatile Organic Compounds (mg/kg)						
Acetone	0.004 J	ND	ND	ND	ND	0.2
Carbon Disulfide	ND g	ND g	ND g	ND g	ND g	2.7
Chloroform	0.002 J	ND	ND	ND	ND	0.3
1,1,1-Trichloroethane	ND g	ND g	ND g	ND g	ND g	0.8
Trichloroethylene	0.004 J	0.001 J	ND	ND	0.004 J	0.7
Tetrachloroethylene	0.390*	0.18	0.035	0.062	0.12	1.4
Total VOCs:	0.4	0.181	0.035	0.062	0.124	<10

(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
* - Analysis performed on a reduced sample weight.
g - Value considered estimated based on data validator's report (Appendix B)
J - Estimated concentration; compound present below quantitation limit.
ND - Not detected at analytical detection limit.
Note: - Numbers in bold exceed standard.
- Numbers in parentheses denote sample depths (ft bgs).

Table 1 (Page 2 of 2)

SOIL DATA SUMMARY

Camarota Cleaners

Site No.: 546044

Sample ID Date Collected	GP-6(4-8) 09/14/1999	GP-7(4-8) 09/14/1999	GP-8(4-8) 09/14/1999	GP-9(4-8) 09/14/1999	RECOMMENDED SOIL CLEANUP OBJECTIVE (a)
Volatile Organic Compounds (mg/kg)					
Acetone	ND	ND	ND	ND	0.2
Carbon Disulfide	ND g	ND g	ND g	ND g	2.7
Chloroform	ND	ND	ND	ND	0.3
1,1,1-Trichloroethane	ND g	ND g	ND g	ND g	0.8
Trichloroethylene	ND	ND	0.003 J	0.002 J	0.7
Tetrachloroethylene	0.12	0.053	0.25*	0.054	1.4
Total VOCs:	0.12	0.053	0.253	0.056	<10

(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
* - Analysis performed on a reduced sample weight.
g - Value considered estimated based on data validator's report (Appendix B)
J - Estimated concentration; compound present below quantitation limit.
ND - Not detected at analytical detection limit.
Note: - Numbers in bold exceed standard.
- Numbers in parentheses denote sample depths (ft bgs).

concentration of 12 µg/l, which exceeded the Class GA standard of 5 µg/l. GW-3 was conducted to the southeast of the Camarota Cleaners property. A groundwater sample was obtained from a depth of approximately 12-ft bgs, and exhibited elevated levels of vinyl chloride (14 ug/l), 1,2-DCE (8 ug/l), TCE (10 ug/l), and PCE (18 ug/l).

Groundwater probe GW-4 was located along First Avenue, further to the east of the Camarota Cleaners site. A groundwater sample was obtained from GW-4 at a depth of about 6.5-ft bgs (bedrock was encountered at approximately 7-ft bgs at this location). There were no detections of any individual VOC parameter. Groundwater probe GW-5 was located south and west of the Camarota Cleaners building, along Second Avenue. The sample was found to have two contaminants that were detected at concentrations in exceedance of Class GA groundwater criteria. PCE was found at a concentration of 62 ug/l. 1,2-dichloropropane (1,2-DCP) was detected at 2 ug/l; above the groundwater standard of 1 ug/l. The concentrations of total VOCs in all four groundwater probe samples were below the groundwater effluent limitation of 100 ug/l. Results from the September 1999 groundwater sampling event are summarized in Table 2 and are shown graphically in Figure 4. Laboratory data sheets are provided in Appendix A.

A review of data from groundwater samples collected during the PSA and previous investigations indicates that the groundwater contamination likely originated from this site. The Camarota Cleaners site was the only former dry cleaning facility or significant user of PCE that was identified to be located in the particular section of Mechanicville (the site area is currently and has historically been zoned predominantly residential). In addition, the highest historical concentrations of PCE were located on the site property. However, no record or documentation of waste disposal at the site was found. Based on historical field observations and measurements (i.e., 1992 and 1993 EPS investigations), conversations with local officials, and a review of the surface land topography, the groundwater beneath and in the vicinity of the site is believed to flow toward the east or ENE (i.e., toward Anthony Kill and the Hudson River). **Ref: 1, 4, 6, 7, 8, 11, 12.**

The September 1999 PSA led to the conclusion that VOC contaminants are present in the soil and groundwater at the Camarota Cleaners site. Laboratory analysis has demonstrated that all of the contaminant concentrations for each soil sample collected in the asphalt area south of the building (i.e., the on-site area that historically exhibited the highest levels of subsurface PCE and VOC contamination) were below the recommended cleanup objectives. The groundwater sample analyses showed that PCE was present at relatively low concentrations, as were some typical breakdown products (e.g., TCE, vinyl chloride) associated with PCE. Class GA groundwater criteria were exceeded for some of the VOC constituents in the groundwater probe samples collected during the PSA; however, a review of groundwater data from historic sampling events indicates that the VOC groundwater contamination in the vicinity of the site has been decreasing (refer to Table 3).

A soil gas and air sampling event was conducted in November 1999 at the request of NYSDOH to further characterize existing indoor air quality and subsurface conditions at the site. An indoor air

Table 2

GROUNDWATER DATA SUMMARY

Camarota Cleaners

Site No.: 546044

Sample ID Date Collected	GW-1(9) 09/15/1999	GW-3(12) 09/15/1999	GW-4(6.5) 09/15/1999	GW-5(11) 09/14/1999	GW-13(12) 09/15/1999	ER-1 09/14/1999	ER-2 09/14/1999	TB-1 09/15/1999	NYSDEC CLASS GA STANDARDS (b)
Volatile Organic Compounds (ug/l)									
Vinyl Chloride	ND	**14 g**	ND	ND	**14 g**	ND	ND	ND	2
Methylene Chloride	ND	5	ND	ND	ND	ND	ND	ND	5
1,2-Dichloroethylene (total)	ND	**8**	ND	ND	**8**	ND	ND	ND	5
Chloroform	2	ND	ND	ND	ND	ND	ND	ND	7
1,2-Dichloropropane	ND	ND	ND	**2**	ND	ND	ND	ND	1
Trichloroethylene	ND	**10**	ND	ND	**9**	ND	ND	ND	5
Tetrachloroethylene	**12**	**18**	ND	**62**	**17**	ND	ND	ND	5
Total VOCs:	14	55	ND	64	48	ND	ND	ND	100[1]

1 - This value applies to the total of all organic substances listed in the New York State Groundwater Effluent Limitations table from the Division of Water Technical and Operational Guidance Series (1.1.1) with a groundwater effluent limitation less than 100 ug/l.
(b) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
g - Value considered estimated based on data validator's report (Appendix B).
ND - Not detected at analytical detection limit.
Note: - Numbers in bold exceed standard.

- Sample GW-13 is a blind duplicate of sample GW-3.

- Numbers in parentheses denote sample depths (ft bgs).

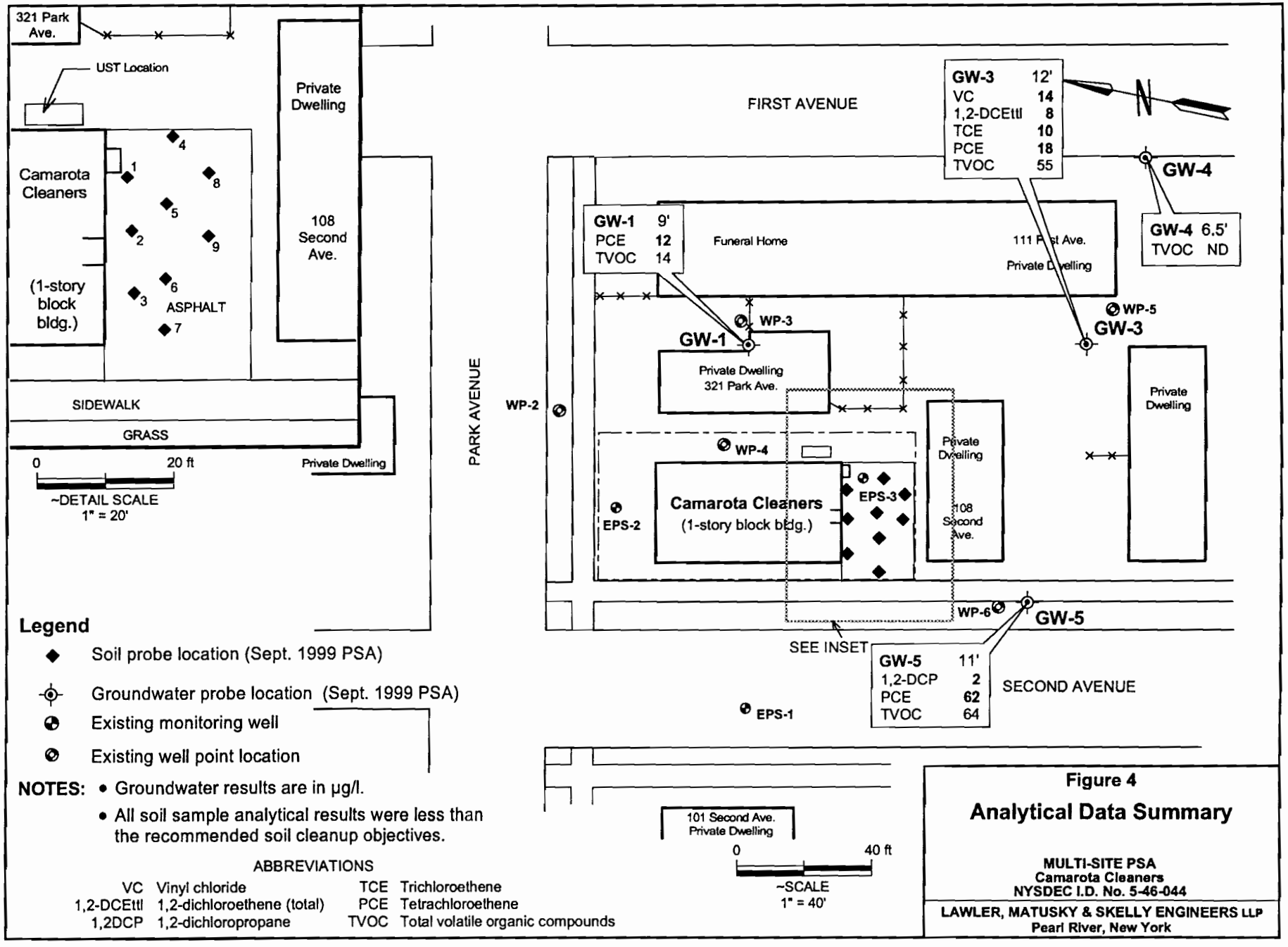


Figure 4

Analytical Data Summary

MULTI-SITE PSA
Camarota Cleaners
NYSDEC I.D. No. 5-46-044

LAWLER, MATUSKY & SKELLY ENGINEERS LLP
Pearl River, New York

Table 3

Historical Groundwater Sampling Results

(Tetrachloroethylene / Trichlorothylene)

Camarota Cleaners

Site No.: 546044

Sample Identification	16 July 1992 PCE (µg/l)	16 July 1992 TCE (µg/l)	26 May 1993 PCE (µg/l)	26 May 1993 TCE (µg/l)	25 May 1998 PCE (µg/l)	25 May 1998 TCE (µg/l)	26 May 1999 PCE (µg/l)	26 May 1999 TCE (µg/l)	15 Sept 1999 PCE (µg/l)	15 Sept 1999 TCE (µg/l)
EPS-1	5	ND	0.9	ND	NS	NS	1.1	2.3	NS	NS
EPS-2	**46**	5	1.7	1.7	NS	NS	1.2	ND	NS	NS
EPS-3	**1100**	ND	**590**	**67**	**260**	2	**86**	**36**	NS	NS
WP-2	NS	NS	**38**	**7.3**	**20**	**27**	**92**	**52**	NS	NS
WP-3 [1]	NS	NS	**10**	0.5	NS	NS	NS	NS	**12**	ND
WP-4	NS	NS	1	ND	1	ND	1.2	ND	ND	ND
WP-5 [2]	NS	NS	**22**	**6.1**	NS	NS	NS	NS	**18**	**10**
WP-6 [3]	NS	NS	**360**	**23**	NS	NS	NS	NS	**62**	ND

1 - Sample collected 15 September 1999 was taken from nearby location GW-1.
2 - Sample collected 15 September 1999 was taken from nearby location GW-3.
3 - Sample collected 15 September 1999 was taken from nearby location GW-5.
ND - Not Detectable.
NS - Not Sampled.
bold - Exceeds the NYSDEC Class GA Standard (both PCE and TCE have standards of 5 µg/l).

sample (IA-01) was collected at the south end of the building, near the back door of the structure. An outdoor air sample (OA-01), collected as a background sample, was obtained near the east side of the building. Two soil gas samples (SG-01 and SG-02) were also obtained from beneath the building slab. SG-01 was located in the former boiler room, near the southeast corner of the building. SG-02 was located near the center of the building (suspected location of former dry cleaning equipment). All air and soil gas sample locations are shown in Figure 5. All of the samples were collected in dedicated Tedlar bags and were analyzed for a range of VOCs by the Chazen Companies (Chazen) of Clifton Park, New York.

No VOCs were detected in the indoor air sample or the outdoor air sample. PCE was detected in both soil gas samples, at a concentration of 105.454 ppb (or, approximately 715 ug/m^3, assuming a temperature of 25 C and a pressure of 1 atm) in SG-01 and 425.622 ppb (approximately 2886 ug/m^3) in SG-02. Table 4 summarizes the results from the air and soil gas sampling event (Appendix A also contains the laboratory data sheets and analytical methods that were used). Field notes from the November field work are included within Appendix C. Additional indoor air samples were collected in the basement of 108 Second Avenue on December 8 and 9, 1999 by NYSDOH. PCE was detected at a maximum concentration of 27 ug/m^3, below the NYSDOH recommended average ambient air level for PCE of 100 ug/m^3. **Ref: 24.**

5. CERCLA STATUS

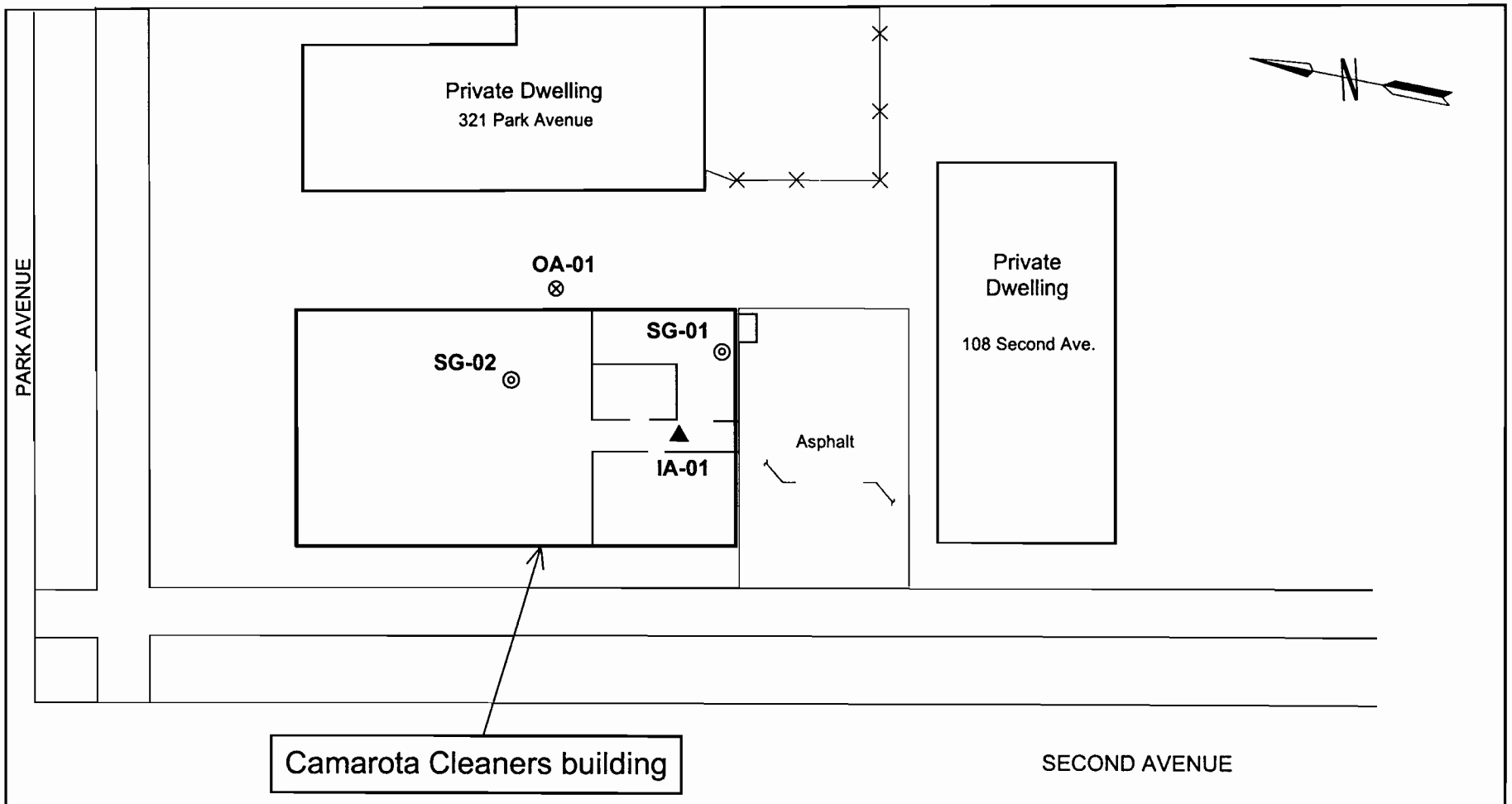
Not assigned.

6. OTHER ACTIONS TO DATE (e.g., Federal removal[1], Federal remedial[2] or pre-remedial actions, State actions, other legal violations)

Only the actions described above. To date, no Federal or State remedial actions have occurred.

7. STATE AND LOCAL AUTHORITIES ROLE (Intervention)

The NYSDEC and NYSDOH have been involved with investigations at the Camarota Cleaners site, as described above. In June 1999, NYSDEC assigned LMS to conduct a PSA to attempt to identify an on-site source of the subsurface PCE contamination.



NOTE:
All samples were collected in Tedlar bags and analyzed for VOCs by Chazen Environmental Services, Inc. of Clifton Park, NY.

LEGEND

- ◎ Soil gas sample location
- ▲ Indoor air sample location
- ⊗ Outdoor (background) air sample location

0 20 ft

~SCALE
1" = 20'

Figure 5
Soil Gas and Air Sample Locations November 1999

MULTI-SITE PSA
Camarota Cleaners
NYSDEC I.D. No. 5-46-044

LAWLER, MATUSKY & SKELLY ENGINEERS LLP
Pearl River, New York

Table 4

SOIL GAS AND AIR SAMPLES

CAMAROTA CLEANERS

Site No.: 546044

Sample ID Date Collected	OA-01 11/17/1999	IA-01 11/17/1999	SG-01 11/17/1999	SG-02 11/17/1999
Volatile Organic Compounds (ppb)				
Freon-113	ND	ND	ND	ND
1,1-dichloroethane	ND	ND	ND	ND
cis 1,2-dichloroethylene	ND	ND	ND	ND
1,1,1-trichloroethane	ND	ND	ND	ND
Trichloroethylene	ND	ND	ND	ND
Tetrachloroethylene	ND	ND	105.454	425.622

ND - Not detected in the sample at a concentration above the method detection limit.

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 OR WELFARE

The soil sampling data that were generated from the September 1999 field activities revealed that concentrations of all VOCs analyzed for were below the recommended soil cleanup objectives. The groundwater data showed that the concentrations of all VOCs have generally decreased from previous sampling episodes conducted at the site, as shown in Table 3. However, levels of some VOCs presently exceed Class GA groundwater criteria. Groundwater flow is assumed to be to the east or northeast, as the nearest surface water is Anthony Kill (refer to Figure 1). The general topography in the vicinity of the site slopes to the east, toward Anthony Kill and the Hudson River. Previous investigations at the site have noted groundwater to flow to the east or ESE (EPS 1992) and toward the east or ENE (EPS 1993) at the site. The presence of building foundations, utilities, and road beds around the site may have local influences on the flow patterns of the shallow groundwater in the vicinity of the site. It is herein assumed, however, that local shallow groundwater flow is to the east or ENE. **Ref: 1, 11, 12.**

The shallow groundwater investigated for the PSA is not used as a potable water supply by the City of Mechanicville. Potable water for the City is provided via a conventional, municipal water treatment plant (located approximately 2 miles west of the site) and distribution system. The source water is obtained from the Mechanicville Reservoir (a surface water located about 3 miles northwest and upgradient of the City), Plum Brook, Baker Brook, and natural springs. A telephone conversation with the Water Superintendent for the City of Mechanicville revealed that there are no known private potable wells in the City. The Superintendent also was unaware of any private wells within the City that are used for non-potable purposes. Thus, the groundwater contamination noted above is presumed to not be hydraulically connected to local drinking water supplies. **Ref: 25.**

2. POSSIBLE THREATS TO THE ENVIRONMENT

As previously stated, the groundwater beneath the Camarota Cleaners site is contaminated with chlorinated VOCs. Bedrock and deep groundwater located below the shallow groundwater were not assessed as part of this PSA; only shallow groundwater was investigated. No potential impacts to Anthony Kill (surface waters located approximately 1400 ft from the site) were identified during the PSA, and no sampling of this surface water was conducted as part of the PSA. The fact that VOC concentrations found in the groundwater have been decreasing (refer to Table 3) indicates that there is not a continuing source of contamination to the groundwater.

PERMITS

According to the records of USEPA, NYSDEC, NYSDOH, Glens Falls DOH, and the City of Mechanicville, there are no records of permits issued to the Camarota Cleaners facility. **Ref: 26, 27, 28.**

EXPECTED CHANGE IN THE ENVIRONMENTAL CONDITIONS SHOULD ACTION BE DELAYED OR NOT TAKEN AS CONSISTENT WITH REPORT INFORMATION AND RECOMMENDATION

The source of contamination does not appear to be active. VOCs in on-site soil are currently at levels that are below New York State cleanup criteria, and groundwater concentrations of VOCs have been decreasing with time. VOC concentrations in the groundwater may continue to decrease should no action be taken.

ENFORCEMENT HISTORY OF THE SITE

1. IS THERE AN ORGANIZATION TAKING APPROPRIATE, TIMELY ACTION?

LMS conducted the PSA under contract to NYSDEC in September and November 1999. After review of the PSA report, NYSDEC will determine the appropriate action.

CITE REFERENCES

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

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.

Refer to Figure 2.

SITE ASSESSMENT REPORT:

PART I: SITE INFORMATION

1. Site Name/Alias: Camarota Cleaners

Site Street Address: 325 - 327 Park Avenue

City: Mechanicville **State:** New York **Zip Code:** 12118

Describe Site Boundaries (North, South, East, West): To the north is Park Avenue and residential properties; to the east is a residential property (321 Park Avenue); to the south is a residential property (108 Second Avenue); to the west is Second Avenue and residential properties.

2. County: Saratoga **County Code*:** 46 **Cong. Dist.** 22

3.CERCLIS ID No. Not Assigned **Region**: Not Assigned

4. Tax Map: 262.61 **Block No.** 4 **Lot No.** 1

5. Latitude: 42° 54' 11" N **Longitude:** 73° 41' 26" W

USGS Quad: Mechanicville, NY

6. Approximate size of site: 0.115 acres

7. Owner: The City of Mechanicville
Paul Guilianelle, Commissioner of Accounts
Telephone Number: (518) 664 - 9884

Owner Street Address: 36 North Main Street

City: Mechanicville **State:** New York **Zip Code:**12118

8. Operator: Not applicable

9. Type of Ownership:

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

10. Owner/Operator Notification on File: N/A

RCRA 3001: Date _____ **CERCLA 103c:** Date_____
Date _____ Date_____

Other *(Specify, Date)*: **None:** **Unknown: X**

11. Permit Information: No record of permits were identified for the Camarota Cleaners site.

Permit:	**Permit No.**	**Date Issued:**	**Expiration Date:**

Comments: A hazardous waste facility and handler identification number (NYD981076458) was found for the site. A NYS Spills Number (No. 5936) and a RCRA Generator Number (No. 5896) were also identified. See Reference Nos. 23, 26, 27, and 28 for more information about the search for permits.

12. Site Status: Active ( ) Inactive (X) Unknown:

13. Years of Operation:

Camarota Cleaners (dry cleaning facility) was in operation from about the mid- to late-1970s to approximately 1991. The site is currently inactive. **Ref: 5.**

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:

Waste Unit No.	**Waste Source Type**	**Facility Name for Unit**
1.	Groundwater Plume	Not Applicable

(b) Other Areas of Concern

Groundwater contamination.

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

A spill report for possible petroleum contamination was filed for the site in 1991 after elevated concentrations were

detected in soil gas samples. PCE disposal activities were never confirmed to have occurred at the site. (See "Site Assessment Activities/Observations" in Section I, Item No. 4 for more details.) **Ref: 9.**

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).

There have been several environmental investigations conducted by NYSDEC and NYSDOH at the Camarota Cleaners site since 1991. All of these investigations are described in Section I, Item No. 4 ("Site Assessment Activities/Observation"). The site has been listed as a "P" site (potential Inactive Hazardous Waste site; Site No. 5-46-044).

a) Is the site or any waste source subject to Petroleum Exclusion? Identify petroleum products and by products that justify this decision.

No, petroleum products are not considered as contaminants of concern at the site and the site is not subject to Petroleum Exclusion. A possible petroleum-based spill was recorded in 1991; however, this investigation was closed in 1993. **Ref: 8.**

b) Are pesticides produced and stored on site? Does the facility apply pesticides (FIFRA or Federal Insecticide, Fungicide, and Rodenticide Act) to any part of the property?

No, the site is not believed to have produced or stored any pesticides.

c) Is the site or any waste source subject to RCRA Subtitle C (briefly explain)?

No RCRA permits or other permits for the site were discovered in the file reviews. However, PCE and TCE are listed "F002" hazardous wastes (spent halogenated solvents) from non-specific sources in 40 CFR 261.31. Therefore, it is assumed that the VOCs in the groundwater may be subject to RCRA Subtitle C. **Ref. 29.**

d) Is the site or any waste source maintained under the authority of the Nuclear Regulatory Commission (NRC)?

No.

16. Information available from:

Contact: Elaine Zuk **Agency:** NYSDEC **Telephone No.** (518) 457 - 0639

Preparers: Laura Robinson, Michael Musso **Company:** Lawler, Matusky & Skelly Engineers LLP

Date: April 2000 **Telephone Number:** (914) 735-8300

PART II: WASTE SOURCE INFORMATION

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

Waste Unit (#) 1

Source Type

__	Constituent	__	Waste Stream
__	Landfill	__	Contaminated Soil
__	Surface Impoundment (buried/backfilled)	__	Pile (Specify type: chemical, junk, trash, tailings, etc.)
__	Drums	__	Land Treatment
__	Tanks/Containers	X	Other (Specify): Groundwater Contamination Plume

Description: The source of the groundwater contaminant plume has not been identified at the site (i.e., no definite on-site disposal practices were historically documented at the site). Therefore, the groundwater plume itself is considered to be the waste unit.

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

None identified.

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.

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

The quantity of contaminated groundwater is estimated to be approximately 200,000 gallons. This is based on the areal extent of contamination of about 0.25 acres, a depth to groundwater of 6 ft, a maximum depth of contamination

of 12 ft, and a porosity of 40 percent. **Ref: 30, 31.**

Hazardous Substances/Physical State

The hazardous substances of PCE and commonly associated PCE breakdown products were found to be dissolved in the groundwater. The original physical state of the substance is presumed to have been a liquid form of PCE dry cleaning solvent.

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 true if the data cannot be used for HRS purposes. Any problems should receive the immediate attention of the work assignment manager. Identify any data gaps.

A description of previous sampling efforts, including summaries of analytical data, is provided above in Section I, Item 4, "Site Assessment Activities/Observations". QA/QC samples were not identified to be associated with all of the analyses that were conducted for all of the historic sampling events; however, no suspected problems with the data were readily noted. The following table summarizes data that were generated from site investigations at the site (also refer to Table 3). Only contaminant concentrations that exceeded the applicable standards or that had elevated levels are noted below. Refer to Section I, Item 4 for detailed sampling information.

Date	Media Sampled	Sampler	Contaminant Concentrations Elevated or Exceeding Standards	Reference No.
July 1991	Soil gas	AEI/SEM	total VOCs 83.4 ppm PCE 82.3 ppm Petroleum compounds 40 - 478 ppb	9
July 1992	Groundwater; Soil	EPS	Groundwater: PCE 46 - 1100 ug/l t-1,2-DCE 6 ug/l c-1,2-DCE 34 ug/l Benzene 130 ug/l Soil: PCE 9.7 mg/kg MIBK 2.2 mg/kg	11
May 1993	Groundwater; Indoor air (nearby homes)	EPS	Groundwater: PCE 9 - 590 ug/l TCE 6.1 - 67 ug/l	12
Jan. 1995	Indoor air (nearby homes)	NYSDOH	no exceedances in criteria	14
Sept. 1998	Groundwater	Rowan	PCE 20 - 260 ug/l TCE 19 - 27 ug/l c-1,2-DCE 48 ug/l vinyl chloride 18 - 22 ug/l	18
May 1999	Groundwater; Soil; Solid media	NYSDEC	Groundwater: PCE 12 - 92 ug/l TCE 36 - 52 ug/l c-1,2-DCE 27 - 29 ug/l t-1,2-DCE 6.8 ug/l vinyl chloride 6.7 - 12 ug/l Chloroform 12 ug/l Xylenes 5.8 - 28.5	20
Sept. - Nov. 1999	Groundwater; Soil; Indoor air (on-site); soil gas	LMS	see Tables 1, 2, & 3	see Appendix A

SITE INSPECTION RESULTS

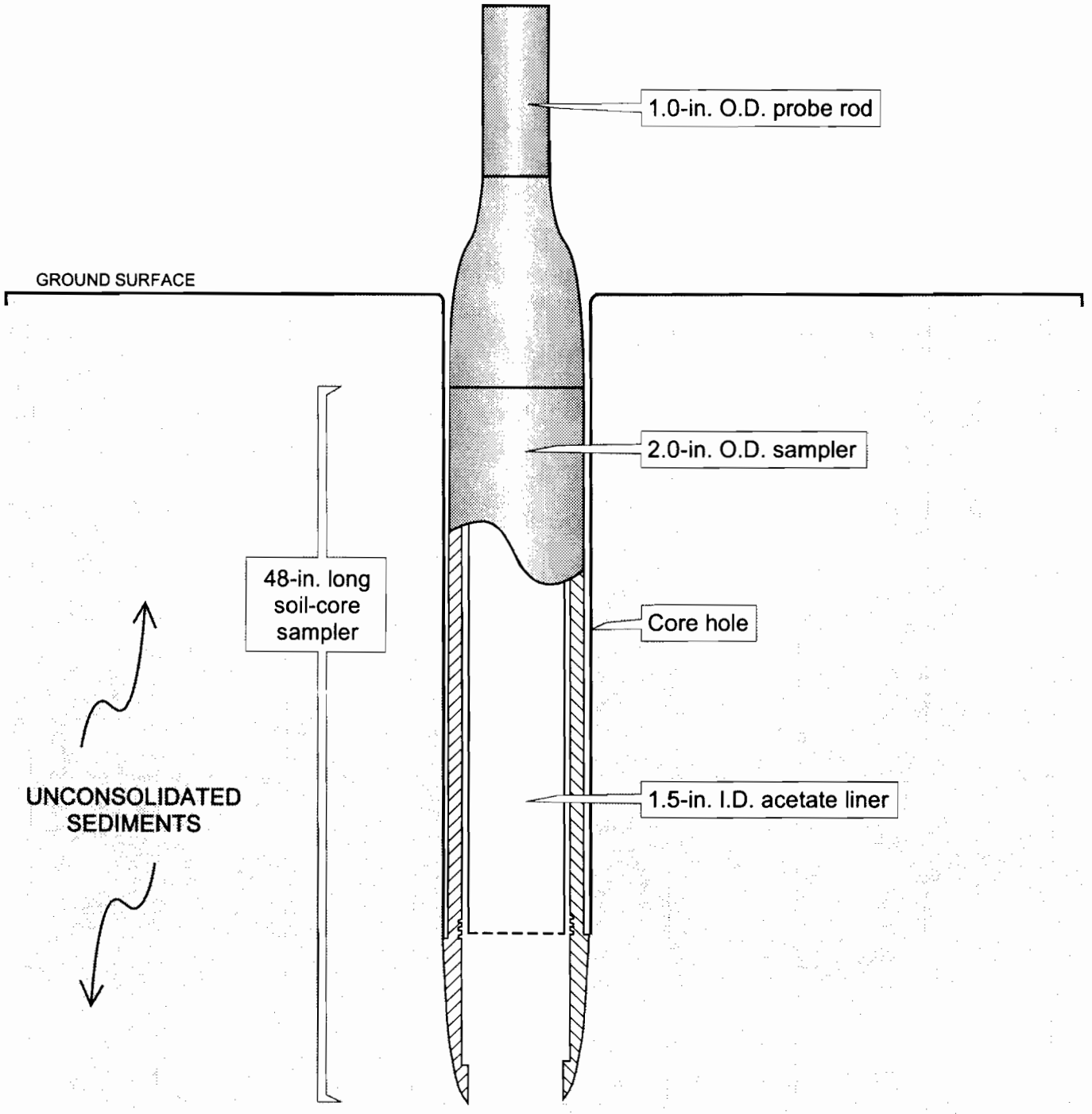
As appropriate to the particular site, collect samples from air, drainage ditches, soil (surface and subsurface), standing pools of liquids, storage containers, surface (stream and pond) water, sediments (up gradient, at suspected source and down gradient), and ground water (up gradient, beneath site and down gradient). 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.

In September of 1999, soil and groundwater probe points were installed at the site using LMS' AMS rig. Soil samples were collected at nine locations in the asphalt area located south of the Camarota Cleaners building (soil sample locations are depicted on Figure 3, inset). The soil probes were advanced by the AMS unit using a direct push hydraulic hammer system. Soil sampling was accomplished in 4 ft intervals, utilizing a 1.5 in. inside diameter (i.d.) macro core steel soil sampler (see Figure 6). The steel sampler was fitted with a dedicated acetate liner and was then advanced to the desired depth via the hydraulic system. Soil cores were recovered in the acetate liner. The steel sampler and liner were then extracted, and the liner was removed from the sampler. Both ends of the liner were capped, and the soil was scanned with a PID to detect the presence of VOCs. One sample from each probe location was selected for laboratory analysis based on visual observations and PID readings. This sample was transferred to a clean container and sent to the laboratory for analysis. Although some of the soil samples detected low concentrations of some VOCs, all detections were below the recommended soil cleanup objectives (refer to Table1).

Four groundwater probe samples were also collected in September 1999 during the PSA (refer to Figure 3 for locations) and analyzed for VOCs. Only shallow groundwater that was encountered above the bedrock layer was investigated for the PSA. Bedrock was encountered at depths ranging from about 7 to 12 ft bgs. A groundwater screen sampler (shown on Figure 7) was advanced to the depth of the lower sampling interval with the AMS rig. After reaching the desired depth, the probe rods and screen sheath were raised to expose the screen and to allow groundwater to infiltrate into the rods. A dedicated piece of polyethylene tubing fitted with a check valve was inserted through the probe rods until it reached the screen. The probe was manually surged and the probe rods were purged. A sample was collected in a glass sample container. Once the sample was obtained, the entire assembly was mobilized to the next groundwater probe location. The analytical results showed that three of the four samples collected had individual contaminants exceeding the Class GA groundwater standards (see Table 2). The concentrations of total VOCs were below the New York State groundwater effluent limitation of 100 µg/l in all of the groundwater probes samples.

All soil and groundwater samples were analyzed by H2M for VOCs using NYSDEC Analytical Service Protocol (ASP) Method 8260B. All samples were validated by Nancy J. Potak Data Validation. There are no suspected problems with the data. Appendix A contains a copy of the analytical laboratory data summary sheets, Appendix B contains the data validation and usability report, and Appendix C contains a copy of the field notes from the September 1999 work.

Soil gas and air samples were collected at the site in November 1999 as part of the PSA to further characterize



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NOT TO SCALE

Figure 6

Soil Core Sampler Cross Section

MULTI-SITE PSA
Camarota Cleaners
NYSDEC I.D. No. 5-46-044

LAWLER, MATUSKY & SKELLY ENGINEERS LLP
Pearl River, New York

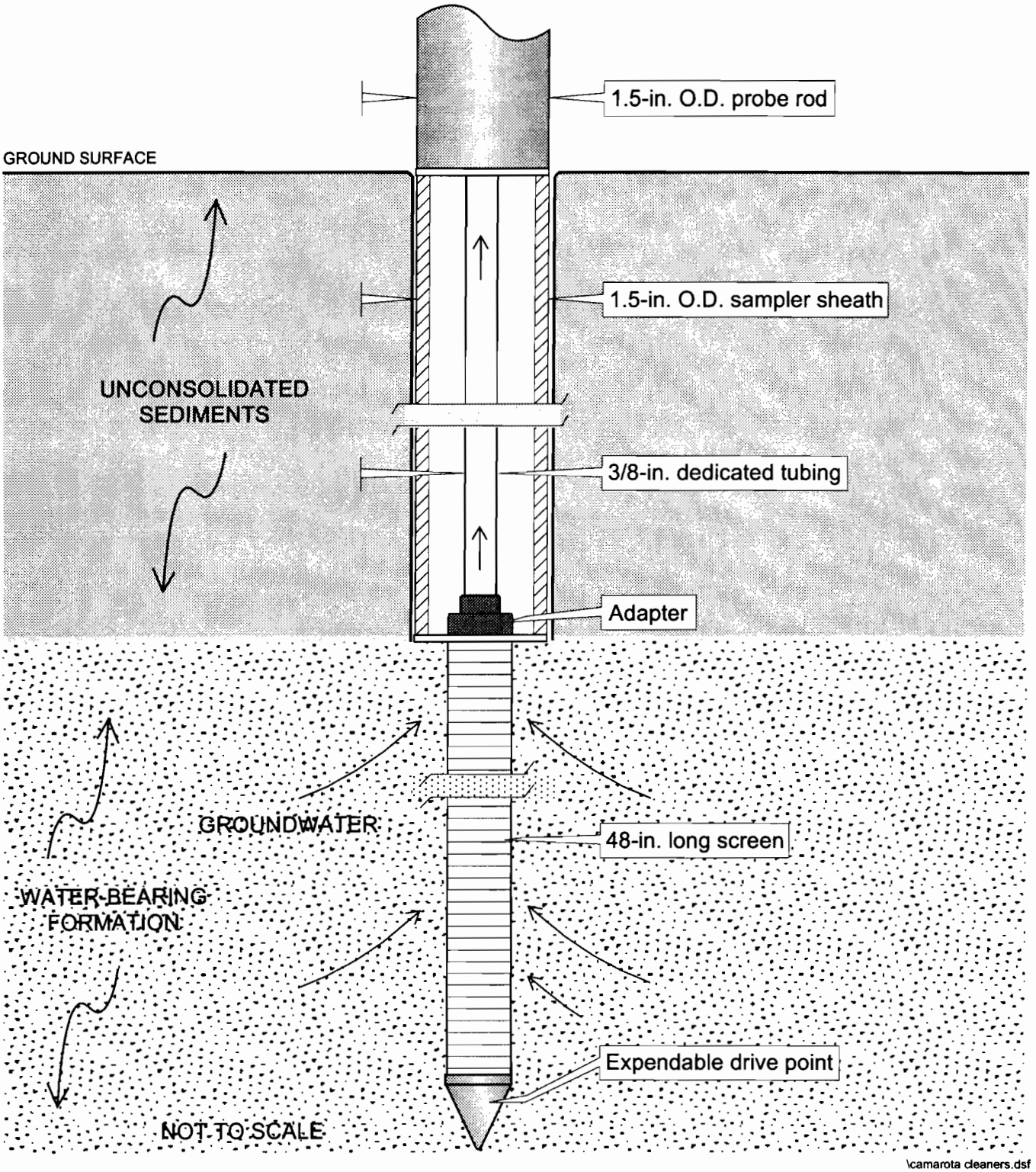

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Figure 7

Probe Unit Groundwater Sampler Cross Section

MULTI-SITE PSA
Camarota Cleaners
NYSDEC I.D. No. 5-46-044

LAWLER, MATUSKY & SKELLY ENGINEERS LLP
Pearl River, New York

existing indoor air quality and subsurface conditions at the site. An indoor air sample (IA-01) was collected at the south end of the building, near the back door of the structure. An outdoor air sample (OA-01), collected as a site background sample, was obtained from the east side of the building. A diaphragm pump and dedicated Teflon tubing were used to collect the air samples. Two soil gas samples (SG-01 and SG-02) were also obtained from beneath the building slab. The points were established by drilling through the concrete floor slab and hammering to a depth of approximately 3 ft below the slab bottom. At this depth, a KV soil gas kit, consisting of a slotted aluminum soil gas point and dedicated Teflon tubing, was installed at each location. The annular space around the tubing was filled with clean sand up to the top of the slab, and the hole was capped with concrete patch. A diaphragm pump (approximate flow rate of 1500 ml/min) was employed to draw soil gas from each location. Each soil gas point was purged for approximately five minutes before a sample was obtained. SG-01 was located in the former boiler room, near the southeast corner of the building. To locate the second soil gas sample, LMS obtained PID readings from beneath the floor slab at two locations near the center of the building (suspected location of former dry cleaning equipment). The point with the higher PID reading (approximately 1.2 ppm above background) was selected as SG-02. Sample locations are shown in Figure 5. All air and soil gas samples were collected in dedicated Tedlar bags and were analyzed for a range of VOCs by Chazen.

No VOCs were detected in the indoor air sample or the outdoor air sample. PCE was detected in both soil gas samples, at a concentration of 105.454 ppb (or, approximately 715 ug/m3) in SG-01 and 425.622 ppb (approximately 2880 ug/m3) in SG-02. Appendix A includes the analytical data for the November 1999 sampling event, along with the analytical methods that were used. Locations of the samples are shown in Figure 5, and Table 4 includes a summary of the data generated by Chazen. The data were not validated; however, no potential problems were identified. The field notes are included in Appendix C.

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 no release. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For an observed release, define the supporting analytical evidence and relationship to the background samples.**

Suspected release: Evidence of hazardous substances in the groundwater at the Camarota Cleaners site.

The PCE concentrations in groundwater probe samples GW-1, GW-3, and GW-5 are all above the New York State Class GA standard. The groundwater sample GW-5, collected to the southwest of Camarota Cleaners along Second Avenue, had the highest concentrations of PCE and total VOCs. Although this sample is located in a presumed upgradient position from the site, the contamination may have resulted here due to a possible break in a sewer line that serviced the facility; if improper disposal of PCE/PCE wastes was conducted during dry cleaning operations, this line may have served as a possible source of the contamination. GW-5 is located only about 60 ft from EPS-3 (historic location of highest PCE levels) and about 40 ft from the asphalt area at the site (refer to Figures 3 and 4). The samples collected in apparent downgradient locations from the site (locations GW-1 and GW-3) had lower levels of PCE and total VOCs than GW-5. Groundwater sample GW-4, located southeast of the site along First Avenue, had no detected levels of VOCs. **Ref: 11, 12.**

As previously stated, no other potential users of PCE located west (upgradient) of the site were identified; the upgradient area is and has historically been predominantly residential. **Ref: 6, 7, 8.**

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 the water table, and groundwater flow direction. Attach a sketch of stratigraphic column.**

In the lowland regions near the Hudson River, the bedrock is commonly found to be relatively shallow (i.e., starting from a few ft bgs). The shallowest bedrock at the site was observed at approximately 7 ft bgs. In parts of the Hudson Lowlands, sand and gravel underlie a silt/clay layer. This seems to be the case at the site, as evidenced in field notes taken by LMS in September 1999 (refer to Appendix C). The consolidated layer (i.e., bedrock) in the area of Mechanicville is typically composed of shale. The thickness of this shale ranges from approximately 100 ft to more than 1,000 ft. Although a geologic section was not available for the Town of Mechanicville, Reference 32 includes a geologic section for Saratoga National Historic Park, which is located approximately 5 miles north of the site. **Ref: 11, 32, 33.**

Groundwater is used extensively in Saratoga County as a source of drinking water for residents. However, surface water is the source of drinking water for the residents of Mechanicville. No users of the shallow groundwater that was investigated at the site for the PSA could be identified. **Ref: 25, 33.**

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?

Groundwater probe and monitoring well measurements were taken in September 1999 during PSA activities. As the site area topography is relatively flat, the depth to groundwater below the ground surface is used in the following evaluation. The average depth to water in vicinity of the site is about 6.5 ft bgs. The lowest depth to water measured at that time was from EPS-2 (8.85 ft bgs). The shallowest known depth to water was 5.3 ft bgs. The contamination at the site was found to a maximum depth of approximately 12 ft (at GW-3). Therefore, the difference from the depth of the deepest contaminated location (12 ft) to the highest observed level of the saturated zone of the groundwater (5.3 ft) is approximated to be 6.7 ft.

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?

A typical range of permeability of a silt, sandy silts, clayey sand, and till mixture is 1×10^{-3} to 1×10^{-1} darcys. **Ref: 30.**

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

The average precipitation for nearby Albany, New York (Albany WSFO AP) was 38.94 inches in 1998. The Albany station is located in Region 5 of the New York State National Climatic Data Center. The actual evapotranspiration data for Albany, New York was 19.93 inches for 1998. Therefore, the total net precipitation at the site was estimated to be approximately 19.01 inches. **Ref: 34, 35.**

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

The City of Mechanicville is supplied by a municipal drinking water system composed of surface water sources (Mechanicville Reservoir, Plum Brook, and Baker Brook). These sources are located at least 2 miles west of the city.

Private wells are used for potable purposes in the Town of Stillwater, New York, which is located north of the City of Mechanicville. Several private wells were identified in an area approximately 2 miles northwest of the City of Mechanicville. A municipal well field that services Stillwater is also located about 3 miles north of Mechanicville along the Hudson River. As these private and public potable wells are at a significant upgradient/upstream distance from the Camarota Cleaners site, they are not presumed to be impacted by the contamination found at the site. **Ref: 25, 33, 36.**

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.**

Not applicable.

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

The supply of drinking water to residents of the City of Mechanicville is provided by a municipal system that utilizes surface water sources. All sources are located west (upgradient) of the city. As no private wells could be identified in the City of Mechanicville, it is presumed that no population draws water from the aquifer of concern. Although private and public wells exist in Stillwater, New York within a few miles of the site, a detailed search of these wells was not initiated since no impacts from the site exist. In the following table, Aquifer A is assumed to be the groundwater that is affected by the contaminant plume and Aquifers B and C are not applicable for this site. **Ref: 11, 12, 18, 25, 33, 36.**

Distance	Population of Aquifer A	Population of Aquifer B	Population of Aquifer C
0 - 1/4 mi	0	Not Applicable	Not Applicable
>1/4 - ½ mi	0	Not Applicable	Not Applicable
>½ - 1 mi	0	Not Applicable	Not Applicable
>1 - 2 mi	0	Not Applicable	Not Applicable
>2 - 3 mi	0	Not Applicable	Not Applicable
>3 - 4 mi	0	Not Applicable	Not Applicable

State whether groundwater is blended with surface water, groundwater, or both before distribution.

Not applicable since the closest drinking water source is not impacted by the site contamination.

Is a designated well head protection area within 4 miles of the site?

Every public supply well in Saratoga County has a well head protection area associated with it. According to local guidelines, there is typically a 100 ft radius of ownership by the county, followed by a 100 ft radius of control by the county (total of 200 ft of well head protection area for each supply well). It is believed that all of the supply wells in the greater Mechanicville area have the 200 ft designated well head protection area. The Camarota Cleaners site is located about 3 miles south of public supply wells in Stillwater, New York. **Ref: 36, 37, 38, 39, 40.**

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?

The groundwater contaminant plume at the site is not located within a designated well head protection area in Saratoga County. Therefore, the potential waste source is not located within a well head protection area, either.

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).**

No private potable or non-potable use wells were identified in the City of Mechanicville. Private wells exist in Stillwater, New York, at locations upgradient of and several miles from the site. **Ref: 25, 36.**

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 an observed release, define the supporting analytical evidence and the relationship to background.**

Based on the data collected to date, contamination from the site is not believed to have reached the nearest body of surface water. The route to the nearest body of surface water would be via groundwater to Anthony Kill, which is located east of the site. No surface water sampling has been performed to date.

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

The nearest down slope surface water body is Anthony Kill. The site is located at an approximate distance of 1400 ft from this surface water. Stormwater in the vicinity of the site is collected in catchbasins that tie into the City's sanitary sewer system. Stormwater overflows are typically discharged to the Hudson River. **Ref: 1, 4.**

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 distance to Anthony Kill from the site is approximately 1400 ft. However, direct runoff to this surface water is not likely because stormwater runoff is collected by the City of Mechanicville. **Ref: 1, 4.**

13. **Identify all surface water body types within 15 downstream miles from point of entry (POE).**

After the point of entry, surface water flows into the nearby Hudson River. From there, it could flow into many different inlets and channels of the Hudson River. Hudson River characteristics near the POE are as follows. **Ref:**

1, 41.

Name	Water Body Type	Flow	Saline, Fresh, or Brackish Water	Distance from the site
Hudson River	River	6,780 ft³/sec	Freshwater	0.2 miles

14. Determine the 2 yr, 24 hr rainfall (inches) for the site?

The 2-yr, 24-hr rainfall for Mechanicville, New York is approximately 2.35 inches. **Ref: 42.**

15. Determine size of drainage area (Acres) for the sources at the site?

A drainage area has not been calculated for the City of Mechanicville. The runoff in the vicinity of the site is collected in stormwater catchbasins. **Ref: 4, 43.**

16. Describe the predominant soil group in the drainage area?

The site area is located on a former alluvial floodplain of Anthony Kill. Typically, sand and gravel underlie a silt/clay layer in the soils of the region (refer to Appendix C for a description of site soils that were encountered during the September 1999 PSA field work). In the lowland regions near the Hudson River, shallow bedrock is commonly found (i.e., starting from a few ft bgs). Bedrock at the site was encountered at depths as shallow as 7 ft bgs during the September 1999 field work. The consolidated layer (i.e., bedrock) in the area of Mechanicville is likely composed of the Canajoharie shale formation. The thickness of this shale ranges from approximately 100 ft to more than 1,000 ft. **Ref: 11, 32, 33.**

17. Determine the floodplain (1 yr., 10 yr., 100 yr., 500 yr., none) that the site is within.

The site area is located outside of the 500-year floodplain. **Ref: 44.**

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.

Anthony Kill does not serve as a drinking water supply source. The Hudson River is the source of only one public drinking water supply system located within 15 miles downstream of the site. This system is located approximately 5 miles south of Mechanicville and serves the residents of the Waterford Village. There are approximately 3,000 residents served and the stream flow rate of the Hudson River at this point is approximately 6,780 ft³/sec. **Ref: 33, 41.**

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

As a result of the environmental contamination, very few species are allowed to be fished either commercially or recreationally in the Hudson River. From Hudson Falls south to the Troy Dam, no commercial fishing is permitted since the NYSDOH recommends eating no fish of any species. From the Troy Dam south to the bridge at Catskill, NYSDOH recommends eating no fish except for Alewife, American Shad, blueback herring, rock bass, and yellow perch. **Ref: 45, 46, 47.**

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

The Hudson River lies approximately 0.2 miles to the east of the Camarota Cleaners property. As a result of environmental contamination, uses of the river (i.e., recreation, commercial fishing) have been severely limited in many areas, including downstream of the POE. It has been recognized that the river provides many ecosystem services. For instance, it provides crucial nursery and spawning grounds for a wide variety of fish species and is part of the Great Atlantic Flyway for migratory birds. The river's marshes and tidal flats contribute essential nutrients to the first links in a food web that extends through the entire length of the river. **Ref: 48.**

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.

There have been no known or suspected releases to the Hudson River. Therefore, no sensitive areas are known to be contaminated as a result of the Camarota Cleaners site.

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?

The Hudson River is the source of one public drinking water supply system located approximately 5 miles downstream of Mechanicville. **Ref: 33, 41.**

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.

Not applicable, no surface soil contamination was identified at the site (refer to Table 1).

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

Not applicable, no surface soil contamination was identified at the site.

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

Not applicable, no surface soil contamination was identified at the site.

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?

Not applicable, no surface soil contamination was identified at the site.

AIR ROUTE

27. Describe the likelihood of a release of contaminants to air as one of the following: observed release, suspected release, or no release. Identify contaminants detected or suspected and provide a rationale for attributing them to the site. For observed releases, define the supporting analytical evidence and the relationship to background.

Possible releases of PCE into the atmosphere may have occurred historically when the dry cleaning facility was in operation. However, no records of site operations, building specifications, or dry cleaning equipment were found. Indoor air from homes in the vicinity of the site was sampled to determine if VOCs were present. Although there were some readings of PCE in one of the homes, the levels were below the NYSDOH recommended criterion. **Ref: 12, 14.**

An indoor air sample collected from within the on-site building and an outdoor air sample collected from the east side of the building in November 1999 did not detect any VOCs. Since the contamination is associated with groundwater, there is no suspected release to the air.

28. Determine populations that reside within 4 miles of the site. Ref: 49, 50.

Distance	Population
0 (on-site)	0
0 - 1/4 mi	395
>1/4 - ½ mi	1,185
>½ - 1 mi	4,738
0 - 1 mi	1,457
>1 - 2 mi	2,060
>2 - 3 mi	4,283
>3 - 4 mi	8,962

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

Approximately 0.2 miles to the east of the Camarota Cleaners property is the Hudson River. Refer to Item No. 20, above. **Ref: 1, 48.**

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.

The site is currently unoccupied, and no release to air is suspected.

31. If a release to air is observed or suspected, identify any sensitive environments that are or may be located within the area of air contamination from the release.

Not applicable, since there are no known or suspected releases to air from the Camarota Cleaners site.

APPENDIX A

ANALYTICAL LABORATORY SUMMARY SHEETS

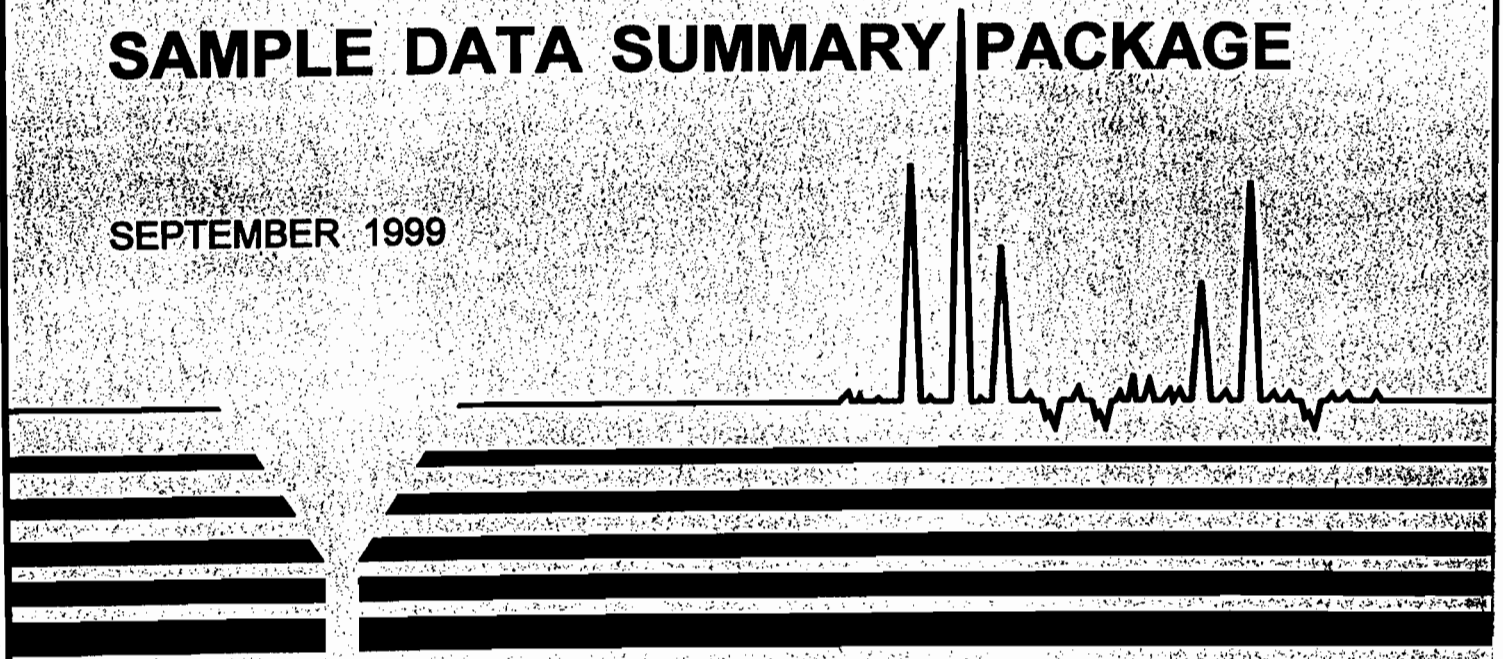
Analytical Data Package For

LMS ENGINEERS
CAMAROTA CLEANERS
NYSDEC SITE NO.: 546044
PROJECT NO.: 650-715
SDG NO.: LMS157

Soil Samples
RECEIVED: 9/16/99

SAMPLE DATA SUMMARY PACKAGE

SEPTEMBER 1999



H2M LABS, INC.
Environmental Testing Laboratories
575 Broad Hollow Road, Melville, N.Y. 11747

H2M LABS, INC.

SAMPLE DATA SUMMARY PACKAGE

TABLE OF CONTENTS

LMS ENGINEERS
CAMAROTA CLEANERS
NYSDEC SITE NO.: 546044
PROJECT NO.: 650-715
SAMPLES RECEIVED: 9/16/99
SOIL SAMPLES
LMS157

1. NYS DEC SUMMARY FORMS

H2M LABS, INC.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND
ANALYTICAL REQUIREMENT SUMMARY
LMS ENGINEERS
CAMAROTA CLEANERS
NYSDEC 546044
PROJECT NO.: 650-715
SAMPLES RECEIVED: 9/16/98
SDG NO: LMS157

Customer Sample	Laboratory Sample Code	Analytical Requirements					
		*VOA GC/MS	*BNA GC/MS	*VOA GC	PCBs	*METALS TAL	OTHER
CCGP-1 (4-8)	9927523	X					X
CCGP-2 (4-8)	9927524	X					X
CCGP-3 (4-8)	9927525	X					X
CCGP-4 (4-8)	9927526	X					X
CCGP-5 (4-8)	9927527	X					X
CCGP-6 (4-8) MS/MSD	9927528	X					X
CCGP-7 (4-8)	9927529	X					X
CCGP-8 (4-8)	9927530	X					X
CCGP-9 (4-8)	9927531	X					X

* Check Appropriate Boxes
* CLP (Non-CLP) (Please indicate year of protocol) 10/95 Rev. ASP B
* (TCL) TAL, HCL,

S 0093

Volatile Sample Analysis Summary

Sample ID	Matrix	Date Collected	Date Received	Level	Date Analyzed
GP-1(4-8)	soil	9/14/99	9/16/99	LOW	9/22/99
GP-1(4-8)DL	soil	9/14/99	9/16/99	LOW	9/24/99
GP-2(4-8)	soil	9/14/99	9/16/99	LOW	9/22/99
GP-3(4-8)	soil	9/14/99	9/16/99	LOW	9/22/99
GP-4(4-8)	soil	9/14/99	9/16/99	LOW	9/22/99
GP-5(4-8)	soil	9/14/99	9/16/99	LOW	9/22/99
GP-6(4-8)	soil	9/14/99	9/16/99	LOW	9/22/99
GP-6(4-8)MS	soil	9/14/99	9/16/99	LOW	9/22/99
GP-6(4-8)MSD	soil	9/14/99	9/16/99	LOW	9/22/99
GP-7(4-8)	soil	9/14/99	9/16/99	LOW	9/22/99
GP-8(4-8)	soil	9/14/99	9/16/99	LOW	9/22/99
GP-8(4-8)DL	soil	9/14/99	9/16/99	LOW	9/24/99
GP-9(4-8)	soil	9/14/99	9/16/99	LOW	9/22/99

2. CHAIN OF CUSTODY DOCUMENTATION

H2M LABS, INC.

575 Broad Hollow Rd, Melville, NY 11747-5076
Tel: (516) 694-3040 Fax: (516) 420-8436

1526

EXTERNAL CHAIN OF CUSTODY

CLIENT: LMS **H2M SDG NO:** 157

PROJECT NAME/NUMBER: Camarota Cleaners 650-715

SAMPLERS: (signature)/Client: Chuck Mayers, Jay Pfale / LMS Engineers, 1 Blue Hill Plaza, Pearl River 10965

DELIVERABLES: B5-10 D

TURNAROUND TIME: RT (21 DAYS)

NOTES: Soils; TCL VOCs

Project Contact: Maria Heinzc

Phone Number: (914) 735-8300

DATE	TIME	MATRIX	FIELD I.D.	Total No. of Containers	ORGANIC VOA	ORGANIC BNA	ORGANIC Pest/PCB	TS	VOA	INORG. Metal	INORG. CN	LAB I.D. NO.	REMARKS:
			Sample Container Description →		8 02 jar			2 02 jar	40ml vial				
9/14/99	1115	Soil	CCGP-1 (4-8)	2	1			1				9927523	
	1150	Soil	CCGP-2 (4-8)	2	1			1				24	
	1215	Soil	CCGP-3 (4-8)	2	1			1				25	
	1310	Soil	CCGP-4 (4-8)	2	1			1				26	
	1330	Soil	CCGP-5 (4-8)	2	1			1				27	
	1355	Soil	CCGP-6 (4-8)	2	1			1				28	
	1355	Soil	CCGP-6 (4-8) MS	2	1			1				↓	MS
	1355	Soil	CCGP-6 (4-8) MSD	2	1			1				↓	MSD
	1415	Soil	CCGP-7 (4-8)	2	1			1				29	
	1450	Soil	CCGP-8 (4-8)	2	1			1				30	
	1505	Soil	CCGP-9 (4-8)	2	1			1				31	

	Date	Time		Date	Time
Relinquished by: (Signature)	9/15/99	1600	Received by: (Signature)	9/16/99	1000
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

LABORATORY USE ONLY

Discrepancies Between Sample Labels and COC Record? Y or N
Explain:

Samples were: 8132 9011 0873
1. Shipped ___ or Hand Delivered ___ Airbill#
2. Ambient or chilled 2.3° Temp Blank
3. Received in good condition: Y or N
4. Properly preserved: Y or N
5. Samples returned to lab ___ Hrs from collection.

COC Tape was:
1. Present on outer package: Y or N
2. Unbroken on outer package: Y or N
3. COC record present & complete upon sample receipt: Y or N

9600 S

INTERNAL CHAIN OF CUSTODY

CLIENT: LMS DELIVERABLES: BS-20D TURN AROUND TIME: 21 days

SDG #: 157 CASE #: _____ MATRIX: Soil pH CHECK Y (or) N

REMARKS: PJS#88LMS99 20DAY HOLDING TIME

RECEIVED BY: LSD SIGNATURE: (Signature) DATE: 9/16/99 TIME: 1000

	CLIENT ID	H2M LAB #	DATE COLLECTED	BOTTLE TYPE	# OF BOTTLES	TESTS REQUESTED
1	CCGP-1(4-8)	9927523	9.14.99	A	1	TCL VOCs
2	2	24				
3	3	25				
4	4	26				
5	5	27			↓	
6	6 MS MSD	28			3	
7	7	29			1	
8	8	30			↓	
9	↓ 9 ↓	↓ 31	↓	↓	↓	↓
10						
11						
12						
13			LSD			
14			9/16/99			
15						
16						
17						
18						
19						
20						

P 0277
S 0097

H2M LABS, INC.

CLIENT: LMS

SDG #: 157

INTERNAL CHAIN OF CUSTODY

DATE	TIME	SAMPLE RELINQUISHED BY	SAMPLE RECEIVED BY	BOTTLE TYPE	PURPOSE OF CHANGE OF CUSTODY	INIT
[illegible]	1200	SIGN [signature]	SIGN [signature]	A	analysis	
		SIGN	SIGN			
		SIGN	SIGN			
		SIGN	SIGN			
		SIGN	SIGN			
		SIGN	SIGN			
		SIGN	SIGN			
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		SIGN	SIGN			

INTERNAL CHAIN OF CUSTODY

CLIENT: LMS DELIVERABLES: BS-TDD TURN AROUND TIME: 21 days

SDG #: 157 CASE #: _____ MATRIX: (WATER) SOIL pH CHECK Y (or N)

REMARKS: PIS#88CMS99

RECEIVED BY: LSD SIGNATURE: [signature] DATE: 9/14/99 TIME: 1000

	CLIENT ID		H2M LAB #	DATE COLLECTED	BOTTLE TYPE	# OF BOTTLES	TESTS REQUESTED
1	CCGP-1(4-8)		9927523	9.14.99	A	1	TS
2	2		24				
3	3		25				
4	4		26				
5	5		27			↓	
6	6	MS/MSD	28			3	
7	7		29			1	
8	8		30				
9	9 ↓		✓ 31	✓	✓	↓	✓
10							
11							
12							
13				(SY)			
14				9.14.99			
15							
16							
17							
18							
19							
20							

P 0203

S 0009

H2M LABS, INC.

CLIENT: UMS

SDG #: 157

INTERNAL CHAIN OF CUSTODY

DATE	TIME	SAMPLE RELINQUISHED BY	SAMPLE RECEIVED BY	BOTTLE TYPE	PURPOSE OF CHANGE OF CUSTODY	INIT
9/16/99	1200	SIGN [illegible]	SIGN [illegible]	A	analysis	
9/17/99	8:00	SIGN [illegible]	SIGN [illegible]	A	TS/storage	
		SIGN	SIGN			
		SIGN	SIGN			
		SIGN	SIGN			
		SIGN	SIGN			
		SIGN	SIGN			
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3. CASE NARRATIVES

H2M LABS, INC.

SDG NARRATIVE FOR VOLATILES
SAMPLES RECEIVED: 9/16/99
SDG NO.: LMS157

For Samples:

CCGP-1 (4-8)	CCGP-6 (4-8) MS/MSD
CCGP-2 (4-8)	CCGP-7 (4-8)
CCGP-3 (4-8)	CCGP-8 (4-8)
CCGP-4 (4-8)	CCGP-9 (4-8)
CCGP-5 (4-8)	

The above samples were analyzed according to the requirements of the NYSDEC ASP 10/95 method 8260 for the TCL volatile organic analytes.

Due to concentration levels of targeted analytes above the calibration range the following samples were reanalyzed at a dilution: CCGP-1 (4-8) and CCGP-8 (4-8).

Sample CCGP-6 (4-8) was analyzed as the matrix spike/matrix spike duplicate sample. All percent recovery and RPD criteria were met except for the RPD of 1,1-dichloroethene at 24% (limit 22%).

All percent recoveries were acceptable in the lab fortified blank except for 45% recovery for carbon disulfide (lower limit 52%) and 1,1,1-trichloroethene at 76% (lower limit 78%).

All quality control and calibration requirements were met.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Date Reported: October 5, 1999

****
* *
* *
****

Joann M. Slavin
Quality Assurance Manager

4. SAMPLE REPORTS
4.1 VOLATILES

QUALIFIERS FOR REPORTING ORGANICS DATA

Value - If the result is a value greater than or equal to the quantification limit, report the value.

U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture. For example, 10U for phenol in water if the sample final volume is the protocol-specified final volume. If a 1 to 10 dilution of extract is necessary, the reported limit is 100 U. For a soil sample, the value must also be adjusted for percent moisture. For example, if the sample had 24% moisture and a 1 to 10 dilution factor, the sample quantitation limit for phenol (330 U) would be corrected to:

$$\frac{(300\ U)}{D} \text{ x df where } D = \frac{100\% moisture}{100}$$

and df - dilution factor

For example, at 24% moisture, $D = \frac{100-24}{100} = 0.76$

$$\frac{(300\ U)}{.76} \text{ x } 10 \text{ - } 4300 \text{ U rounded to the appropriate number of significant figures}$$

For semivolatile soil samples, the extract must be concentrated to 0.5 mL, and the sensitivity of the analysis is not compromised by the cleanup procedures. Similarly, pesticide samples subjected to GPC are concentrated to 5.0 mL. Therefore, the CRQL values in Exhibit C will apply to all samples, regardless of cleanup. However, if a sample extract cannot be concentrated to the protocol-specified volume (see Exhibit C), this fact must be accounted for in reporting the sample quantitation limit.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified quantification limit but greater than zero. (e.g.: If limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, report as 3J.) The sample quantitation limit must be adjusted for dilution as discussed for the U flag.

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

P - This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported of Form I with a "P".

C - This flag applies to pesticide results when the identification has been confirmed by GC/MS.. If GC/MS confirmation was attempted but was unsuccessful, do not apply this flag, instead use a Laboratory defined flag, discussed below.

B - This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible probable blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified target compound.

E - This flag identified compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. If one or more compounds have a response greater than full scale, except as noted in Exhibit D, the sample or extract must be diluted and re-analyzed according to the specifications in Exhibit D. All such compounds with a response greater than full scale should have the concentration flagged with an "E" on the Form I for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration ranges in the second analysis, then the results of both analyses shall be reported on separate copies of Form I. The Form I for the diluted sample shall have the "DL" suffix appended to the sample number. NOTE: For total xylenes, where three isomers are quantified as two peaks, the calibration range of each peak should be considered separately, e.g. a diluted analysis is not required for total xylenes unless the concentration of the peak representing the single isomer exceed 200 ug/L or the peak representing the two coeluting isomers on that GC column exceed 400 ug/L. Similarly, if the two 1,2-Dichloroethene isomers coelute, a diluted analysis is not required unless the concentration exceed 400 ug/L.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and all concentration values reported on that Form I are flagged with the "D" flag. This flag alerts data users that any discrepancies between the concentrations reported may be due to dilution of the sample or extract.

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

X - Other specific flags may be required to properly define the results. If used, they must be fully described and such description attached to the Sample Data Summary Package and the SDG narrative. Begin by using "X". If more than one flag is required use "Y" and "Z" as needed. If more than five qualifiers are required for a sample result, used the "X" flag to combine several flags as needed. For instance, the "X" flag might combine "A", "B", and "D" flags for some samples. The laboratory defined flags limited to the letters "X", "Y" and "Z".

The combination of flags "BU' or "UB" is expressly prohibited. Blank contaminants are flagged "B" only when they are detected in the sample.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GP-1(4-8)

Lab Name: H2M LABS, INC Contract: _____

Lab Code: H2M Case No.: _____ SAS No.: _____ SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: 9927523

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1839.D

Level: (low/med) LOW Date Received: 09/16/99

% Moisture: not dec. 17 Date Analyzed: 09/22/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	3	JB
67-64-1	Acetone	4	J
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	2	J
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	4	J
71-43-2	Benzene	12	U
124-48-1	Dibromochloromethane	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
79-00-5	1,1,2-Trichloroethane	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	430	E
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GP-1(4-8)

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: 9927523

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1839.D

Level: (low/med) LOW Date Received: 09/16/99

% Moisture: not dec. 17 Date Analyzed: 09/22/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

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

Number TICs found: 4

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown hydrocarbon	1.80	13	J
2.	unknown Cyclic alkene	6.87	78	J
3.	unknown Cyclic	7.22	58	J
4.	unknown aromatic	7.37	9	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GP-1(4-8)DL

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: 9927523DL

Sample wt/vol: 2.0 (g/ml) G Lab File ID: F1854.D

Level: (low/med) LOW Date Received: 09/16/99

% Moisture: not dec. 17 Date Analyzed: 09/24/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	30	U
74-83-9	Bromomethane	30	U
75-01-4	Vinyl Chloride	30	U
75-00-3	Chloroethane	30	U
75-09-2	Methylene Chloride	9	JB D
67-64-1	Acetone	30	U
75-15-0	Carbon Disulfide	8	J D
75-35-4	1,1-Dichloroethene	30	U
75-34-3	1,1-Dichloroethane	30	U
540-59-0	1,2-Dichloroethene (total)	30	U
67-66-3	Chloroform	30	U
107-06-2	1,2-Dichloroethane	30	U
78-93-3	2-Butanone	30	U
71-55-6	1,1,1-Trichloroethane	30	U
56-23-5	Carbon Tetrachloride	30	U
75-27-4	Bromodichloromethane	30	U
78-87-5	1,2-Dichloropropane	30	U
10061-01-5	cis-1,3-Dichloropropene	30	U
79-01-6	Trichloroethene	4	J D
71-43-2	Benzene	30	U
124-48-1	Dibromochloromethane	30	U
10061-02-6	trans-1,3-Dichloropropene	30	U
79-00-5	1,1,2-Trichloroethane	30	U
75-25-2	Bromoform	30	U
108-10-1	4-Methyl-2-Pentanone	30	U
591-78-6	2-Hexanone	30	U
127-18-4	Tetrachloroethene	390	D
79-34-5	1,1,2,2-Tetrachloroethane	30	U
108-88-3	Toluene	30	U
108-90-7	Chlorobenzene	30	U
100-41-4	Ethylbenzene	30	U
100-42-5	Styrene	30	U
1330-20-7	Xylene (total)	30	U

10/4/99

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GP-1(4-8)DL

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: 9927523DL

Sample wt/vol: 2.0 (g/ml) G Lab File ID: F1854.D

Level: (low/med) LOW Date Received: 09/16/99

% Moisture: not dec. 17 Date Analyzed: 09/24/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

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

Number TICs found: 3

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown hydrocarbon	1.80	15	J
2.	unknown Cyclic alkene	6.88	58	J
3.	unknown Cyclic	7.23	51	J

dyed 10/4/99

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GP-2(4-8)

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: 9927524

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1840.D

Level: (low/med) LOW Date Received: 09/16/99

% Moisture: not dec. 18 Date Analyzed: 09/22/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	3	JB
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	1	J
71-43-2	Benzene	12	U
124-48-1	Dibromochloromethane	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
79-00-5	1,1,2-Trichloroethane	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	180	
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GP-2(4-8)

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: 9927524

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1840.D

Level: (low/med) LOW Date Received: 09/16/99

% Moisture: not dec. 18 Date Analyzed: 09/22/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

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

Number TICs found: 1

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown hydrocarbon	1.80	11	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GP-3(4-8)

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: 9927525

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1841.D

Level: (low/med) LOW Date Received: 09/16/99

% Moisture: not dec. 12 Date Analyzed: 09/22/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	3	JB
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
71-43-2	Benzene	11	U
124-48-1	Dibromochloromethane	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
79-00-5	1,1,2-Trichloroethane	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	35	
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GP-3(4-8)

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: 9927525

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1841.D

Level: (low/med) LOW Date Received: 09/16/99

% Moisture: not dec. 12 Date Analyzed: 09/22/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GP-4(4-8)

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: 9927526

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1842.D

Level: (low/med) LOW Date Received: 09/16/99

% Moisture: not dec. 14 Date Analyzed: 09/22/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	3	JB
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
71-43-2	Benzene	12	U
124-48-1	Dibromochloromethane	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
79-00-5	1,1,2-Trichloroethane	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	62	
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GP-4(4-8)

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: 9927526

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1842.D

Level: (low/med) LOW Date Received: 09/16/99

% Moisture: not dec. 14 Date Analyzed: 09/22/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

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

Number TICs found: 4

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown hydrocarbon	1.80	14	J
2.	unknown Cyclic alkene	6.88	38	J
3.	unknown Cyclic	7.22	23	J
4.	unknown	7.37	17	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GP-5(4-8)

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: 9927527

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1843.D

Level: (low/med) LOW Date Received: 09/16/99

% Moisture: not dec. 15 Date Analyzed: 09/22/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	4	JB
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	4	J
71-43-2	Benzene	12	U
124-48-1	Dibromochloromethane	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
79-00-5	1,1,2-Trichloroethane	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	120	
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GP-5(4-8)

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: 9927527

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1843.D

Level: (low/med) LOW Date Received: 09/16/99

% Moisture: not dec. 15 Date Analyzed: 09/22/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

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

Number TICs found: 1

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown hydrocarbon	1.80	21	J

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

GP-6(4-8)

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: 9927528

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1835.D

Level: (low/med) LOW Date Received: 09/16/99

% Moisture: not dec. 12 Date Analyzed: 09/22/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	5	JB
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
71-43-2	Benzene	11	U
124-48-1	Dibromochloromethane	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
79-00-5	1,1,2-Trichloroethane	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	120	
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GP-6(4-8)

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: 9927528

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1835.D

Level: (low/med) LOW Date Received: 09/16/99

% Moisture: not dec. 12 Date Analyzed: 09/22/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

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

Number TICs found: 1

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown hydrocarbon	1.80	7	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GP-7(4-8)

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: 9927529

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1844.D

Level: (low/med) LOW Date Received: 09/16/99

% Moisture: not dec. 8 Date Analyzed: 09/22/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	3	JB
67-64-1	Acetone	11	U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
71-43-2	Benzene	11	U
124-48-1	Dibromochloromethane	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
79-00-5	1,1,2-Trichloroethane	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	53	
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GP-7(4-8)

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: 9927529

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1844.D

Level: (low/med) LOW Date Received: 09/16/99

% Moisture: not dec. 8 Date Analyzed: 09/22/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.: GP-8(4-8)

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: 9927530

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1845.D

Level: (low/med) LOW Date Received: 09/16/99

% Moisture: not dec. 17 Date Analyzed: 09/22/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	4	JB
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	3	J
71-43-2	Benzene	12	U
124-48-1	Dibromochloromethane	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
79-00-5	1,1,2-Trichloroethane	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	250	E
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GP-8(4-8)

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: 9927530

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1845.D

Level: (low/med) LOW Date Received: 09/16/99

% Moisture: not dec. 17 Date Analyzed: 09/22/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

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

Number TICs found: 1

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown hydrocarbon	1.80	14	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GP-8(4-8)DL

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: 9927530DL

Sample wt/vol: 2.5 (g/ml) G Lab File ID: F1855.D

Level: (low/med) LOW Date Received: 09/16/99

% Moisture: not dec. 17 Date Analyzed: 09/24/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	24	U
74-83-9	Bromomethane	24	U
75-01-4	Vinyl Chloride	24	U
75-00-3	Chloroethane	24	U
75-09-2	Methylene Chloride	8	JB
67-64-1	Acetone	24	U
75-15-0	Carbon Disulfide	14	J
75-35-4	1,1-Dichloroethene	24	U
75-34-3	1,1-Dichloroethane	24	U
540-59-0	1,2-Dichloroethene (total)	24	U
67-66-3	Chloroform	24	U
107-06-2	1,2-Dichloroethane	24	U
78-93-3	2-Butanone	24	U
71-55-6	1,1,1-Trichloroethane	24	U
56-23-5	Carbon Tetrachloride	24	U
75-27-4	Bromodichloromethane	24	U
78-87-5	1,2-Dichloropropane	24	U
10061-01-5	cis-1,3-Dichloropropene	24	U
79-01-6	Trichloroethene	2	J
71-43-2	Benzene	24	U
124-48-1	Dibromochloromethane	24	U
10061-02-6	trans-1,3-Dichloropropene	24	U
79-00-5	1,1,2-Trichloroethane	24	U
75-25-2	Bromoform	24	U
108-10-1	4-Methyl-2-Pentanone	24	U
591-78-6	2-Hexanone	24	U
127-18-4	Tetrachloroethene	250	
79-34-5	1,1,2,2-Tetrachloroethane	24	U
108-88-3	Toluene	24	U
108-90-7	Chlorobenzene	24	U
100-41-4	Ethylbenzene	24	U
100-42-5	Styrene	24	U
1330-20-7	Xylene (total)	24	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
GP-8(4-8)DL

Lab Name: H2M LABS, INC Contract:
Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157
Matrix: (soil/water) SOIL Lab Sample ID: 9927530DL
Sample wt/vol: 2.5 (g/ml) G Lab File ID: F1855.D
Level: (low/med) LOW Date Received: 09/16/99
% Moisture: not dec. 17 Date Analyzed: 09/24/99
GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

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

Number TICs found: 1

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown hydrocarbon	1.80	22	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GP-9(4-8)

Lab Name: H2M LABS, INC Contract: _____

Lab Code: H2M Case No.: _____ SAS No.: _____ SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: 9927531

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1846.D

Level: (low/med) LOW Date Received: 09/16/99

% Moisture: not dec. 15 Date Analyzed: 09/22/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	3	JB
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	2	J
71-43-2	Benzene	12	U
124-48-1	Dibromochloromethane	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
79-00-5	1,1,2-Trichloroethane	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	54	
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GP-9(4-8)

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: 9927531

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1846.D

Level: (low/med) LOW Date Received: 09/16/99

% Moisture: not dec. 15 Date Analyzed: 09/22/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

5. SURROGATE SPIKE ANALYSIS RESULTS

5.1 VOLATILES

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: H2M LABS, INC Contract: _____

Lab Code: H2M Case No.: _____ SAS No.: _____ SDG No.: LMS157

Level: (low/med) LOW _____

	EPA SAMPLE NO.	SMC1 (DCE) #	SMC2 (TOL) #	SMC3 (BFB) #	TOT OUT
01	VBLK9/22/99	97	99	93	0
02	MSB9/22/99	100	98	90	0
03	CHKSTD050	103	99	97	0
04	GP-6(4-8)	89	110	80	0
05	GP-6(4-8)MS	100	107	79	0
06	GP-6(4-8)MSD	102	99	90	0
07	GP-1(4-8)	98	99	108	0
08	GP-2(4-8)	98	97	90	0
09	GP-3(4-8)	94	97	87	0
10	GP-4(4-8)	98	101	103	0
11	GP-5(4-8)	94	97	92	0
12	GP-7(4-8)	94	94	97	0
13	GP-8(4-8)	95	99	92	0
14	GP-9(4-8)	95	99	95	0
15	VBLK9/24/99	96	100	99	0
16	GP-1(4-8)DL	95	101	110	0
17	GP-8(4-8)DL	95	99	97	0

				QC LIMITS
SMC1	(DCE)	=	1,2-Dichloroethane-d4	(70-121)
SMC2	(TOL)	=	Toluene-d8	(84-138)
SMC3	(BFB)	=	Bromofluorobenzene	(59-113)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

6. MATRIX SPIKE / MATRIX SPIKE DUPLICATE SUMMARY
6.2 VOLATILES

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: H2M LABS, INC Contract: _____

Lab Code: H2M Case No.: _____ SAS No.: _____ SDG No.: LMS157

Matrix Spike - EPA Sample No.: GP-6(4-8) Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50	0.0	42	84	59 - 172
Trichloroethene	50	0.0	37	74	62 - 137
Benzene	50	0.0	43	86	66 - 142
Toluene	50	0.0	42	84	59 - 139
Chlorobenzene	50	0.0	38	76	60 - 133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	33	66	24*	22	59 - 172
Trichloroethene	50	31	62	18	24	62 - 137
Benzene	50	38	76	12	21	66 - 142
Toluene	50	36	72	15	21	59 - 139
Chlorobenzene	50	36	72	5	21	60 - 133

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 1 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

_____

SOIL MATRIX SPIKE BLANK RECOVERY

Lab Name: H2M LABS, INC Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: LMS157

Matrix Spike Blank - EPA Sampl MSB9/22/99

COMPOUND	SPIKE ADDED (ug/Kg)		MS CONCENTRATION (ug/Kg)	MS % REC	#	QC. LIMITS REC.
1,1-Dichloroethene	50		45	90		(61-145)
Trichloroethene	50		41	83		(71-120)
Benzene	50		47	93		(76-127)
Toluene	50		44	88		(76-125)
Chlorobenzene	50		43	86		(75-130)

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

Comments: _____

7. BLANK SUMMARY DATA AND RESULTS

7.1 VOLATILES

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK9/22/99

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Lab File ID: F1832.D Lab Sample ID: VBLK9/22/99

Date Analyzed: 09/22/99 Time Analyzed: 14:29

GC Column: RTX624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

Instrument ID: H5973

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	MSB9/22/99	MSB9/22/99	F1833.D	14:57
02	CHKSTD050	QCCHKSTD050	F1834.D	15:24
03	GP-6(4-8)	9927528	F1835.D	15:51
04	GP-6(4-8)MS	9927528MS	F1836.D	16:18
05	GP-6(4-8)MSD	9927528MSD	F1837.D	16:51
06	GP-1(4-8)	9927523	F1839.D	17:47
07	GP-2(4-8)	9927524	F1840.D	18:15
08	GP-3(4-8)	9927525	F1841.D	18:42
09	GP-4(4-8)	9927526	F1842.D	19:09
10	GP-5(4-8)	9927527	F1843.D	19:36
11	GP-7(4-8)	9927529	F1844.D	20:03
12	GP-8(4-8)	9927530	F1845.D	20:31
13	GP-9(4-8)	9927531	F1846.D	20:58

COMMENTS

S 0044

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK9/22/99

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: VBLK9/22/99

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1832.D

Level: (low/med) LOW Date Received:

% Moisture: not dec. 0 Date Analyzed: 09/22/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
71-43-2	Benzene	10	U
124-48-1	Dibromochloromethane	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK9/22/99

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: VBLK9/22/99

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1832.D

Level: (low/med) LOW Date Received:

% Moisture: not dec. 0 Date Analyzed: 09/22/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK9/24/99

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Lab File ID: F1852.D Lab Sample ID: VBLK9/24/99

Date Analyzed: 09/24/99 Time Analyzed: 08:40

GC Column: RTX624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

Instrument ID: H5973

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	GP-1(4-8)DL	9927523DL	F1854.D	09:37
02	GP-8(4-8)DL	9927530DL	F1855.D	10:05

COMMENTS

S 0047

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK9/24/99

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: VBLK9/24/99

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1852.D

Level: (low/med) LOW Date Received:

% Moisture: not dec. 0 Date Analyzed: 09/24/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
71-43-2	Benzene	10	U
124-48-1	Dibromochloromethane	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK9/24/99

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Matrix: (soil/water) SOIL Lab Sample ID: VBLK9/24/99

Sample wt/vol: 5.0 (g/ml) G Lab File ID: F1852.D

Level: (low/med) LOW Date Received:

% Moisture: not dec. 0 Date Analyzed: 09/24/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 1 (uL) Soil Aliquot Volume: 1 (uL)

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

8. INTERNAL STANDARD AREA DATA

8.1 VOLATILES

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: H2M LABS, INC Contract: _____

Lab Code: H2M Case No.: _____ SAS No.: _____ SDG No.: LMS157

Lab File ID (Standard): F1831.D Date Analyzed: 09/22/99

Instrument ID: H5973 Time Analyzed: 13:45

GC Column: RTX624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

		IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	8885	3.93	66618	4.49	56194	6.38
	UPPER LIMIT	17770	3.43	133236	3.99	112388	5.88
	LOWER LIMIT	4443	4.43	33309	4.99	28097	6.88
	EPA SAMPLE NO.						
01	VBLK9/22/99	9820	3.93	70240	4.50	55566	6.38
02	MSB9/22/99	8489	3.94	66486	4.51	51205	6.39
03	CHKSTD050	9814	3.94	73607	4.50	63839	6.38
04	GP-6(4-8)	9868	3.94	65806	4.50	45130	6.39
05	GP-6(4-8)MS	8646	3.94	67444	4.50	47806	6.38
06	GP-6(4-8)MSD	9103	3.93	72759	4.49	56673	6.38
07	GP-1(4-8)	10118	3.93	74341	4.50	58706	6.38
08	GP-2(4-8)	10295	3.94	75997	4.51	62015	6.38
09	GP-3(4-8)	10119	3.94	73594	4.50	58359	6.38
10	GP-4(4-8)	10377	3.93	77065	4.50	61241	6.38
11	GP-5(4-8)	10231	3.93	76118	4.49	60836	6.38
12	GP-7(4-8)	11871	3.94	89017	4.50	74863	6.38
13	GP-8(4-8)	14402	3.94	108220	4.50	84569	6.38
14	GP-9(4-8)	13857	3.94	105406	4.51	81421	6.39

10/4/99

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk.
* Values outside of contract required QC limits

S 0051

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: H2M LABS, INC Contract:

Lab Code: H2M Case No.: SAS No.: SDG No.: LMS157

Lab File ID (Standard): F1851.D Date Analyzed: 09/24/99

Instrument ID: H5973 Time Analyzed: 08:05

GC Column: RTX624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

		IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	15930	3.93	123453	4.50	100766	6.38
	UPPER LIMIT	31860	3.43	246906	4.00	201532	5.88
	LOWER LIMIT	7965	4.43	61727	5.00	50383	6.88
	EPA SAMPLE NO.						
01	VBLK9/24/99	15905	3.94	115424	4.50	88152	6.38
02	GP-1(4-8)DL	14816	3.94	104982	4.50	80878	6.38
03	GP-8(4-8)DL	13115	3.93	96396	4.50	73184	6.38

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk.
* Values outside of contract required QC limits

S 0052

THE *Chazen* COMPANIES

ENGINEERS, PLANNERS, SURVEYORS AND ENVIRONMENTAL PROFESSIONALS

Facsimile Transmission

To: Mike Musso

Company:

Date: 11/18/99

Fax No: 914-735-7466

Regarding: Camarota Cleaners

Comments: Please call w/ any questions or comments

From: Tamara Girard

Company: The Chazen Companies – Clifton Park Office

Phone No: (518) 371-0929

Fax No.: (518) 371-0623

Number of Pages (Including this page): 6

Approximate Time of Transmission: 10:50 am

Capital District Office:

1407 Route 9, Building 1
Clifton Park, New York 12065
Phone: (518) 371-0929 Fax: (518) 371-0623

Dutchess County
Phone: (914) 451-

Orange County
Phone: (914) 5

Gas Chromatography Analysis of Volatile Ogranic Compounds In Air And Soil Gas
Former Camarota Dry Cleaner Site

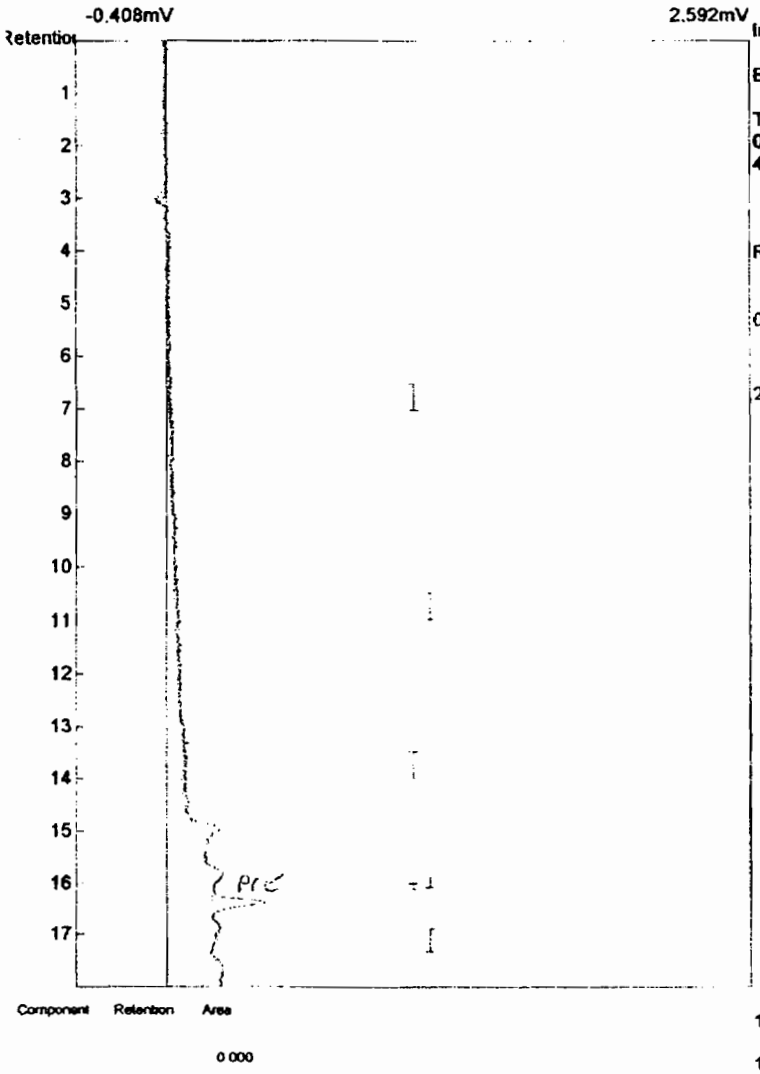
Sample ID	Date Collected	Date Analyzed	Freon-113 ppb	1,1-DCA ppb	cis 1,2-DCE ppb	1,1,1-TCA ppb	TCE ppb	PCE ppb
OA-01	11/17/99	11/17/99	--	--	--	--	--	--
IA-01	11/17/99	11/17/99	--	--	--	--	--	--
SG-01	11/17/99	11/17/99	--	--	--	--	--	105.454
SG-02	11/17/99	11/17/99	--	--	--	--	--	425.622

Note that "--" indicates that the compound was not detected in the sample at a concentration above the method detection limit

Lab name: Chazen Environmental
Client: NYSDEC
Collected: 11-17-99
Analysis date: 11/17/1999 17:38:05
Method: 1 cc Syringe Injection
Description: PID-CHANNEL 2
Data file: 2camarota15.CHR (c:\peakw95\Camarota)
Sample: SG-01
Operator: T. Girard/K. Baines

emperature program:

it temp	Hold	Ramp	Final temp
0.00	5.000	10.000	170.00



Component	Retention	Area
		0.000

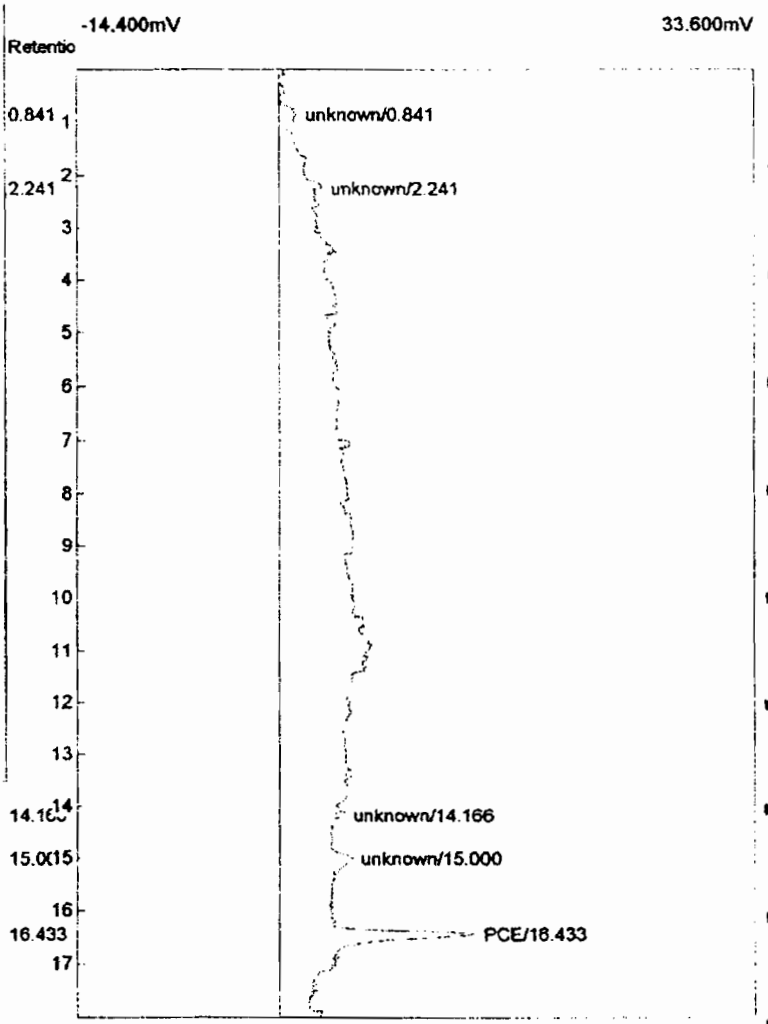
Lab name: Chazen Environmental
Client: NYSDEC
Analysis date: 11/17/1999 17:38:05
Method: 1 cc Syringe Injection
Description: DELCD-CHANNEL 3
Temp. prog:
Events: Default.evt
ontrol filename: DEFAULT.CON
Data file: 3camarota15.CHR (c:\peakw95\Camarota)
Sample: SG-01
Operator: T. Girard/K. Baines

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.100	ZERO
4.000	INTEG IMMEDIATE



Component	Retention	Area
PCE	16.433	105.454
		105.454

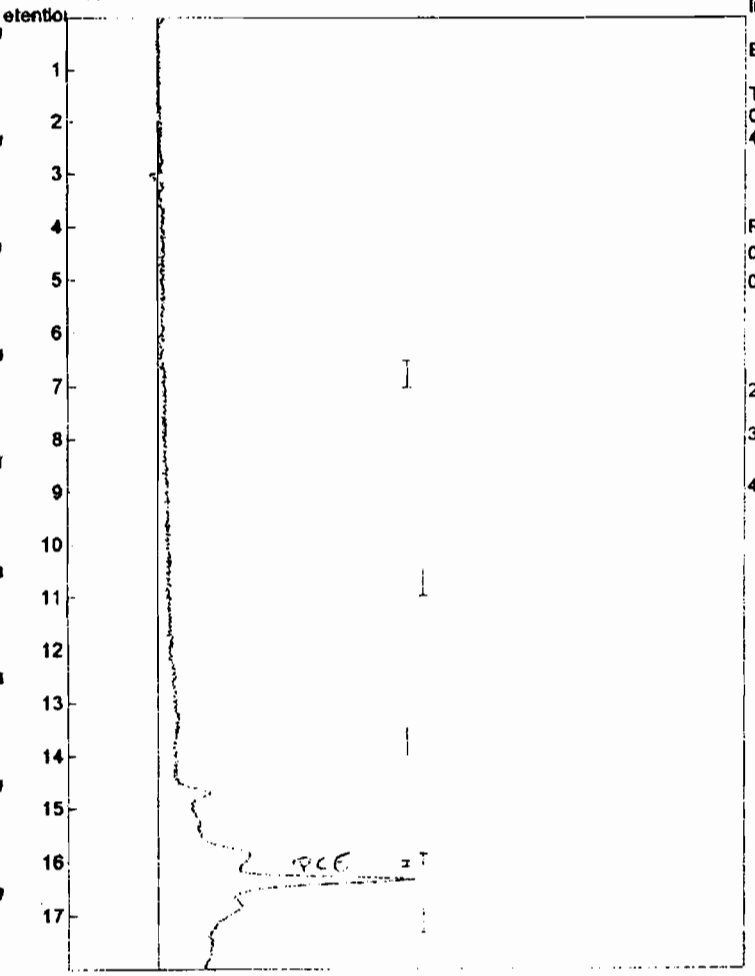
Lab name: Chazen Environmental
Client: NYSDEC
Collected: 11-17-99
Analysis date: 11/17/1999 18:09:33
Method: 1 cc Syringe Injection
Description: PID-CHANNEL 2
Data file: 2camarota16.CHR (c:\peakw95\Camarota)
Sample: SG-02
Operator: T. Girard/K. Baines

mperature program:

it temp	Hold	Ramp	Final temp
10 00	5 000	10 000	170 00

-0.408mV 2.592mV

etentio



Component	Retention	Area
		0 000

Lab name: Chazen Environmental
Client: NYSDEC
Analysis date: 11/17/1999 18:09:33
Method: 1 cc Syringe Injection
Description: DELCD-CHANNEL 3
Temp. prog:
Events: Default.evt
ontrol filename: DEFAULT.CON
Data file: 3camarota16.CHR (c:\peakw95\Camarota)
Sample: SG-02
Operator: T. Girard/K. Baines

Temperature program:

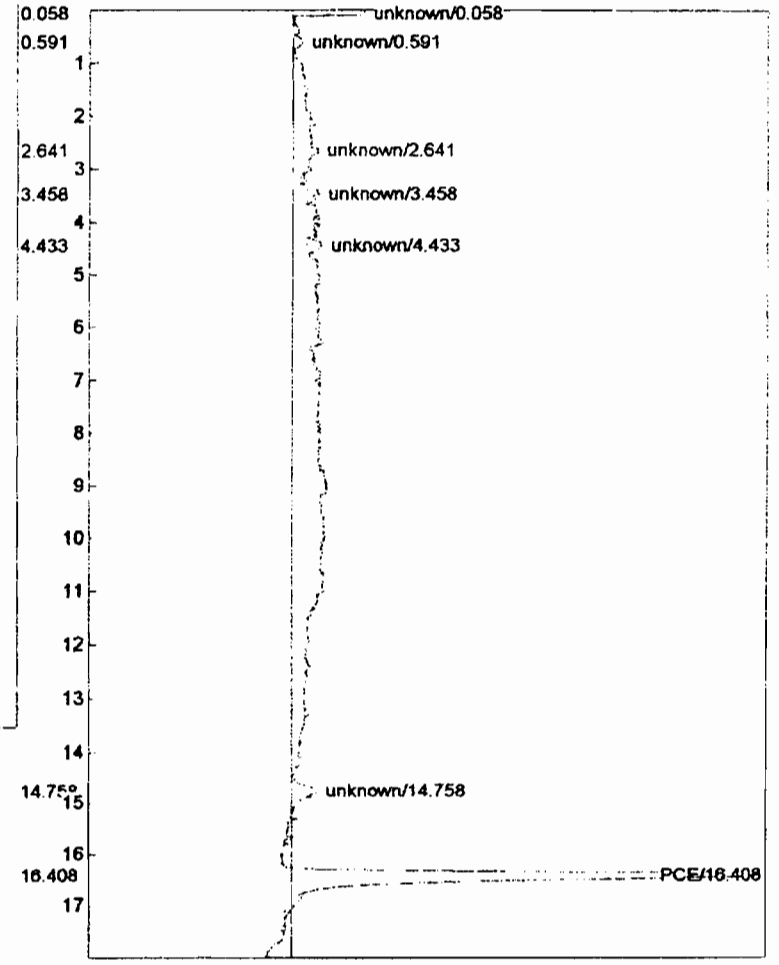
Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.100	ZERO
4.000	INTEG IMMEDIATE

-14.400mV 33.600mV

Retentio

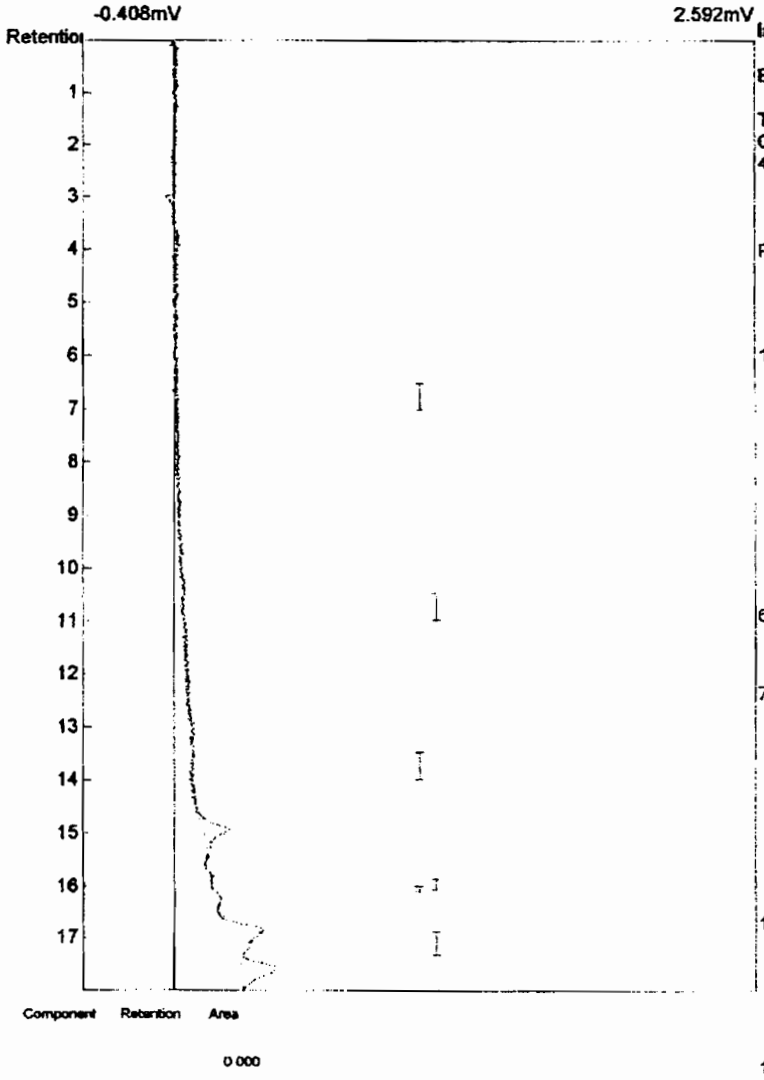


Component	Retention	Area
PCE	16.408	425.622
		425.622

Lab name: Chazen Environmental
Client: NYSDEC
Collected: 11-17-99
Analysis date: 11/17/1999 18:34:26
Method: 1 cc Syringe Injection
Description: PID-CHANNEL 2
Data file: 2camarota17.CHR (c:\peakw95\Camarota)
Sample: OA-01
Operator: T. Girard/K. Baines

Temperature program:

Init temp	Hold	Ramp	Final temp
40.00	5.000	10.000	170.00



Component	Retention	Area
		0.000

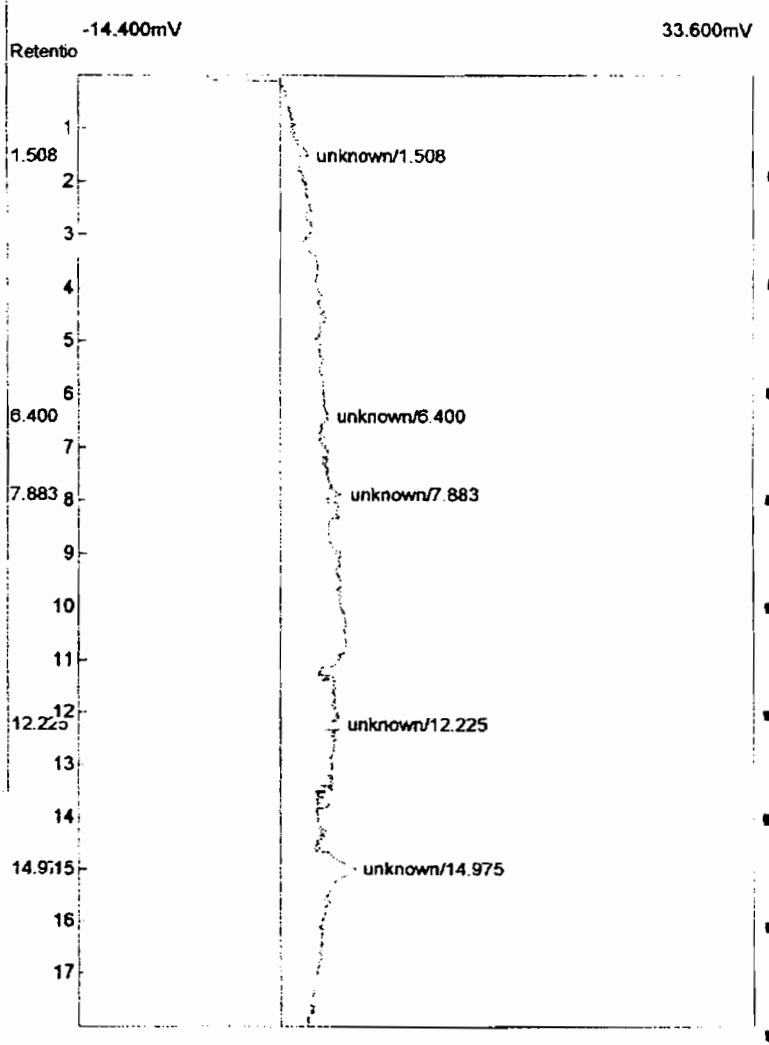
Lab name: Chazen Environmental
Client: NYSDEC
Analysis date: 11/17/1999 18:34:26
Method: 1 cc Syringe Injection
Description: DELCD-CHANNEL 3
Temp. prog:
Events: Default.evt
ontrol filename: DEFAULT.CON
Data file: 3camarota17.CHR (c:\peakw95\Camarota)
Sample: OA-01
Operator: T. Girard/K. Baines

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.100	ZERO
4.000	INTEG IMMEDIATE



Component	Retention	Area
		0.000

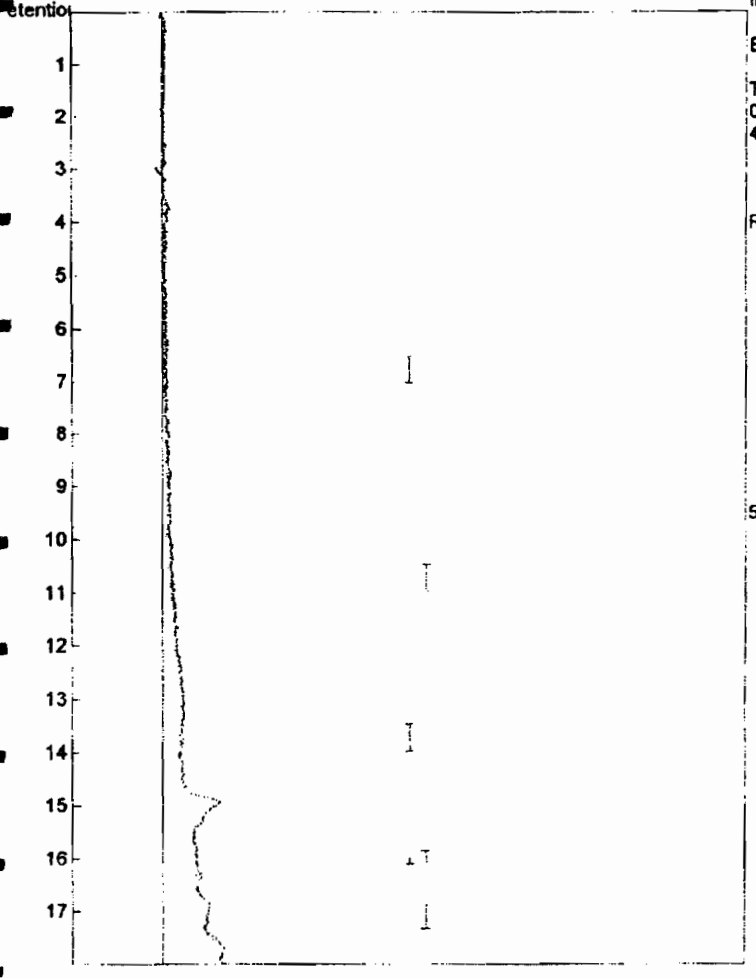
Lab name: Chazen Environmental
Client: NYSDEC
Collected: 11-17-99
alysis date: 11/17/1999 18:59:15
Method: 1 cc Syringe Injection
Description: PID-CHANNEL 2
Data file: 2camarota18.CHR (c:\peakw95\Camarota)
Sample: IA-01
Operator: T. Girard/K. Baines

nperature program:

L temp	Hold	Ramp	Final temp
.00	5.000	10.000	170.00

-0.408mV 2.592mV

etentio



Component Retention Area

0.000

Lab name: Chazen Environmental
Client: NYSDEC
Analysis date: 11/17/1999 18:59:15
Method: 1 cc Syringe Injection
Description: DELCD-CHANNEL 3
Temp. prog:
Events: Default.evt
ontrol filename: DEFAULT.CON
Data file: 3camarota18.CHR (c:\peakw95\Camarota)
Sample: IA-01
Operator: T. Girard/K. Baines

Temperature program:

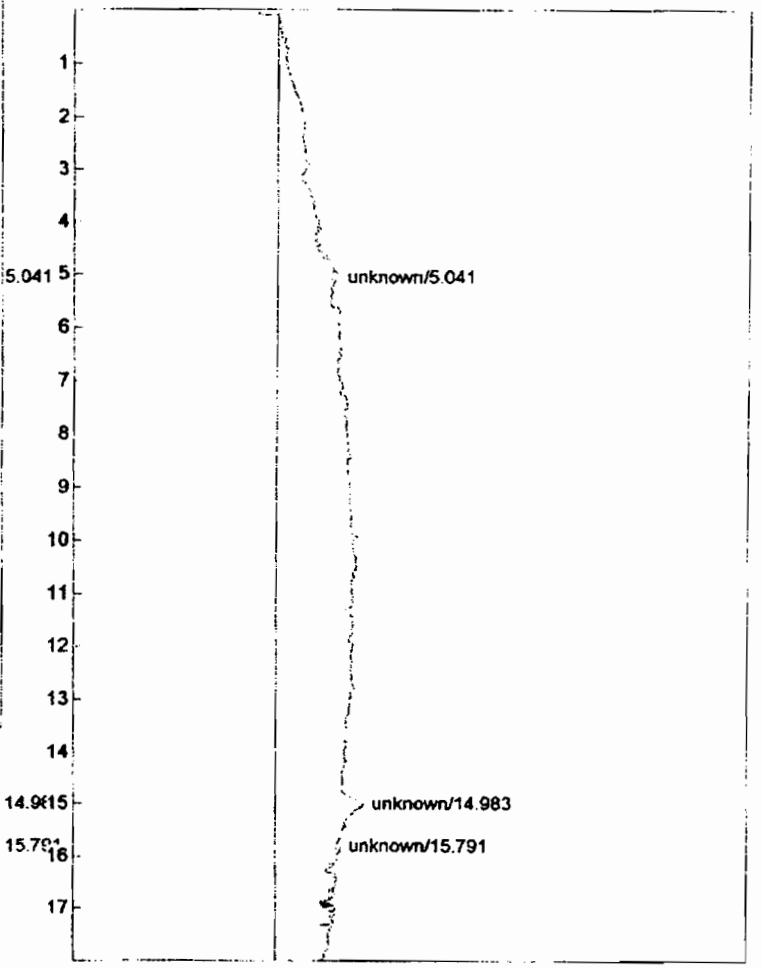
Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.100	ZERO
4.000	INTEG IMMEDIATE

-14.400mV 33.600mV

Retentio



Component Retention Area

0.000

Michael Musso

From: Tamara Girard [tgirard@chazencompanies.com]
Sent: Thursday, November 18, 1999 5:04 PM
To: mmusso@lmseng.com
Subject: GC Analytical Procedure


GC.doc

Mike,

Attached, please find a short write-up of the analytical technique used to analyze the Camarota air samples. Let me know if you need anything else.

Tamara Girard

GC Specifications

Indoor air and soil gas samples collected from the former Camarota Cleaners Site were analyzed by The Chazen Companies for volatile organic compounds using a portable SRI 8610C Gas Chromatograph (GC).

The identification of volatile organic compounds by gas chromatography relies on the principle of compound separation within a gaseous mixture followed by individual compound identification by specific analytical detectors. The GC is equipped with a 60 meter capillary analytical compound and two analytical detectors; a Photoionization Detector (PID) and a Dry Electrolytic Conductivity Detector (DELCD). The photoionization detector (PID) is most sensitive to petroleum (BTEX) and various other aromatic compounds while the DELCD detector is sensitive specifically to halogenated compounds.

The gas chromatograph was calibrated for the detection of gasoline range volatile organic compounds (benzene, toluene, ethylbenzene, xylenes, trimethylbenzenes and naphthalene) and for common chlorinated volatile organic compounds (1,1-dichloroethane, cis-1,2-dichloroethene, 1,1,1-trichloroethane, trichloroethene and tetrachloroethene) utilizing a three-point calibration curve and methanol based chemical standards prepared by a certified laboratory vendor. The GC is sensitive in the parts per billion (ppb) range to these compounds in the headspace air with a typical detection limit for most volatile organic compounds below 10 parts per billion in air.

Analytical Procedure

Air samples were analyzed by directly injecting a measured aliquot of air onto the analytical column of the GC. Analytical conditions (analytical column, carrier gas flow, gas pressure, column temperature, sample time) were selected to create an analytical program specific for the detection of the compounds of concern. Compounds were identified qualitatively by comparing observed elution times of unknowns to elution times of the calibration standards. Following each run, the detected chromatogram peaks were quantified (in ppb) by comparing the area under to the curve to the analytical calibration curve values for each standardized compound.

APPENDIX B

DATA VALIDATION AND USABILITY REPORTS

DATA USEABILITY REPORT

This usability report covers the analytical results, submitted by H2M Corporation (H2M), for the field sampling investigation, conducted by Lawler, Matusky & Skelly Engineers LLP (LMS) between 14 and 15 September 1999 at the Camarota Cleaners Site. The analytical reports submitted by H2M, sample designation groups (SDG) LMS156 and LMS157 were validated by Nancy Potak Data Validation. LMS reviewed the data validator's final report and assessed the analytical data against the project data quality objectives (DQOs) in preparation of this report. Where resulting quality control (QC) data did not fall within protocol requirements the reported data in the Focused Remedial Investigation Report (FRI) have been appropriately qualified. The data submitted by H2M are useable to approximate levels of select environmental contaminants in samples collected as part of the Camarota Cleaners Site investigation.

A total of eight (8) aqueous samples and nine (9) soil samples were collected in September 1999 as part of the Camarota Cleaners Site investigation and analyzed for target compound list (TCL) volatile organic compounds. All of the analyses were conducted in accordance with the most recent version of the New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) (October 1995).

Those instances where the reported data were noncompliant are described in the data validator's report. This report presents a discussion of any impacts that noncompliant data and any other issues raised by the validator may have on the usability of the reported results.

Volatile Organic Compound Analysis

Aqueous Samples

The aqueous samples submitted to H2M were analyzed for TCL VOCs in accordance with NYSDEC ASP Method 8260B. Where reported concentrations may have been affected by QC failures the data usability is discussed below:

1. The compounds chloromethane, carbon tetrachloride, tetrachloroethene and vinyl chloride showed percent differences in the continuing calibration that were above quality assurance limits. Of these compounds only vinyl chloride was detected in samples GW-3(12) and GW-13(12). Concentrations of vinyl chloride in these two samples are therefore considered estimated and have been qualified in the data summary tables. Data is useable to indicate the approximate levels of vinyl chloride in the affected samples.

2. The check standard recovery of cis-1,3-dichloroproprene and trans-1,3-dichloropropene were each above quality assurance limits. Neither of these compounds were detected in the field samples collected and the data is useable as reported.

3. Instrument detection limits were analyzed approximately 10 months prior to the analyses of samples in this SDG. The NYSDEC ASP program requires these be analyzed every 6 months. No qualification to the data is required.

In every other respect the data is useable as reported and no further qualification is needed.

Soil Samples

1. Methylene chloride was detected in associated method blanks at levels detected in the field samples. The presence of methylene chloride in these samples, therefore, is not considered to be representative of site conditions and the validator rejected all detections of the compound. Methylene chloride was removed, therefore, as a detected compound in the affected samples in final data summary table prepared by LMS.

2. The percent difference in the continuing calibration for methylene chloride, 2-butanone and 1,1-dichloroethane were above quality assurance limits. Neither 2-butanone nor 1,1-dichloroethane were detected in samples submitted and therefore no qualification to the data is required. Methylene chloride was removed from the data summary tables as discussed in Item 1 and no further qualification is required.

3. Fortified blank recovery for carbon disulfide and 1,1,1-trichloroethane were below the applicable criteria. Neither of these compounds were detected in the undiluted samples submitted for analyses, however, low-level concentrations may have been overlooked in the samples. Data summary tables were modified to indicate the uncertainty of the presence of low-level concentrations of these analytes in the samples submitted. Data is useable to show that elevated concentrations of theses analytes are not present in the samples collected.

4. Due to elevated detections of tetrachloroethene in samples GP-1(4-8) and GP-8(4-8) the samples were reanalyzed using a reduced sample weight. Data has been appropriately qualified in the data summary tables and is useable as reported.

In every other respect the data is useable as reported and no further qualification is needed.

SUMMARY OF THE ANALYTICAL DATA VALIDATION

New York State Department of Environmental Conservation
Data Validation Summary Form

For Multi-Site PSAs-II
Camarota Cleaners

Group #	Date Received	CLP Year	Sample Number	Lab ID #	Matrix S/W	VOA Compliance	BNA Compliance	TAL Metals Compliance	Cyanide Compliance	Page in CLP	Non-Compliance
LMS156	9/16/99	95	Trip Blank TB-1	9927521	Water	Yes *	NA	NA	NA		
LMS156	9/16/99	95	CCGW-1 (9)	9927514	Water	Yes *	NA	NA	NA		
LMS156	9/16/99	95	CCGW-3 (12)	9927515	Water	Yes *	NA	NA	NA		
LMS156	9/16/99	95	CCGW-4 (6.5)	9927516	Water	Yes *	NA	NA	NA		
LMS156	9/16/99	95	CCGW-4 (6.5)MS	9927516MS	Water	Yes *	NA	NA	NA		
LMS156	9/16/99	95	CCGW-4 (6.5)MSD	9927516MSD	Water	Yes *	NA	NA	NA		
LMS156	9/16/99	95	CCGW-5 (11)	9927517	Water	Yes *	NA	NA	NA		
LMS156	9/16/99	95	CCGW-13 (12)	9927518	Water	Yes *	NA	NA	NA		
LMS156	9/16/99	95	ER-1	9927519	Water	Yes *	NA	NA	NA		
LMS156	9/16/99	95	ER-2	9927520	Water	Yes *	NA	NA	NA		

* - Instrument detection limits analyzed 4 months beyond the 6 month limit

SUMMARY OF THE ANALYTICAL DATA VALIDATION
For Multi-Site PSAs-II
Camarota Cleaners

Water Volatile Organic Analyses
Samples Received September16, 1999
Sample Delivery Group: LMS156
Laboratory Reference Numbers:

Trip Blank TB-1	9927521
CCGW-1 (9)	9927514
CCGW-3 (12)	9927515
CCGW-4 (6.5)	9927516
CCGW-4 (6.5)MS	9927516MS
CCGW-4 (6.5)MSD	9927516MSD
CCGW-5 (11)	9927517
CCGW-13 (12)	9927518
ER-1	9927519
ER-2	9927520

Water samples were validated for analyses of the volatile organic TCL analyte list by the US EPA Region II checklist. A complete analytical validation was performed based upon the following parameters:

* - Data Completeness
* - GC/MS Tuning
* - Holding Times
- Calibrations
* - Laboratory Blanks
- Field Blank
* - Trip Blank
- Holding Blank
* - System Monitoring Compound Recoveries
* - Internal Standard Recoveries
* - Matrix Spike / Matrix Spike Duplicate
* - Blank Spike
* - Check Standard
* - Compound Identification
* - Compound Quantitation
- Instrument Detection Limit

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

The instrument detection limits were analyzed approximately 10 months prior to the analyses of these samples. The NYS DEC ASP program requires that these be analyzed every 6 months.

The minor problems with the continuing calibrations should be noted.

No other problems were detected with the samples of this delivery group.

Holding Times

All samples were analyzed within the 10 day contractual holding time.

Tunes

No problems were detected with any of the tunes associated with the samples of this delivery group.

System Monitoring Compound Recoveries

All system monitoring compound recoveries were within the EPA Region II quality assurance limits.

Calibrations

Several minor problems were detected with the continuing calibration:

The percent difference of chloromethane (32%), vinyl chloride (28%), carbon tetrachloride (30%) and tetrachloroethene (26%) were above the 25% technical and/or contractual quality assurance limits in continuing calibration (F1806.D).

Of these, only vinyl chloride was detected in samples CCGW-3 (12) and CCGW-13 (12) at a concentration of 14 ug/l. These concentrations should be considered to be estimated values. The data were flagged with the "J" qualifier and footnoted with #41 in the data validation summary table.

Matrix Spike / Matrix Spike Duplicate

Sample CCGW-4 (6.5) (Lab. #: 9927516) of this sample delivery group was used for the matrix spike and matrix spike duplicate. All recoveries and RPDs were within the required quality assurance limits.

Blank Spike

All blank spike recoveries were within the required quality assurance limits.

Check Standard

The recovery of cis-1,3-dichloropropene (114%) was above the 111% quality assurance limit, and the recovery of trans-1,3-dichloropropene (115%) was above the 109% quality assurance limit. Neither of these compounds were detected in any of the samples and these slightly high recoveries do not affect the end use of the data.

No other problems were detected with the recovery of the 50 ug/l check standard.

Method Blanks

No compounds were detected in the one method blank.

Trip Blanks

No compounds were detected in the one trip blank associated with the samples of this delivery group.

Field Blank

A field blank was not received with this sample delivery group.

Holding Blank

A holding blank was not associated with this sample deliver group.

Internal Standard Areas and Retention Times

No problems were found with the recoveries or retention times in any of the internal standards associated with the samples of this delivery group.

Instrument Detection Limits

The instrument detection limits were analyzed approximately 10 months prior to the analyses of these samples. The NYS DEC ASP program requires that these be analyzed every 6 months.

No other problems were detected with the reported instrument detection limits.

Sample Results

No problems were found with the reported results of any of the samples of this delivery group.

Data Validation Summary Table
For Multi-Site PSAs-II Camarota Cleaners

Water Volatile Organic Analyses
Samples Received September16, 1999
Sample Delivery Group: LMS156

Sample / Analyte	Method Blank Conc. (PPB)	Lab. Reported Conc. (PPB)	QA Validation Reported Conc. Decision	Qualifiers	Footnotes
Trip Blank TB-1 (Lab. #: 9927521)					
TCL Volatile Organics	(Undiluted)				
Chloromethane	1 U	1 U	1 U		
Bromomethane	1 U	1 U	1 U		
Vinyl Chloride	1 U	1 U	1 U		
Chloroethane	1 U	1 U	1 U		
Methylene Chloride	2 U	2 U	2 U		
Acetone	5 U	5 U	5 U		
Carbon Disulfide	1 U	1 U	1 U		
1,1-Dichloroethene	1 U	1 U	1 U		
1,1-Dichloroethane	1 U	1 U	1 U		
1,2-Dichloroethene (total)	1 U	1 U	1 U		
Chloroform	1 U	1 U	1 U		
1,2-Dichloroethane	1 U	1 U	1 U		
2-Butanone	5 U	5 U	5 U		
1,1,1-Trichloroethane	1 U	1 U	1 U		
Carbon Tetrachloride	1 U	1 U	1 U		
Bromodichloromethane	1 U	1 U	1 U		
1,2-Dichloropropane	1 U	1 U	1 U		
cis-1.3-Dichloropropene	1 U	1 U	1 U		
Trichloroethene	1 U	1 U	1 U		
Benzene	1 U	1 U	1 U		
Dibromochloromethane	1 U	1 U	1 U		
trans-1,3-Dichloropropane	1 U	1 U	1 U		
1,1,2-Trichloroethane	1 U	1 U	1 U		
Bromoform	1 U	1 U	1 U		
4-Methyl-2-Pentone	5 U	5 U	5 U		
2-Hexanone	5 U	5 U	5 U		
Tetrachloroethene	1 U	1 U	1 U		
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U		
Toluene	1 U	1 U	1 U		
Chlorobenzene	1 U	1 U	1 U		
Ethylbenzene	1 U	1 U	1 U		
Styrene	1 U	1 U	1 U		
Xylene (total)	1 U	1 U	1 U		
Non-Target Volatile Organics					
None Detected					

Data Validation Summary Table
For Multi-Site PSAs-II Camarota Cleaners

Water Volatile Organic Analyses
Samples Received September16, 1999
Sample Delivery Group: LMS156

Sample / Analyte	Method Blank Conc. (PPB)	Lab. Reported Conc. (PPB)	QA Validation Reported Conc. Decision	Qualifiers	Footnotes
Water Sample CCGW-1 (9) (Lab. #: 9927514)					
TCL Volatile Organics	(Undiluted)				
Chloromethane	1 U	1 U	1 U		
Bromomethane	1 U	1 U	1 U		
Vinyl Chloride	1 U	1 U	1 U		
Chloroethane	1 U	1 U	1 U		
Methylene Chloride	2 U	2 U	2 U		
Acetone	5 U	5 U	5 U		
Carbon Disulfide	1 U	1 U	1 U		
1,1-Dichloroethene	1 U	1 U	1 U		
1,1-Dichloroethane	1 U	1 U	1 U		
1,2-Dichloroethene (total)	1 U	1 U	1 U		
Chloroform	1 U	2	2		
1,2-Dichloroethane	1 U	1 U	1 U		
2-Butanone	5 U	5 U	5 U		
1,1,1-Trichloroethane	1 U	1 U	1 U		
Carbon Tetrachloride	1 U	1 U	1 U		
Bromodichloromethane	1 U	1 U	1 U		
1,2-Dichloropropane	1 U	1 U	1 U		
cis-1.3-Dichloropropene	1 U	1 U	1 U		
Trichloroethene	1 U	1 U	1 U		
Benzene	1 U	1 U	1 U		
Dibromochloromethane	1 U	1 U	1 U		
trans-1,3-Dichloropropane	1 U	1 U	1 U		
1,1,2-Trichloroethane	1 U	1 U	1 U		
Bromoform	1 U	1 U	1 U		
4-Methyl-2-Pentone	5 U	5 U	5 U		
2-Hexanone	5 U	5 U	5 U		
Tetrachloroethene	1 U	12	12		
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U		
Toluene	1 U	1 U	1 U		
Chlorobenzene	1 U	1 U	1 U		
Ethylbenzene	1 U	1 U	1 U		
Styrene	1 U	1 U	1 U		
Xylene (total)	1 U	1 U	1 U		
Non-Target Volatile Organics					
None Detected					

Data Validation Summary Table
For Multi-Site PSAs-II Camarota Cleaners

Water Volatile Organic Analyses
Samples Received September16, 1999
Sample Delivery Group: LMS156

Sample / Analyte	Method Blank Conc. (PPB)	Lab. Reported Conc. (PPB)	QA Validation Reported Conc. Decision		Qualifiers	Footnotes
Water Sample CCGW-3 (12) (Lab. #: 9927515)						
TCL Volatile Organics	(Undiluted)					
Chloromethane	1 U	1 U	1 U			
Bromomethane	1 U	1 U	1 U			
Vinyl Chloride	1 U	14	14	J	qualify	41
Chloroethane	1 U	1 U	1 U			
Methylene Chloride	2 U	5	5			
Acetone	5 U	5 U	5 U			
Carbon Disulfide	1 U	1 U	1 U			
1,1-Dichloroethene	1 U	1 U	1 U			
1,1-Dichloroethane	1 U	1 U	1 U			
1,2-Dichloroethene (total)	1 U	8	8			
Chloroform	1 U	1 U	1 U			
1,2-Dichloroethane	1 U	1 U	1 U			
2-Butanone	5 U	5 U	5 U			
1,1,1-Trichloroethane	1 U	1 U	1 U			
Carbon Tetrachloride	1 U	1 U	1 U			
Bromodichloromethane	1 U	1 U	1 U			
1,2-Dichloropropane	1 U	1 U	1 U			
cis-1.3-Dichloropropene	1 U	1 U	1 U			
Trichloroethene	1 U	10	9			
Benzene	1 U	1 U	1 U			
Dibromochloromethane	1 U	1 U	1 U			
trans-1,3-Dichloropropane	1 U	1 U	1 U			
1,1,2-Trichloroethane	1 U	1 U	1 U			
Bromoform	1 U	1 U	1 U			
4-Methyl-2-Pentone	5 U	5 U	5 U			
2-Hexanone	5 U	5 U	5 U			
Tetrachloroethene	1 U	18	18			
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U			
Toluene	1 U	1 U	1 U			
Chlorobenzene	1 U	1 U	1 U			
Ethylbenzene	1 U	1 U	1 U			
Styrene	1 U	1 U	1 U			
Xylene (total)	1 U	1 U	1 U			
Non-Target Volatile Organics						
Unknown Hydrocarbon (1.65)	ND	16 J	16 J			
Unknown Hydrocarbon (1.90)	ND	6 J	6 J			

Data Validation Summary Table
For Multi-Site PSAs-II Camarota Cleaners

Water Volatile Organic Analyses
Samples Received September16, 1999
Sample Delivery Group: LMS156

Sample / Analyte	Method Blank Conc. (PPB)	Lab. Reported Conc. (PPB)	QA Validation Reported Conc. Decision	Qualifiers	Footnotes
Water Sample CCGW-4 (6.5) (Lab. #: 9927516)					
TCL Volatile Organics	(Undiluted)				
Chloromethane	1 U	1 U	1 U		
Bromomethane	1 U	1 U	1 U		
Vinyl Chloride	1 U	1 U	1 U		
Chloroethane	1 U	1 U	1 U		
Methylene Chloride	2 U	2 U	2 U		
Acetone	5 U	5 U	5 U		
Carbon Disulfide	1 U	1 U	1 U		
1,1-Dichloroethene	1 U	1 U	1 U		
1,1-Dichloroethane	1 U	1 U	1 U		
1,2-Dichloroethene (total)	1 U	1 U	1 U		
Chloroform	1 U	1 U	1 U		
1,2-Dichloroethane	1 U	1 U	1 U		
2-Butanone	5 U	5 U	5 U		
1,1,1-Trichloroethane	1 U	1 U	1 U		
Carbon Tetrachloride	1 U	1 U	1 U		
Bromodichloromethane	1 U	1 U	1 U		
1,2-Dichloropropane	1 U	1 U	1 U		
cis-1.3-Dichloropropene	1 U	1 U	1 U		
Trichloroethene	1 U	1 U	1 U		
Benzene	1 U	1 U	1 U		
Dibromochloromethane	1 U	1 U	1 U		
trans-1,3-Dichloropropane	1 U	1 U	1 U		
1,1,2-Trichloroethane	1 U	1 U	1 U		
Bromoform	1 U	1 U	1 U		
4-Methyl-2-Pentone	5 U	5 U	5 U		
2-Hexanone	5 U	5 U	5 U		
Tetrachloroethene	1 U	1 U	1 U		
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U		
Toluene	1 U	1 U	1 U		
Chlorobenzene	1 U	1 U	1 U		
Ethylbenzene	1 U	1 U	1 U		
Styrene	1 U	1 U	1 U		
Xylene (total)	1 U	1 U	1 U		
Non-Target Volatile Organics					
None Detected					

Data Validation Summary Table
For Multi-Site PSAs-II Camarota Cleaners

Water Volatile Organic Analyses
Samples Received September16, 1999
Sample Delivery Group: LMS156

Sample / Analyte	Method Blank Conc. (PPB)	Lab. Reported Conc. (PPB)	QA Validation Reported Conc. Decision	Qualifiers	Footnotes
Water Sample CCGW-5 (11) (Lab. #: 9927517)					
TCL Volatile Organics	(Undiluted)				
Chloromethane	1 U	1 U	1 U		
Bromomethane	1 U	1 U	1 U		
Vinyl Chloride	1 U	1 U	1 U		
Chloroethane	1 U	1 U	1 U		
Methylene Chloride	2 U	2 U	2 U		
Acetone	5 U	5 U	5 U		
Carbon Disulfide	1 U	1 U	1 U		
1,1-Dichloroethene	1 U	1 U	1 U		
1,1-Dichloroethane	1 U	1 U	1 U		
1,2-Dichloroethene (total)	1 U	1 U	1 U		
Chloroform	1 U	1 U	1 U		
1,2-Dichloroethane	1 U	1 U	1 U		
2-Butanone	5 U	5 U	5 U		
1,1,1-Trichloroethane	1 U	1 U	1 U		
Carbon Tetrachloride	1 U	1 U	1 U		
Bromodichloromethane	1 U	1 U	1 U		
1,2-Dichloropropane	1 U	2	2		
cis-1.3-Dichloropropene	1 U	1 U	1 U		
Trichloroethene	1 U	1 U	1 U		
Benzene	1 U	1 U	1 U		
Dibromochloromethane	1 U	1 U	1 U		
trans-1,3-Dichloropropane	1 U	1 U	1 U		
1,1,2-Trichloroethane	1 U	1 U	1 U		
Bromoform	1 U	1 U	1 U		
4-Methyl-2-Pentone	5 U	5 U	5 U		
2-Hexanone	5 U	5 U	5 U		
Tetrachloroethene	1 U	62	62		
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U		
Toluene	1 U	1 U	1 U		
Chlorobenzene	1 U	1 U	1 U		
Ethylbenzene	1 U	1 U	1 U		
Styrene	1 U	1 U	1 U		
Xylene (total)	1 U	1 U	1 U		
Non-Target Volatile Organics					
None Detected					

Data Validation Summary Table
For Multi-Site PSAs-II Camarota Cleaners

Water Volatile Organic Analyses
Samples Received September16, 1999
Sample Delivery Group: LMS156

Sample / Analyte	Method Blank Conc. (PPB)	Lab. Reported Conc. (PPB)	QA Validation Reported Conc. Decision		Qualifiers	Footnotes
Water Sample CCGW-13 (12) (Lab. #: 9927518)						
TCL Volatile Organics	(Undiluted)					
Chloromethane	1 U	1 U	1 U			
Bromomethane	1 U	1 U	1 U			
Vinyl Chloride	1 U	14	14	J	qualify	41
Chloroethane	1 U	1 U	1 U			
Methylene Chloride	2 U	2 U	2 U			
Acetone	5 U	5 U	5 U			
Carbon Disulfide	1 U	1 U	1 U			
1,1-Dichloroethene	1 U	1 U	1 U			
1,1-Dichloroethane	1 U	1 U	1 U			
1,2-Dichloroethene (total)	1 U	8	8			
Chloroform	1 U	1 U	1 U			
1,2-Dichloroethane	1 U	1 U	1 U			
2-Butanone	5 U	5 U	5 U			
1,1,1-Trichloroethane	1 U	1 U	1 U			
Carbon Tetrachloride	1 U	1 U	1 U			
Bromodichloromethane	1 U	1 U	1 U			
1,2-Dichloropropane	1 U	1 U	1 U			
cis-1.3-Dichloropropene	1 U	1 U	1 U			
Trichloroethene	1 U	9	9			
Benzene	1 U	1 U	1 U			
Dibromochloromethane	1 U	1 U	1 U			
trans-1,3-Dichloropropane	1 U	1 U	1 U			
1,1,2-Trichloroethane	1 U	1 U	1 U			
Bromoform	1 U	1 U	1 U			
4-Methyl-2-Pentone	5 U	5 U	5 U			
2-Hexanone	5 U	5 U	5 U			
Tetrachloroethene	1 U	17	17			
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U			
Toluene	1 U	1 U	1 U			
Chlorobenzene	1 U	1 U	1 U			
Ethylbenzene	1 U	1 U	1 U			
Styrene	1 U	1 U	1 U			
Xylene (total)	1 U	1 U	1 U			
Non-Target Volatile Organics						
Unknown Hydrocarbon (1.65)	ND	13 J	14 J			
Unknown Hydrocarbon (1.90)	ND	6 J	6 J			

Data Validation Summary Table
For Multi-Site PSAs-II Camarota Cleaners

Water Volatile Organic Analyses
Samples Received September16, 1999
Sample Delivery Group: LMS156

Sample / Analyte	Method Blank Conc. (PPB)	Lab. Reported Conc. (PPB)	QA Validation Reported Conc. Decision	Qualifiers	Footnotes
Water Sample ER-1 (Lab. #: 9927519)					
TCL Volatile Organics	(Undiluted)				
Chloromethane	1 U	1 U	1 U		
Bromomethane	1 U	1 U	1 U		
Vinyl Chloride	1 U	1 U	1 U		
Chloroethane	1 U	1 U	1 U		
Methylene Chloride	2 U	2 U	2 U		
Acetone	5 U	5 U	5 U		
Carbon Disulfide	1 U	1 U	1 U		
1,1-Dichloroethene	1 U	1 U	1 U		
1,1-Dichloroethane	1 U	1 U	1 U		
1,2-Dichloroethene (total)	1 U	1 U	1 U		
Chloroform	1 U	1 U	1 U		
1,2-Dichloroethane	1 U	1 U	1 U		
2-Butanone	5 U	5 U	5 U		
1,1,1-Trichloroethane	1 U	1 U	1 U		
Carbon Tetrachloride	1 U	1 U	1 U		
Bromodichloromethane	1 U	1 U	1 U		
1,2-Dichloropropane	1 U	1 U	1 U		
cis-1.3-Dichloropropene	1 U	1 U	1 U		
Trichloroethene	1 U	1 U	1 U		
Benzene	1 U	1 U	1 U		
Dibromochloromethane	1 U	1 U	1 U		
trans-1,3-Dichloropropane	1 U	1 U	1 U		
1,1,2-Trichloroethane	1 U	1 U	1 U		
Bromoform	1 U	1 U	1 U		
4-Methyl-2-Pentone	5 U	5 U	5 U		
2-Hexanone	5 U	5 U	5 U		
Tetrachloroethene	1 U	1 U	1 U		
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U		
Toluene	1 U	1 U	1 U		
Chlorobenzene	1 U	1 U	1 U		
Ethylbenzene	1 U	1 U	1 U		
Styrene	1 U	1 U	1 U		
Xylene (total)	1 U	1 U	1 U		
Non-Target Volatile Organics					
None Detected					

Data Validation Summary Table
For Multi-Site PSAs-II Camarota Cleaners

Water Volatile Organic Analyses
Samples Received September16, 1999
Sample Delivery Group: LMS156

Sample / Analyte	Method Blank Conc. (PPB)	Lab. Reported Conc. (PPB)	QA Validation Reported Conc. Decision	Qualifiers	Footnotes
Water Sample ER-2 (Lab. #: 9927520)					
TCL Volatile Organics	(Undiluted)				
Chloromethane	1 U	1 U	1 U		
Bromomethane	1 U	1 U	1 U		
Vinyl Chloride	1 U	1 U	1 U		
Chloroethane	1 U	1 U	1 U		
Methylene Chloride	2 U	2 U	2 U		
Acetone	5 U	5 U	5 U		
Carbon Disulfide	1 U	1 U	1 U		
1,1-Dichloroethene	1 U	1 U	1 U		
1,1-Dichloroethane	1 U	1 U	1 U		
1,2-Dichloroethene (total)	1 U	1 U	1 U		
Chloroform	1 U	1 U	1 U		
1,2-Dichloroethane	1 U	1 U	1 U		
2-Butanone	5 U	5 U	5 U		
1,1,1-Trichloroethane	1 U	1 U	1 U		
Carbon Tetrachloride	1 U	1 U	1 U		
Bromodichloromethane	1 U	1 U	1 U		
1,2-Dichloropropane	1 U	1 U	1 U		
cis-1.3-Dichloropropene	1 U	1 U	1 U		
Trichloroethene	1 U	1 U	1 U		
Benzene	1 U	1 U	1 U		
Dibromochloromethane	1 U	1 U	1 U		
trans-1,3-Dichloropropane	1 U	1 U	1 U		
1,1,2-Trichloroethane	1 U	1 U	1 U		
Bromoform	1 U	1 U	1 U		
4-Methyl-2-Pentone	5 U	5 U	5 U		
2-Hexanone	5 U	5 U	5 U		
Tetrachloroethene	1 U	1 U	1 U		
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U		
Toluene	1 U	1 U	1 U		
Chlorobenzene	1 U	1 U	1 U		
Ethylbenzene	1 U	1 U	1 U		
Styrene	1 U	1 U	1 U		
Xylene (total)	1 U	1 U	1 U		
Non-Target Volatile Organics					
None Detected					

DATA VALIDATION WORKSHEETS
SUMMARY OF THE ANALYTICAL DATA VALIDATION
For Multi-Site PSAs-II
Camarota Cleaners

Water Volatile Organic Analyses
Samples Received September16, 1999
Sample Delivery Group: LMS156
Laboratory Reference Numbers:

Trip Blank TB-1	9927521
CCGW-1 (9)	9927514
CCGW-3 (12)	9927515
CCGW-4 (6.5)	9927516
CCGW-4 (6.5)MS	9927516MS
CCGW-4 (6.5)MSD	9927516MSD
CCGW-5 (11)	9927517
CCGW-13 (12)	9927518
ER-1	9927519
ER-2	9927520

VOLATILE ORGANICS
INITIAL CALIBRATION SUMMARY

Instrument ID: H5973 **Level:** Low - Waters
Tune File ID: F1429.D **Acceptable:** yes **Time Requirements Met:** yes
Initial Calibration File ID: F1430.D **Date:** 08/25/99 **Page:** 77
Associated Samples: VBLK9/21/99, MSB9/21/99, CHKSTD050, GW-1(9), GW-3(12), GW-4 (6.5) , GW-4 (6.5)MS, GW-4 (6.5)MSD, GGW-5(11), GW-13(12), ER-1, ER-2, TB-1

TCL COMPOUND LIST

	QC %RSD	STD %RSD	QC RRF	STD RRF		QC %RSD	STD %RSD	QC RRF	STD RRF
Chloromethane	<30		>0.05		1,2-Dichloropropane	<30		>0.05	
Bromomethane	<30		>0.05		cis-1,3-Dichloropropene	<30		>0.05	
Vinyl Chloride	<30		>0.05		Trichloroethene	<30		>0.05	
Chloroethane	<30		>0.05		Benzene	<30		>0.05	
Methylene Chloride	<30		>0.05		Dibromochloromethane	<30		>0.05	
Acetone	<30		>0.05		trans-1,3-Dichloropropene	<30		>0.05	
Carbon Disulfide	<30		>0.05		1,1,2-Trichloroethane	<30		>0.05	
1,1-Dichloroethene	<30		>0.05		Bromoform	<30		>0.05	
1,1-Dichloroethane	<30		>0.05		4-Methyl-2-Pentanone	<30		>0.05	
1,2-Dichloroethene (total)	<30		>0.05		2-Hexanone	<30		>0.05	
Chloroform	<30		>0.05		Tetrachloroethene	<30		>0.05	
1,2-Dichloroethane	<30		>0.05		1,1,2,2-Tetrachloroethane	<30		>0.05	
2-Butanone	<30		>0.05		Toluene	<30		>0.05	
1,1,1-Trichloroethane	<30		>0.05		Chlorobenzene	<30		>0.05	
Carbon Tetrachloride	<30		>0.05		Ethylbenzene	<30		>0.05	
Bromodichloromethane	<30		>0.05		Styrene	<30		>0.05	
Trichlorofluoromethane	<30		>0.05		Xylene (total)	<30		>0.05	

	QC %RSD	STD %RSD	QC RRF	STD RRF
Surrogates:				
Toluene-d8	<30		>0.010	
Bromofluorobenzene *	<30		>0.200	
1,2-Dichloroethane-d4	<30		>0.010	

All Compounds Average RRF >QC Limit: yes
All Compounds Average RRF > 0.050: yes Footnote:
If less <0.050 (R - reject undetected / J - detected)

All Compounds %RSD < QC Limit: yes
Compounds %RSD between 20.5% and 60% (J - qualify) Footnote:
Compounds %RSD between 60% and 90% (J - qualify) Footnote:
Compounds %RSD > 90% (R - reject undetected / J - detected) Footnote:

CALCULATION VERIFICATION: (RRF = Ais/Ax*Cis/Cs)

COMPOUND: PPB	1,1,1-Trichloroethane	Tetrachloroethane
10	6747/64719 * 5.000 = 0.521	2264/54234 * 5.000 = 0.209
20	14913/75120 * 2.500 = 0.496	6771/61366 * 2.500 = 0.276
50	37019/74308 * 1.000 = 0.498	17394/61519 * 1.000 = 0.283
100	97331/77512 * 0.500 = 0.628	41030/66409 * 0.500 = 0.309
200	227175/80376 * 0.250 = 0.707	88571/66368 * 0.250 = 0.334
	AV. RRF = 0.570 %RSD = 16.4%	AV. RRF = 0.282 %RSD = 16.6%

OVERALL ASSESSMENT AND COMMENTS:.

VOLATILE ORGANICS
CONTINUING CALIBRATION SUMMARY

Instrument ID: H5973 **Level:** Low - Waters
Tune File ID: F1805.D **Acceptable:** yes **Time Requirements Met:** yes
Calibration File ID: F1806.D **Date:** 09/21/99 **Page:** 98
Initial Calibration File ID: F1430.D **Date:** 08/25/99 **Page:** 77
Associated Samples: VBLK9/21/99, MSB9/21/99, CHKSTD050, GW-1(9), GW-3(12), GW-4 (6.5) , GW-4 (6.5)MS, GW-4 (6.5)MSD, GGW-5(11), GW-13(12), ER-1, ER-2, TB-1

TCL COMPOUND LIST

	QC %D	STD %D	QC RRF	STD RRF		QC %D	STD %D	QC RRF	STD RRF
Chloromethane	<25	32%	>0.050		1,2-Dichloropropane	<25		>0.050	
Bromomethane	<25		>0.100		cis-1,3-Dichloropropene	<25		>0.200	
Vinyl Chloride	<25	28%	>0.100		Trichloroethene	<25		>0.250	
Chloroethane	<25		>0.050		Benzene	<25		>0.500	
Methylene Chloride	<25		>0.050		Dibromochloromethane	<25		>0.100	
Acetone	<25		>0.050		trans-1,3-Dichloropropene	<25		>0.100	
Carbon Disulfide	<25		>0.050		1,1,2-Trichloroethane	<25		>0.100	
1,1-Dichloroethene	<25		>0.100		Bromoform	<25		>0.100	
1,1-Dichloroethane	<25		>0.200		4-Methyl-2-Pentanone	<25		>0.050	
1,2-Dichloroethene (total)	<25		>0.050		2-Hexanone	<25	26%	>0.050	
Chloroform	<25		>0.200		Tetrachloroethene	<25		>0.200	
1,2-Dichloroethane	<25		>0.100		1,1,2,2-Tetrachloroethane	<25		>0.250	
2-Butanone	<25		>0.050		Toluene	<25		>0.400	
1,1,1-Trichloroethane	<25		>0.100		Chlorobenzene	<25		>0.500	
Carbon Tetrachloride	<25	30%	>0.100		Ethylbenzene	<25		>0.100	
Bromodichloromethane	<25		>0.200		Styrene	<25		>0.250	

	QC %D	STD %D	QC RRF	STD RRF
Surrogates:				
Toluene-d8	<25		>0.010	
Bromofluorobenzene *	<25		>0.200	
1,2-Dichloroethane-d4	<25		>0.010	

All Compounds Average RRF >QC Limit: yes
All Compounds Average RRF > 0.050: yes Footnote:
If less <0.050 (R - reject undetected / J - detected)

All Compounds %D < QC Limit:
Compounds %D between 25% and 50% (J - qualify) Footnote:
Compounds %D between 50% and 90% (J - qualify) Footnote:
Compounds %D > 90% (R - reject undetected / J - detected) Footnote:

CALCULATION VERIFICATION: (RRF = Ais/Ax*Cis/Cs)

COMPOUND:	1,1,1-Trichloroethane	Tetrachloroethene
PPB		
50	40660/90614 * 1.000 = 0.449	18348/82800 * 1.000 = 0.222
	%D: (0.570 - 0.449) / 0.570 * 100 = 21.22807	%D : (0.282 - 0.222) / 0.282 * 100 = 21.276596

METHOD BLANK: VBLK9/91/99 (Page 106)
Compound **ppb** **<CRDL**
No compounds were detected in this method blank.

SUMMARY OF THE ANALYTICAL DATA VALIDATION

New York State Department of Environmental Conservation
Data Validation Summary Form

For Multi-Site PSAs-II
Camarota Cleaners

Group #	Date Received	CLP Year	Sample Number	Lab ID #	Matrix S/W	VOA Compliance	BNA Compliance	TAL Metals Compliance	Cyanide Compliance	Page in CLP	Non-Compliance
LMS157	9/16/99	95	CCGP- 1 (4-8)	9927523	Water	Yes *	NA	NA	NA		
LMS155	9/8/99	95	CCGP- 1 (4-8)DL	9927523DL	Water	Yes *	NA	NA	NA		
LMS155	9/8/99	95	CCGP- 2 (4-8)	9927524	Water	Yes *	NA	NA	NA		
LMS155	9/8/99	95	CCGP- 3 (4-8)	9927525	Water	Yes *	NA	NA	NA		
LMS155	9/8/99	95	CCGP- 4 (4-8)	9927526	Water	Yes *	NA	NA	NA		
LMS155	9/8/99	95	CCGP- 5 (4-8)	9927527	Water	Yes *	NA	NA	NA		
LMS155	9/8/99	95	CCGP- 6 (4-8)	9927528	Water	Yes *	NA	NA	NA		
LMS155	9/8/99	95	CCGP- 6 (4-8)MS	9927528MS	Water	Yes *	NA	NA	NA		
LMS155	9/8/99	95	CCGP- 6 (4-8)MSD	9927528MSD	Water	Yes *	NA	NA	NA		
LMS155	9/10/99	95	CCGP- 7 (4-8)	9927529	Water	Yes *	NA	NA	NA		
LMS155	9/8/99	95	CCGP- 8 (4-8)	9927530	Water	Yes *	NA	NA	NA		
LMS155	9/8/99	95	CCGP- 8 (4-8)DL	9927530DL	Water	Yes *	NA	NA	NA		
LMS155	9/8/99	95	CCGP- 9 (4-8)	9927531	Water	Yes *	NA	NA	NA		

* - Instrument detection limits analyzed 4 months beyond the 6 month limit

SUMMARY OF THE ANALYTICAL DATA VALIDATION
For Multi-Site PSAs-II
Camarota Cleaners

Soil Volatile Organic Analyses
Samples Received September 16, 1999
Sample Delivery Group: LMS157
Laboratory Reference Numbers:

CCGP- 1 (4-8)	9927523
CCGP- 1 (4-8)DL	9927523DL
CCGP- 2 (4-8)	9927524
CCGP- 3 (4-8)	9927525
CCGP- 4 (4-8)	9927526
CCGP- 5 (4-8)	9927527
CCGP- 6 (4-8)	9927528
CCGP- 6 (4-8)MS	9927528MS
CCGP- 6 (4-8)MSD	9927528MSD
CCGP- 7 (4-8)	9927529
CCGP- 8 (4-8)	9927530
CCGP- 8 (4-8)DL	9927530DL
CCGP- 9 (4-8)	9927531

Soil and water samples were validated for analyses of the volatile organic TCL analyte list by the US EPA Region II checklist. A complete analytical validation was performed based upon the following parameters:

* - Data Completeness
* - GC/MS Tuning
* - Holding Times
- Calibrations
- Laboratory Blanks
- Field Blank
- Trip Blank
- Holding Blank
* - System Monitoring Compound Recoveries
* - Internal Standard Recoveries
- Matrix Spike / Matrix Spike Duplicate
* - Blank Spike
- Check Standard
* - Compound Identification
* - Compound Quantitation
- Instrument Detection Limit

* - Indicates that all criteria were met for this parameter.

DATA VALIDATION SUMMARY

The laboratory's case narrative states:

"Due to concentration levels of targeted analytes above the calibration range, the following samples were reanalyzed at a dilution: CCGP-1 (4-8) and CCGP-8 (4-8)".

"Sample CCGP-6 (4-8) was analyzed as the matrix spike/matrix spike duplicate sample. All percent recovery and RPD criteria were net except for the RPD of 1,1-dichloroethene at 24% (limit 22%)."

"All percent recoveries were acceptable in the lab fortified blank except for 45% recovery for carbon disulfide at [45%] (lower limit 52%) and 1,1,1-trichloroethene at 76% (lower limit 78%)".

The instrument detection limits were analyzed approximately 10 months prior to the analyses of these samples. The NYS DEC ASP program requires that these be analyzed every 6 months.

No other problems were detected with the samples of this delivery group.

Holding Times

All samples were analyzed within the 10 day contractual holding time.

Tunes

No problems were detected with any of the tunes associated with the samples of this delivery group.

System Monitoring Compound Recoveries

All system monitoring compound recoveries were within the EPA Region II quality assurance limits.

Calibrations

Several minor problems were detected with the continuing calibrations associated with the soil samples:

The percent difference of methylene chloride (29%) and 2-butanone (41%) were above the 25% technical quality assurance limits in the first soil continuing calibration (F1831.D).

Only methylene chloride was detected in these samples, but it was reported as 10U ug/kg due to its presence in the method blank. The problem with the calibration did not affect the end use of the data. The methylene chloride data was flagged with the "J" qualifier and footnoted with #41 in the data validation summary table.

The percent differences of 1,1-dichloroethane (39%) and 2-butanone (45%) were above the technical limit 25% in the second continuing calibration (F1851.D).

Neither of these compounds were detected in any of the diluted samples.

Matrix Spike / Matrix Spike Duplicate

The laboratory's case narrative states:

"Sample CCGP-6 (4-8) was analyzed as the matrix spike/matrix spike duplicate sample. All percent recovery and RPD criteria were net except for the RPD of 1,1-dichloroethene at 24% (limit 22%)."

No other problems were detected with the recoveries of the matrix spike or matrix spike duplicate.

Blank Spike

All blank spike recoveries were within the required quality assurance limits.

Check Standard

The laboratory's case narrative states:

"All percent recoveries were acceptable in the lab fortified blank except for 45% recovery for carbon disulfide at [45%] (lower limit 52%) and 1,1,1-trichloroethene at 76% (lower limit 78%)".

Neither of these compounds were detected in the original undiluted analyses of these samples, but it is possible that low concentrations of these compounds were overlooked. The carbon disulfide and 1,1,1-trichloroethene data were flagged with the "J" qualifier and footnoted with #84 in the data validation summary table.

No other problems were detected with the recovery of the 50 ug/l check standard.

Method Blanks

Methylene chloride was detected at a concentration of 2J ug/kg, in the method blank (VBLK9/24/99) associated with the initial analyses of all of the samples of this delivery group.

Methylene chloride was also detected at a concentration of 2J ug/kg, in the method blank (VBLK9/24/99) associated with the reanalyses of samples CCGP-1 (4-8) and CCGP-8 (4-8).

Only very low concentrations of methylene chloride were detected in these samples. The data for these compounds were reported as 10U according to the EPA data validation protocols.

Trip Blanks

A trip blank was not collected with this sample delivery group.

Field Blank

A field blank was not received with this sample delivery group.

Holding Blank

A holding blank was not associated with this sample deliver group.

Internal Standard Areas and Retention Times

No problems were found with the recoveries or retention times in any of the internal standards associated with the samples of this delivery group.

Instrument Detection Limits

The instrument detection limits were analyzed approximately 10 months prior to the analyses of these samples. The NYS DEC ASP program requires that these be analyzed every 6 months.

No other problems were detected with the reported instrument detection limits.

Sample Results

The laboratory's case narrative states:

> "Due to concentration levels of targeted analytes above the calibration range, the following samples were reanalyzed at a dilution: CCGP-1 (4-8) and CCGP-8 (4-8)".

With the one exception of tetrachloroethene, all of the data for these two samples should be reported from the original undiluted analyses.

Slight discrepancies were found between the concentrations reported by the laboratory and those calculated during the data validation. These are most likely due to minor variations in rounding and the reporting of significant figures. The laboratory's values should be used for the final reporting.

No other problems were found with the reported results of any of the samples of this delivery group.

Data Validation Summary Table
For Multi-Site PSAs-II Camarota Cleaners

Soil Volatile Organic Analyses
Samples Received September 16, 1999
Sample Delivery Group: LMS157

Sample / Analyte	Method Blank Conc. (PPB)	Lab. Reported Conc. (PPB)	QA Validation Reported Conc. Decision		Qualifiers	Footnotes
Soil Sample CCGP- 1 (4-8) (Lab. #: 9927523)						
		% Moisture =	17			
TCL Volatile Organics	(Undiluted)					
Chloromethane	10 U	12 U	12 U			
Bromomethane	10 U	12 U	12 U			
Vinyl Chloride	10 U	12 U	12 U			
Chloroethane	10 U	12 U	12 U			
Methylene Chloride	2 J	3 JB	12 U	J	qualify	41
Acetone	10 U	4 J	4 J			
Carbon Disulfide	10 U	12 U	12 U	J	qualify	84
1,1-Dichloroethene	10 U	12 U	12 U			
1,1-Dichloroethane	10 U	12 U	12 U			
1,2-Dichloroethene (total)	10 U	12 U	12 U			
Chloroform	10 U	2 J	1 J			
1,2-Dichloroethane	10 U	12 U	12 U			
2-Butanone	10 U	12 U	12 U			
1,1,1-Trichloroethane	10 U	12 U	12 U	J	qualify	84
Carbon Tetrachloride	10 U	12 U	12 U			
Bromodichloromethane	10 U	12 U	12 U			
1,2-Dichloropropane	10 U	12 U	12 U			
cis-1,3-Dichloropropene	10 U	12 U	12 U			
Trichloroethene	10 U	4 J	4 J			
Benzene	10 U	12 U	12 U			
Dibromochloromethane	10 U	12 U	12 U			
trans-1,3-Dichloropropane	10 U	12 U	12 U			
1,1,2-Trichloroethane	10 U	12 U	12 U			
Bromoform	10 U	12 U	12 U			
4-Methyl-2-Pentone	10 U	12 U	12 U			
2-Hexanone	10 U	12 U	12 U			
Tetrachloroethene	10 U	430 E	429 E	J	qualify	83
1,1,2,2-Tetrachloroethane	10 U	12 U	12 U			
Toluene	10 U	12 U	12 U			
Chlorobenzene	10 U	12 U	12 U			
Ethylbenzene	10 U	12 U	12 U			
Styrene	10 U	12 U	12 U			
Xylene (total)	10 U	12 U	12 U			
Non-Target Volatile Organics						
Unknown Hydrocarbon (1.80)	ND	13 J	13 J			
Unknown Cyclic Alkene (6.87)	ND	78 J	78 J			
Unknown Cyclic (7.22)	ND	58 J	58 J			
Unknown Aromatic (7.37)	ND	9 J	9 J			

Data Validation Summary Table
For Multi-Site PSAs-II Camarota Cleaners

Soil Volatile Organic Analyses
Samples Received September 16, 1999
Sample Delivery Group: LMS157

Sample / Analyte	Method Blank Conc. (PPB)	Lab. Reported Conc. (PPB)	QA Validation Reported Conc. Decision		Qualifiers	Footnotes
Dilution of Soil Sample CCGP- 1 (4-8) (Lab. #: 9927523DL)						
		% Moisture =	17			
TCL Volatile Organics	d - 2 Grams Analyzed)					
Chloromethane	10 U	30 U	27 U	J	qualify	83
Bromomethane	10 U	30 U	27 U	J	qualify	83
Vinyl Chloride	10 U	30 U	27 U	J	qualify	83
Chloroethane	10 U	30 U	27 U	J	qualify	83
Methylene Chloride	2 J	9 JB	27 U	J	qualify	41, 83
Acetone	10 U	30 U	27 U	J	qualify	83
Carbon Disulfide	10 U	8 JD	7 JD		qualify	83
1,1-Dichloroethene	10 U	30 U	27 U	J	qualify	83
1,1-Dichloroethane	10 U	30 U	27 U	J	qualify	83
1,2-Dichloroethene (total)	10 U	30 U	27 U	J	qualify	83
Chloroform	10 U	30 U	27 U	J	qualify	83
1,2-Dichloroethane	10 U	30 U	27 U	J	qualify	83
2-Butanone	10 U	30 U	27 U	J	qualify	83
1,1,1-Trichloroethane	10 U	30 U	27 U	J	qualify	83
Carbon Tetrachloride	10 U	30 U	27 U	J	qualify	83
Bromodichloromethane	10 U	30 U	27 U	J	qualify	83
1,2-Dichloropropane	10 U	30 U	27 U	J	qualify	83
cis-1.3-Dichloropropene	10 U	30 U	27 U	J	qualify	83
Trichloroethene	10 U	4 JD	3 JD		qualify	83
Benzene	10 U	30 U	27 U	J	qualify	83
Dibromochloromethane	10 U	30 U	27 U	J	qualify	83
trans-1,3-Dichloropropane	10 U	30 U	27 U	J	qualify	83
1,1,2-Trichloroethane	10 U	30 U	27 U	J	qualify	83
Bromoform	10 U	30 U	27 U	J	qualify	83
4-Methyl-2-Pentone	10 U	30 U	27 U	J	qualify	83
2-Hexanone	10 U	30 U	27 U	J	qualify	83
Tetrachloroethene	10 U	390 D	349 D			
1,1,2,2-Tetrachloroethane	10 U	30 U	27 U	J	qualify	83
Toluene	10 U	30 U	27 U	J	qualify	83
Chlorobenzene	10 U	30 U	27 U	J	qualify	83
Ethylbenzene	10 U	30 U	27 U	J	qualify	83
Styrene	10 U	30 U	27 U	J	qualify	83
Xylene (total)	10 U	30 U	27 U	J	qualify	83
Non-Target Volatile Organics						
Unknown Hydrocarbon (1.80)	ND	15 J	14 J		qualify	83
Unknown Cyclic Alkene (6.88)	ND	58 J	52 J		qualify	83
Unknown Cyclic (7.23)	ND	51 J	46 J		qualify	83

Data Validation Summary Table
For Multi-Site PSAs-II Camarota Cleaners

Soil Volatile Organic Analyses
Samples Received September 16, 1999
Sample Delivery Group: LMS157

Sample / Analyte	Method Blank Conc. (PPB)	Lab. Reported Conc. (PPB)	QA Validation Reported Conc. Decision	Qualifiers		Footnotes
Soil Sample CCGP- 2 (4-8) (Lab. #: 9927524)						
		% Moisture =	18			
TCL Volatile Organics	(Undiluted)					
Chloromethane	10 U	12 U	12 U			
Bromomethane	10 U	12 U	12 U			
Vinyl Chloride	10 U	12 U	12 U			
Chloroethane	10 U	12 U	12 U			
Methylene Chloride	2 J	3 JB	12 U	J	qualify	41
Acetone	10 U	12 U	12 U			
Carbon Disulfide	10 U	12 U	12 U	J	qualify	84
1,1-Dichloroethene	10 U	12 U	12 U			
1,1-Dichloroethane	10 U	12 U	12 U			
1,2-Dichloroethene (total)	10 U	12 U	12 U			
Chloroform	10 U	12 U	12 U			
1,2-Dichloroethane	10 U	12 U	12 U			
2-Butanone	10 U	12 U	12 U			
1,1,1-Trichloroethane	10 U	12 U	12 U	J	qualify	84
Carbon Tetrachloride	10 U	12 U	12 U			
Bromodichloromethane	10 U	12 U	12 U			
1,2-Dichloropropane	10 U	12 U	12 U			
cis-1.3-Dichloropropene	10 U	12 U	12 U			
Trichloroethene	10 U	1 J	1 J			
Benzene	10 U	12 U	12 U			
Dibromochloromethane	10 U	12 U	12 U			
trans-1,3-Dichloropropane	10 U	12 U	12 U			
1,1,2-Trichloroethane	10 U	12 U	12 U			
Bromoform	10 U	12 U	12 U			
4-Methyl-2-Pentone	10 U	12 U	12 U			
2-Hexanone	10 U	12 U	12 U			
Tetrachloroethene	10 U	180	184			
1,1,2,2-Tetrachloroethane	10 U	12 U	12 U			
Toluene	10 U	12 U	12 U			
Chlorobenzene	10 U	12 U	12 U			
Ethylbenzene	10 U	12 U	12 U			
Styrene	10 U	12 U	12 U			
Xylene (total)	10 U	12 U	12 U			
Non-Target Volatile Organics						
Unknown Hydrocarbon (1.80)	ND	11 J	11 J			

Data Validation Summary Table
For Multi-Site PSAs-II Camarota Cleaners

Soil Volatile Organic Analyses
Samples Received September 16, 1999
Sample Delivery Group: LMS157

Sample / Analyte	Method Blank Conc. (PPB)	Lab. Reported Conc. (PPB)	QA Validation Reported Conc. Decision		Qualifiers	Footnotes
Soil Sample CCGP- 3 (4-8) (Lab. #: 9927525)						
		% Moisture =	12			
TCL Volatile Organics	(Undiluted)					
Chloromethane	10 U	11 U	11 U			
Bromomethane	10 U	11 U	11 U			
Vinyl Chloride	10 U	11 U	11 U			
Chloroethane	10 U	11 U	11 U			
Methylene Chloride	2 J	3 JB	11 U	J	qualify	41
Acetone	10 U	11 U	11 U			
Carbon Disulfide	10 U	11 U	11 U	J	qualify	84
1,1-Dichloroethene	10 U	11 U	11 U			
1,1-Dichloroethane	10 U	11 U	11 U			
1,2-Dichloroethene (total)	10 U	11 U	11 U			
Chloroform	10 U	11 U	11 U			
1,2-Dichloroethane	10 U	11 U	11 U			
2-Butanone	10 U	11 U	11 U			
1,1,1-Trichloroethane	10 U	11 U	11 U	J	qualify	84
Carbon Tetrachloride	10 U	11 U	11 U			
Bromodichloromethane	10 U	11 U	11 U			
1,2-Dichloropropane	10 U	11 U	11 U			
cis-1.3-Dichloropropene	10 U	11 U	11 U			
Trichloroethene	10 U	11 U	11 U			
Benzene	10 U	11 U	11 U			
Dibromochloromethane	10 U	11 U	11 U			
trans-1,3-Dichloropropane	10 U	11 U	11 U			
1,1,2-Trichloroethane	10 U	11 U	11 U			
Bromoform	10 U	11 U	11 U			
4-Methyl-2-Pentone	10 U	11 U	11 U			
2-Hexanone	10 U	11 U	11 U			
Tetrachloroethene	10 U	35	35			
1,1,2,2-Tetrachloroethane	10 U	11 U	11 U			
Toluene	10 U	11 U	11 U			
Chlorobenzene	10 U	11 U	11 U			
Ethylbenzene	10 U	11 U	11 U			
Styrene	10 U	11 U	11 U			
Xylene (total)	10 U	11 U	11 U			
Non-Target Volatile Organics						
None Detected						

Data Validation Summary Table
For Multi-Site PSAs-II Camarota Cleaners

Soil Volatile Organic Analyses
Samples Received September 16, 1999
Sample Delivery Group: LMS157

Sample / Analyte	Method Blank Conc. (PPB)	Lab. Reported Conc. (PPB)	QA Validation Reported Conc. Decision		Qualifiers	Footnotes
Soil Sample CCGP- 4 (4-8) (Lab. #: 9927526)						
		% Moisture =	14			
TCL Volatile Organics	(Undiluted)					
Chloromethane	10 U	12 U	12 U			
Bromomethane	10 U	12 U	12 U			
Vinyl Chloride	10 U	12 U	12 U			
Chloroethane	10 U	12 U	12 U			
Methylene Chloride	2 J	3 JB	12 U	J	qualify	41
Acetone	10 U	12 U	12 U			
Carbon Disulfide	10 U	12 U	12 U	J	qualify	84
1,1-Dichloroethene	10 U	12 U	12 U			
1,1-Dichloroethane	10 U	12 U	12 U			
1,2-Dichloroethene (total)	10 U	12 U	12 U			
Chloroform	10 U	12 U	12 U			
1,2-Dichloroethane	10 U	12 U	12 U			
2-Butanone	10 U	12 U	12 U			
1,1,1-Trichloroethane	10 U	12 U	12 U	J	qualify	84
Carbon Tetrachloride	10 U	12 U	12 U			
Bromodichloromethane	10 U	12 U	12 U			
1,2-Dichloropropane	10 U	12 U	12 U			
cis-1,3-Dichloropropene	10 U	12 U	12 U			
Trichloroethene	10 U	12 U	12 U			
Benzene	10 U	12 U	12 U			
Dibromochloromethane	10 U	12 U	12 U			
trans-1,3-Dichloropropane	10 U	12 U	12 U			
1,1,2-Trichloroethane	10 U	12 U	12 U			
Bromoform	10 U	12 U	12 U			
4-Methyl-2-Pentone	10 U	12 U	12 U			
2-Hexanone	10 U	12 U	12 U			
Tetrachloroethene	10 U	62	62			
1,1,2,2-Tetrachloroethane	10 U	12 U	12 U			
Toluene	10 U	12 U	12 U			
Chlorobenzene	10 U	12 U	12 U			
Ethylbenzene	10 U	12 U	12 U			
Styrene	10 U	12 U	12 U			
Xylene (total)	10 U	12 U	12 U			
Non-Target Volatile Organics						
Unknown Hydrocarbon (1.80)	ND	14 J	14 J			
Unknown Cyclic Alkene (6.88)	ND	38 J	38 J			
Unknown Cyclic (7.22)	ND	23 J	23 J			
Unknown Aromatic (7.37)	ND	17 J	17 J			

Data Validation Summary Table
For Multi-Site PSAs-II Camarota Cleaners

Soil Volatile Organic Analyses
Samples Received September 16, 1999
Sample Delivery Group: LMS157

Sample / Analyte	Method Blank Conc. (PPB)	Lab. Reported Conc. (PPB)	QA Validation Reported Conc. Decision		Qualifiers	Footnotes
Soil Sample CCGP- 5 (4-8) (Lab. #: 9927527)						
		% Moisture =	15			
TCL Volatile Organics	(Undiluted)					
Chloromethane	10 U	12 U	12 U			
Bromomethane	10 U	12 U	12 U			
Vinyl Chloride	10 U	12 U	12 U			
Chloroethane	10 U	12 U	12 U			
Methylene Chloride	2 J	4 JB	12 U	J	qualify	41
Acetone	10 U	12 U	12 U			
Carbon Disulfide	10 U	12 U	12 U	J	qualify	84
1,1-Dichloroethene	10 U	12 U	12 U			
1,1-Dichloroethane	10 U	12 U	12 U			
1,2-Dichloroethene (total)	10 U	12 U	12 U			
Chloroform	10 U	12 U	12 U			
1,2-Dichloroethane	10 U	12 U	12 U			
2-Butanone	10 U	12 U	12 U			
1,1,1-Trichloroethane	10 U	12 U	12 U	J	qualify	84
Carbon Tetrachloride	10 U	12 U	12 U			
Bromodichloromethane	10 U	12 U	12 U			
1,2-Dichloropropane	10 U	12 U	12 U			
cis-1.3-Dichloropropene	10 U	12 U	12 U			
Trichloroethene	10 U	4 J	4 J			
Benzene	10 U	12 U	12 U			
Dibromochloromethane	10 U	12 U	12 U			
trans-1,3-Dichloropropane	10 U	12 U	12 U			
1,1,2-Trichloroethane	10 U	12 U	12 U			
Bromoform	10 U	12 U	12 U			
4-Methyl-2-Pentone	10 U	12 U	12 U			
2-Hexanone	10 U	12 U	12 U			
Tetrachloroethene	10 U	120	116			
1,1,2,2-Tetrachloroethane	10 U	12 U	12 U			
Toluene	10 U	12 U	12 U			
Chlorobenzene	10 U	12 U	12 U			
Ethylbenzene	10 U	12 U	12 U			
Styrene	10 U	12 U	12 U			
Xylene (total)	10 U	12 U	12 U			
Non-Target Volatile Organics						
Unknown Hydrocarbon (1.80)	ND	21 J	21 J			

Data Validation Summary Table
For Multi-Site PSAs-II Camarota Cleaners

Soil Volatile Organic Analyses
Samples Received September 16, 1999
Sample Delivery Group: LMS157

Sample / Analyte	Method Blank Conc. (PPB)	Lab. Reported Conc. (PPB)	QA Validation Reported Conc. Decision		Qualifiers	Footnotes
Soil Sample CCGP- 6 (4-8) (Lab. #: 9927528)						
		% Moisture =	12			
TCL Volatile Organics	(Undiluted)					
Chloromethane	10 U	11 U	11 U			
Bromomethane	10 U	11 U	11 U			
Vinyl Chloride	10 U	11 U	11 U			
Chloroethane	10 U	11 U	11 U			
Methylene Chloride	2 J	5 JB	11 U	J	qualify	41
Acetone	10 U	11 U	11 U			
Carbon Disulfide	10 U	11 U	11 U	J	qualify	84
1,1-Dichloroethene	10 U	11 U	11 U			
1,1-Dichloroethane	10 U	11 U	11 U			
1,2-Dichloroethene (total)	10 U	11 U	11 U			
Chloroform	10 U	11 U	11 U			
1,2-Dichloroethane	10 U	11 U	11 U			
2-Butanone	10 U	11 U	11 U			
1,1,1-Trichloroethane	10 U	11 U	11 U	J	qualify	84
Carbon Tetrachloride	10 U	11 U	11 U			
Bromodichloromethane	10 U	11 U	11 U			
1,2-Dichloropropane	10 U	11 U	11 U			
cis-1.3-Dichloropropene	10 U	11 U	11 U			
Trichloroethene	10 U	11 U	11 U			
Benzene	10 U	11 U	11 U			
Dibromochloromethane	10 U	11 U	11 U			
trans-1,3-Dichloropropane	10 U	11 U	11 U			
1,1,2-Trichloroethane	10 U	11 U	11 U			
Bromoform	10 U	11 U	11 U			
4-Methyl-2-Pentone	10 U	11 U	11 U			
2-Hexanone	10 U	11 U	11 U			
Tetrachloroethene	10 U	120	125			
1,1,2,2-Tetrachloroethane	10 U	11 U	11 U			
Toluene	10 U	11 U	11 U			
Chlorobenzene	10 U	11 U	11 U			
Ethylbenzene	10 U	11 U	11 U			
Styrene	10 U	11 U	11 U			
Xylene (total)	10 U	11 U	11 U			
Non-Target Volatile Organics						
Unknown Hydrocarbon (1.80)	ND	7 J	7 J			

Data Validation Summary Table
For Multi-Site PSAs-II Camarota Cleaners

Soil Volatile Organic Analyses
Samples Received September 16, 1999
Sample Delivery Group: LMS157

Sample / Analyte	Method Blank Conc. (PPB)	Lab. Reported Conc. (PPB)	QA Validation Reported Conc. Decision		Qualifiers	Footnotes
Soil Sample CCGP- 7 (4-8) (Lab. #: 9927529)		% Moisture =	8			
TCL Volatile Organics	(Undiluted)					
Chloromethane	10 U	11 U	11 U			
Bromomethane	10 U	11 U	11 U			
Vinyl Chloride	10 U	11 U	11 U			
Chloroethane	10 U	11 U	11 U			
Methylene Chloride	2 J	3 JB	11 U	J	qualify	41
Acetone	10 U	11 U	11 U			
Carbon Disulfide	10 U	11 U	11 U	J	qualify	84
1,1-Dichloroethene	10 U	11 U	11 U			
1,1-Dichloroethane	10 U	11 U	11 U			
1,2-Dichloroethene (total)	10 U	11 U	11 U			
Chloroform	10 U	11 U	11 U			
1,2-Dichloroethane	10 U	11 U	11 U			
2-Butanone	10 U	11 U	11 U			
1,1,1-Trichloroethane	10 U	11 U	11 U	J	qualify	84
Carbon Tetrachloride	10 U	11 U	11 U			
Bromodichloromethane	10 U	11 U	11 U			
1;2-Dichloropropane	10 U	11 U	11 U			
cis-1.3-Dichloropropene	10 U	11 U	11 U			
Trichloroethene	10 U	11 U	11 U			
Benzene	10 U	11 U	11 U			
Dibromochloromethane	10 U	11 U	11 U			
trans-1,3-Dichloropropane	10 U	11 U	11 U			
1,1,2-Trichloroethane	10 U	11 U	11 U			
Bromoform	10 U	11 U	11 U			
4-Methyl-2-Pentone	10 U	11 U	11 U			
2-Hexanone	10 U	11 U	11 U			
Tetrachloroethene	10 U	53	53			
1,1,2,2-Tetrachloroethane	10 U	11 U	11 U			
Toluene	10 U	11 U	11 U			
Chlorobenzene	10 U	11 U	11 U			
Ethylbenzene	10 U	11 U	11 U			
Styrene	10 U	11 U	11 U			
Xylene (total)	10 U	11 U	11 U			
Non-Target Volatile Organics						
None Detected						

Data Validation Summary Table
For Multi-Site PSAs-II Camarota Cleaners

Soil Volatile Organic Analyses
Samples Received September 16, 1999
Sample Delivery Group: LMS157

Sample / Analyte	Method Blank Conc. (PPB)	Lab. Reported Conc. (PPB)	QA Validation Reported Conc. Decision		Qualifiers	Footnotes
Soil Sample CCGP- 8 (4-8) (Lab. #: 9927530)						
		% Moisture =	17			
TCL Volatile Organics	(Undiluted)					
Chloromethane	10 U	12 U	12 U			
Bromomethane	10 U	12 U	12 U			
Vinyl Chloride	10 U	12 U	12 U			
Chloroethane	10 U	12 U	12 U			
Methylene Chloride	2 J	4 JB	12 U	J	qualify	41
Acetone	10 U	12 U	12 U			
Carbon Disulfide	10 U	12 U	12 U	J	qualify	84
1,1-Dichloroethene	10 U	12 U	12 U			
1,1-Dichloroethane	10 U	12 U	12 U			
1,2-Dichloroethene (total)	10 U	12 U	12 U			
Chloroform	10 U	12 U	12 U			
1,2-Dichloroethane	10 U	12 U	12 U			
2-Butanone	10 U	12 U	12 U			
1,1,1-Trichloroethane	10 U	12 U	12 U	J	qualify	84
Carbon Tetrachloride	10 U	12 U	12 U			
Bromodichloromethane	10 U	12 U	12 U			
1,2-Dichloropropane	10 U	12 U	12 U			
cis-1.3-Dichloropropene	10 U	12 U	12 U			
Trichloroethene	10 U	3 J	3 J			
Benzene	10 U	12 U	12 U			
Dibromochloromethane	10 U	12 U	12 U			
trans-1,3-Dichloropropane	10 U	12 U	12 U			
1,1,2-Trichloroethane	10 U	12 U	12 U			
Bromoform	10 U	12 U	12 U			
4-Methyl-2-Pentone	10 U	12 U	12 U			
2-Hexanone	10 U	12 U	12 U			
Tetrachloroethene	10 U	250 E	248 E	J	qualify	83
1,1,2,2-Tetrachloroethane	10 U	12 U	12 U			
Toluene	10 U	12 U	12 U			
Chlorobenzene	10 U	12 U	12 U			
Ethylbenzene	10 U	12 U	12 U			
Styrene	10 U	12 U	12 U			
Xylene (total)	10 U	12 U	12 U			
Non-Target Volatile Organics						
Unknown Hydrocarbon (1.80)	ND	14 J	14 J			

Data Validation Summary Table
For Multi-Site PSAs-II Camarota Cleaners

Soil Volatile Organic Analyses
Samples Received September 16, 1999
Sample Delivery Group: LMS157

Sample / Analyte	Method Blank Conc. (PPB)	Lab. Reported Conc. (PPB)	QA Validation Reported Conc. Decision		Qualifiers	Footnotes
Dilution of Soil Sample CCGP- 8 (4-8) (Lab. #: 9927530DL)						
		% Moisture =	17			
TCL Volatile Organics	- 2/5 Grams Analyzed)					
Chloromethane	10 U	24 U	22 U	J	qualify	83
Bromomethane	10 U	24 U	22 U	J	qualify	83
Vinyl Chloride	10 U	24 U	22 U	J	qualify	83
Chloroethane	10 U	24 U	22 U	J	qualify	83
Methylene Chloride	2 J	8 JB	22 U	J	qualify	41, 83
Acetone	10 U	24 U	22 U	J	qualify	83
Carbon Disulfide	10 U	14 J	12 J	J	qualify	83
1,1-Dichloroethene	10 U	24 U	22 U	J	qualify	83
1,1-Dichloroethane	10 U	24 U	22 U	J	qualify	83
1,2-Dichloroethene (total)	10 U	24 U	22 U	J	qualify	83
Chloroform	10 U	24 U	22 U	J	qualify	83
1,2-Dichloroethane	10 U	24 U	22 U	J	qualify	83
2-Butanone	10 U	24 U	22 U	J	qualify	83
1,1,1-Trichloroethane	10 U	24 U	22 U	J	qualify	83
Carbon Tetrachloride	10 U	24 U	22 U	J	qualify	83
Bromodichloromethane	10 U	24 U	22 U	J	qualify	83
1,2-Dichloropropane	10 U	24 U	22 U	J	qualify	83
cis-1.3-Dichloropropene	10 U	24 U	22 U	J	qualify	83
Trichloroethene	10 U	2 J	2 J	J	qualify	83
Benzene	10 U	24 U	22 U	J	qualify	83
Dibromochloromethane	10 U	24 U	22 U	J	qualify	83
trans-1,3-Dichloropropane	10 U	24 U	22 U	J	qualify	83
1,1,2-Trichloroethane	10 U	24 U	22 U	J	qualify	83
Bromoform	10 U	24 U	22 U	J	qualify	83
4-Methyl-2-Pentone	10 U	24 U	22 U	J	qualify	83
2-Hexanone	10 U	24 U	22 U	J	qualify	83
Tetrachloroethene	10 U	250	222			
1,1,2,2-Tetrachloroethane	10 U	24 U	22 U	J	qualify	83
Toluene	10 U	24 U	22 U	J	qualify	83
Chlorobenzene	10 U	24 U	22 U	J	qualify	83
Ethylbenzene	10 U	24 U	22 U	J	qualify	83
Styrene	10 U	24 U	22 U	J	qualify	83
Xylene (total)	10 U	24 U	22 U	J	qualify	83
Non-Target Volatile Organics						
Unknown Hydrocarbon (1.80)	ND	22 J	20 J	J	qualify	83

Data Validation Summary Table
For Multi-Site PSAs-II Camarota Cleaners

Soil Volatile Organic Analyses
Samples Received September 16, 1999
Sample Delivery Group: LMS157

Sample / Analyte	Method Blank Conc. (PPB)	Lab. Reported Conc. (PPB)	QA Validation Reported Conc. Decision		Qualifiers	Footnotes
Soil Sample CCGP- 9 (4-8) (Lab. #: 9927531)						
		% Moisture =	15			
TCL Volatile Organics	(Undiluted)					
Chloromethane	10 U	12 U	12 U			
Bromomethane	10 U	12 U	12 U			
Vinyl Chloride	10 U	12 U	12 U			
Chloroethane	10 U	12 U	12 U			
Methylene Chloride	2 J	3 JB	12 U	J	qualify	41
Acetone	10 U	12 U	12 U			
Carbon Disulfide	10 U	12 U	12 U	J	qualify	84
1,1-Dichloroethene	10 U	12 U	12 U			
1,1-Dichloroethane	10 U	12 U	12 U			
1,2-Dichloroethene (total)	10 U	12 U	12 U			
Chloroform	10 U	12 U	12 U			
1,2-Dichloroethane	10 U	12 U	12 U			
2-Butanone	10 U	12 U	12 U			
1,1,1-Trichloroethane	10 U	12 U	12 U	J	qualify	84
Carbon Tetrachloride	10 U	12 U	12 U			
Bromodichloromethane	10 U	12 U	12 U			
1,2-Dichloropropane	10 U	12 U	12 U			
cis-1.3-Dichloropropene	10 U	12 U	12 U			
Trichloroethene	10 U	2 J	2 J			
Benzene	10 U	12 U	12 U			
Dibromochloromethane	10 U	12 U	12 U			
trans-1,3-Dichloropropane	10 U	12 U	12 U			
1,1,2-Trichloroethane	10 U	12 U	12 U			
Bromoform	10 U	12 U	12 U			
4-Methyl-2-Pentone	10 U	12 U	12 U			
2-Hexanone	10 U	12 U	12 U			
Tetrachloroethene	10 U	54	54			
1,1,2,2-Tetrachloroethane	10 U	12 U	12 U			
Toluene	10 U	12 U	12 U			
Chlorobenzene	10 U	12 U	12 U			
Ethylbenzene	10 U	12 U	12 U			
Styrene	10 U	12 U	12 U			
Xylene (total)	10 U	12 U	12 U			
Non-Target Volatile Organics						
None Detected						

DATA VALIDATION WORKSHEETS
SUMMARY OF THE ANALYTICAL DATA VALIDATION
For Multi-Site PSAs-II
Camarota Cleaners

Soil Volatile Organic Analyses
Samples Received September 16, 1999
Sample Delivery Group: LMS157
Laboratory Reference Numbers:

CCGP- 1 (4-8)	9927523
CCGP- 2 (4-8)	9927524
CCGP- 3 (4-8)	9927525
CCGP- 4 (4-8)	9927526
CCGP- 5 (4-8)	9927527
CCGP- 6 (4-8)	9927528
CCGP- 6 (4-8)MS	9927528MS
CCGP- 6 (4-8)MSD	9927528MSD
CCGP- 7 (4-8)	9927529
CCGP- 8 (4-8)	9927530
CCGP- 9 (4-8)	9927531

VOLATILE ORGANICS
INITIAL CALIBRATION SUMMARY

Instrument ID: H5973 **Level:** Low - Soils
Tune File ID: F1429.D **Acceptable:** yes **Time Requirements Met:** yes
Initial Calibration File ID: F1435.D **Date:** 08/25/99 **Page:** 120
Associated Samples: VBLK9/22/99, MSB9/22/99, CHKSTD050, GP-6(4-8) , GP-6(4-8)MS, GP-6(4-8)MSD, GP-1(4-8), GP-2(4-8), GP-3(4-8), GP-4(4-8), GP-5(4-8), GP-6(4-8), GP-7(4-8), GP-8(4-8), GP-9(4-8), VBLK9/24/99, GP1(4-8)DL, GP-8(4-8)DL

TCL COMPOUND LIST

	QC %RSD	STD %RSD	QC RRF	STD RRF		QC %RSD	STD %RSD	QC RRF	STD RRF
Chloromethane	<30		>0.05		1,2-Dichloropropane	<30		>0.05	
Bromomethane	<30		>0.05		cis-1,3-Dichloropropene	<30		>0.05	
Vinyl Chloride	<30		>0.05		Trichloroethene	<30		>0.05	
Chloroethane	<30		>0.05		Benzene	<30		>0.05	
Methylene Chloride	<30		>0.05		Dibromochloromethane	<30		>0.05	
Acetone	<30	[28%]	>0.05		trans-1,3-Dichloropropene	<30		>0.05	
Carbon Disulfide	<30		>0.05		1,1,2-Trichloroethane	<30		>0.05	
1,1-Dichloroethene	<30		>0.05		Bromoform	<30		>0.05	
1,1-Dichloroethane	<30		>0.05		4-Methyl-2-Pentanone	<30		>0.05	
1,2-Dichloroethene (total)	<30		>0.05		2-Hexanone	<30		>0.05	
Chloroform	<30		>0.05		Tetrachloroethene	<30		>0.05	
1,2-Dichloroethane	<30		>0.05		1,1,2,2-Tetrachloroethane	<30		>0.05	
2-Butanone	<30		>0.05		Toluene	<30		>0.05	
1,1,1-Trichloroethane	<30		>0.05		Chlorobenzene	<30		>0.05	
Carbon Tetrachloride	<30		>0.05		Ethylbenzene	<30		>0.05	
Bromodichloromethane	<30		>0.05		Styrene	<30		>0.05	
					Xylene (total)	<30		>0.05	

	QC %RSD	STD %RSD	QC RRF	STD RRF
Surrogates:				
Toluene-d8	<30		>0.010	
Bromofluorobenzene *	<30		>0.200	
1,2-Dichloroethane-d4	<30	[25%]	>0.010	

All Compounds Average RRF >QC Limit: yes
All Compounds Average RRF > 0.050: yes Footnote:
If less <0.050 (R - reject undetected / J - detected)

All Compounds %RSD < QC Limit: yes
Compounds %RSD between 20.5% and 60% (J - qualify) Footnote:
Compounds %RSD between 60% and 90% (J - qualify) Footnote:
Compounds %RSD > 90% (R - reject undetected / J - detected) Footnote:

CALCULATION VERIFICATION: (RRF = Ais/Ax*Cis/Cs)

COMPOUND: PPB	1,1-Dichloroethane	Toluene
10	10395/10984 * 5.000 = 4.732	10003/44892 * 5.000 = 1.114
20	17604/11157 * 2.500 = 3.945	18699/48104 * 2.500 = 0.972
50	39614/9749 * 1.000 = 4.063	44853/45383 * 1.000 = 0.988
100	92818/9095 * 0.500 = 5.103	112706/48405 * 0.500 = 1.164
200	183482/9562 * 0.250 = 4.797	226830/50677 * 0.250 = 1.119
	AV. RRF = 4.528 %RSD = 11.0%	AV. RRF = 1.071 %RSD = 8.0%

OVERALL ASSESSMENT AND COMMENTS:.

VOLATILE ORGANICS
CONTINUING CALIBRATION SUMMARY

Instrument ID: H5973 **Level:** Low - Soils
Tune File ID: F1829.D **Acceptable:** yes **Time Requirements Met:** yes
Calibration File ID: F1830.D **Date:** 09/22/99 **Page:** 146
Initial Calibration File ID: F1435.D **Date:** 08/25/99 **Page:** 120
Associated Samples: VBLK9/22/99, MSB9/22/99, CHKSTD050, GP-6(4-8) , GP-6(4-8)MS, GP-6(4-8)MSD, GP-1(4-8), GP-2(4-8), GP-3(4-8), GP-4(4-8), GP-5(4-8), GP-6(4-8), GP-7(4-8), GP-8(4-8), GP-9(4-8

TCL COMPOUND LIST

	QC %D	STD %D	QC RRF	STD RRF		QC %D	STD %D	QC RRF	STD RRF
Chloromethane	<25		>0.050		1,2-Dichloropropane	<25		>0.050	
Bromomethane	<25		>0.100		cis-1,3-Dichloropropene	<25		>0.200	
Vinyl Chloride	<25		>0.100		Trichloroethene	<25		>0.250	
Chloroethane	<25		>0.050		Benzene	<25		>0.500	
Methylene Chloride	<25	29%	>0.050		Dibromochloromethane	<25		>0.100	
Acetone	<25		>0.050		trans-1,3-Dichloropropene	<25		>0.100	
Carbon Disulfide	<25		>0.050		1,1,2-Trichloroethane	<25		>0.100	
1,1-Dichloroethene	<25		>0.100		Bromoform	<25		>0.100	
1,1-Dichloroethane	<25		>0.200		4-Methyl-2-Pentanone	<25		>0.050	
1,2-Dichloroethene (total)	<25		>0.050		2-Hexanone	<25		>0.050	
Chloroform	<25		>0.200		Tetrachloroethene	<25		>0.200	
1,2-Dichloroethane	<25		>0.100		1,1,2,2-Tetrachloroethane	<25		>0.250	
2-Butanone	<25	41%	>0.050		Toluene	<25		>0.400	
1,1,1-Trichloroethane	<25		>0.100		Chlorobenzene	<25		>0.500	
Carbon Tetrachloride	<25		>0.100		Ethylbenzene	<25		>0.100	
Bromodichloromethane	<25		>0.200		Styrene	<25		>0.250	

	QC %D	STD %D	QC RRF	STD RRF
Surrogates:				
Toluene-d8	<25		>0.010	
Bromofluorobenzene *	<25		>0.200	
1,2-Dichloroethane-d4	<25		>0.010	

All Compounds Average RRF >QC Limit: yes
All Compounds Average RRF > 0.050: yes Footnote:
If less <0.050 (R - reject undetected / J - detected)

All Compounds %D < QC Limit: no
Compounds %D between 25% and 50% (J - qualify) Footnote: 41 (if detected in a sample)
Compounds %D between 50% and 90% (J - qualify) Footnote:
Compounds %D > 90% (R - reject undetected / J - detected) Footnote:

CALCULATION VERIFICATION: (RRF = Ais/Ax*Cis/Cs)

COMPOUND:	1,1-Dichloroethane	Tetrachloroethene
PPB		
50	48323/8885 * 1.000 = 5.439	15278/56194 * 1.000 = 0.272
	%D: (4.528 - 5.439) / 4.528 * 100 = -20.119258	%D : (0.334 - 0.272) / 0.334 * 100 = 18.562874

METHOD BLANK: VBLK9/22/99 (Page 162)

Compound	ppb	<CRDL
Methylene Chloride	2J	10

VOLATILE ORGANICS
CONTINUING CALIBRATION SUMMARY

Instrument ID: H5973 **Level:** Low - Soils
Tune File ID: F1850.D **Acceptable:** yes **Time Requirements Met:** yes
Calibration File ID: f1851 **Date:** 09/24/99 **Page:** 152
Initial Calibration File ID: F1435.D **Date:** 08/25/99 **Page:** 120
Associated Samples: VBLK9/24/99, GP1(4-8)DL, GP-8(4-8)DL

TCL COMPOUND LIST

	QC %D	STD %D	QC RRF	STD RRF		QC %D	STD %D	QC RRF	S RR
Chloromethane	<25		>0.050		1,2-Dichloropropane	<25		>0.050	
Bromomethane	<25		>0.100		cis-1,3-Dichloropropene	<25		>0.200	
Vinyl Chloride	<25		>0.100		Trichloroethene	<25		>0.250	
Chloroethane	<25		>0.050		Benzene	<25		>0.500	
Methylene Chloride	<25		>0.050		Dibromochloromethane	<25		>0.100	
Acetone	<25		>0.050		trans-1,3-Dichloropropene	<25		>0.100	
Carbon Disulfide	<25		>0.050		1,1,2-Trichloroethane	<25		>0.100	
1,1-Dichloroethene	<25		>0.100		Bromoform	<25		>0.100	
1,1-Dichloroethane	<25	39%	>0.200		4-Methyl-2-Pentanone	<25		>0.050	
1,2-Dichloroethene (total)	<25		>0.050		2-Hexanone	<25		>0.050	
Chloroform	<25		>0.200		Tetrachloroethene	<25		>0.200	
1,2-Dichloroethane	<25		>0.100		1,1,2,2-Tetrachloroethane	<25		>0.250	
2-Butanone	<25	45%	>0.050		Toluene	<25		>0.400	
1,1,1-Trichloroethane	<25		>0.100		Chlorobenzene	<25		>0.500	
Carbon Tetrachloride	<25		>0.100		Ethylbenzene	<25		>0.100	
Bromodichloromethane	<25		>0.200		Styrene	<25		>0.250	

	QC %D	STD %D	QC RRF	STD RRF
Surrogates:				
Toluene-d8	<25		>0.010	
Bromofluorobenzene *	<25		>0.200	
1,2-Dichloroethane-d4	<25		>0.010	

All Compounds Average RRF >QC Limit: yes
All Compounds Average RRF > 0.050: yes Footnote:
If less <0.050 (R - reject undetected / J - detected)

All Compounds %D < QC Limit:
Compounds %D between 25% and 50% (J - qualify) Footnote: 41 (if detected in a sample)
Compounds %D between 50% and 90% (J - qualify) Footnote:
Compounds %D > 90% (R - reject undetected / J - detected) Footnote:

CALCULATION VERIFICATION: (RRF = Ais/Ax*Cis/Cs)

COMPOUND:	Carbon Tetrachloride	Toluene
PPB		
50	64721/123453 * 1.000 = 0.524	103051/100766 * 1.000 = 1.023

%D: (0.466 - 0.524) / 0.466 * 100 = -12.446352 %D : (1.071 - 1.023) / 1.071 * 100 = 4.481793

METHOD BLANK: VBLK (Page)

Compound	ppb	<CRDL
No compounds were detected in this method blank.		
Methylene Chloride	3J	10

APPENDIX C

PSA FIELD NOTES

① 9/14 Camrota Cleaners (CJ)

0700 @ Lab w/ Jay ... finish prepping rig ... fill up gas tank

0740 mob to site up in mechanicville

1030 - onsite DEC here Elaine Z got site overview looked at site locations
- noticed that markout on second ave and park ave was completed
- some of the markout of first ave was complete ... no sign of gas/sewer markings call M. Musso to have him check

1050 Set up in asphalt parking lot NE corner
Calibrated H-Nu

1110 Collected CCGP-1 (0-4)
No PID readings
2' recovery no staining

fill [0-.2' Asphalt/Subase
.2'-2' moist silty sand (brown) f and G gravel trace brick/coal

1115 Collected CCGP-1 (4-8)
No PID hits 2.4' recovery
no staining 0-.8 SAA
.8-2.4' hard brown clay some pea sized gravel bottom .4 wet
Bedrock @ ~11'

1120 Collected CCGP-1(8-11)
all wet
very soupy silty sand and large gravel

Collecting sample from (4-8)
CCGP-1(4-8) 2 x 2oz

1145 retrived CCGP-2 (0-4)
1.8' recovery NO PID readings
0-.2 asphl subase
no staining .2-1.8 fill silty sand (brown) little gravel trace brick/coal

1150 retrived CCGP-2 (4-8)
2.1' recovery No PID readings

no staining 0-.9 SAA
.9-1.3 hard clay brown trace gravel
1.3-1.5 m sand
1.5-2.1 wet soupy silty f sand some gravel

Collected CCGP-2 (4-8) 2+2oz

1205 retrived CCGP-3 (0-4)
No PID
no stain or odor 2.4 recovery
0-.2 asphalt subase
.2-2.8 f-m sand some gravel
Fill little silt trace brick/coal

1215 retrived CCGP-3 (4-8)
no odor or staining No PID
1.7 recovery
0-1.2 SAA
1.2-1.7 soft clay very wet @ bottom

Collected CCGP-3 (4-8)
2+2oz

1300 retrived CCGP-4 (0-4)
no odor 3.2 recovery No PID readings
0-.2 asphalt/subase
.2-2.9' Fill f-m sand and silt some brick trace gravel
no staining 2.9-3.2 hard silty clay trace gravel

1310 retrived CCGP-4 (4-8)
1.7 recovery PID 3 at top 0's ~~everywhere~~ otherwise
0-1.2 SAA
1.2-1.7 wet sand and gravel little silt

Collected CCGP-4 (4-8)

1320 retrived CCGP-5 (0-4)
2.4 recovery No PID
0-.2 Asphalt Subase
.2-1.9' Brick little sand
trace gravel
1.9-2.4 hard silty clay brown

1330 retrived CCGP-5 (4-8)
recovery 2.3 PID 1-20
0-2.3 silty clay soft
trace gravel
bottom .3 wet
PID 1-2 at top
PID=20 near wet
layer
slight odor at bottom (sweet)

Collected CCGP-5(4-8) 1330
~~CCGP-15 (4-8) 1340~~
~~Blind Dup~~
~~No Blind Dup called for~~
in FAP

1350 retrived CCGP-6 (0-4)
No PID 2.4 recovery
0-.2 asphalt/subase
.2-2 brick little sand trace gravel
2-2.4 soft silty clay trace gravel

1355 retrived CCGP-6 (4-8)
3.0 recovery PID - 1-6
6 @ top of sample
1-2 @ bottom
0 inbetween
0-2.6 soft silty clay some gravel
2.6-3.0 wet gravel and f sand

Collected CCGP-6(4-8)
~~CCG~~ + MS/MSD

retrived CCGP-7 (0-4)
1405 3.3 recovery No PID
0-.2 Asphalt/subase
.2-2.5 brick
2.5-3.3 soft silty clay little
gravel

1415 retrived CCGP-7 (4-8)
1.7 recovery No PID

no odor or stain 0-1.7 soft silty clay and gravel
last .2 wet

slight after CCG (4-

Collected CCGP-7 (4-8)
2 x 2oz

1440 retrived CCGP-8 (0-4)
2.6' recovery
No PID
0-.2 Asphalt Subase
fill .2 1.7 silty f-m sand brown little gravel
1.7-2.6 soft silty clay trace gravel

1450 retrived CCGP-8 (4-8)
No PID
recovery 3.6'
0-2.4 soft silty clay little gravel
2.4-3.6 wet sandy gravel littlesand

Collected CCGP-8 (4-8)
2 x 2oz

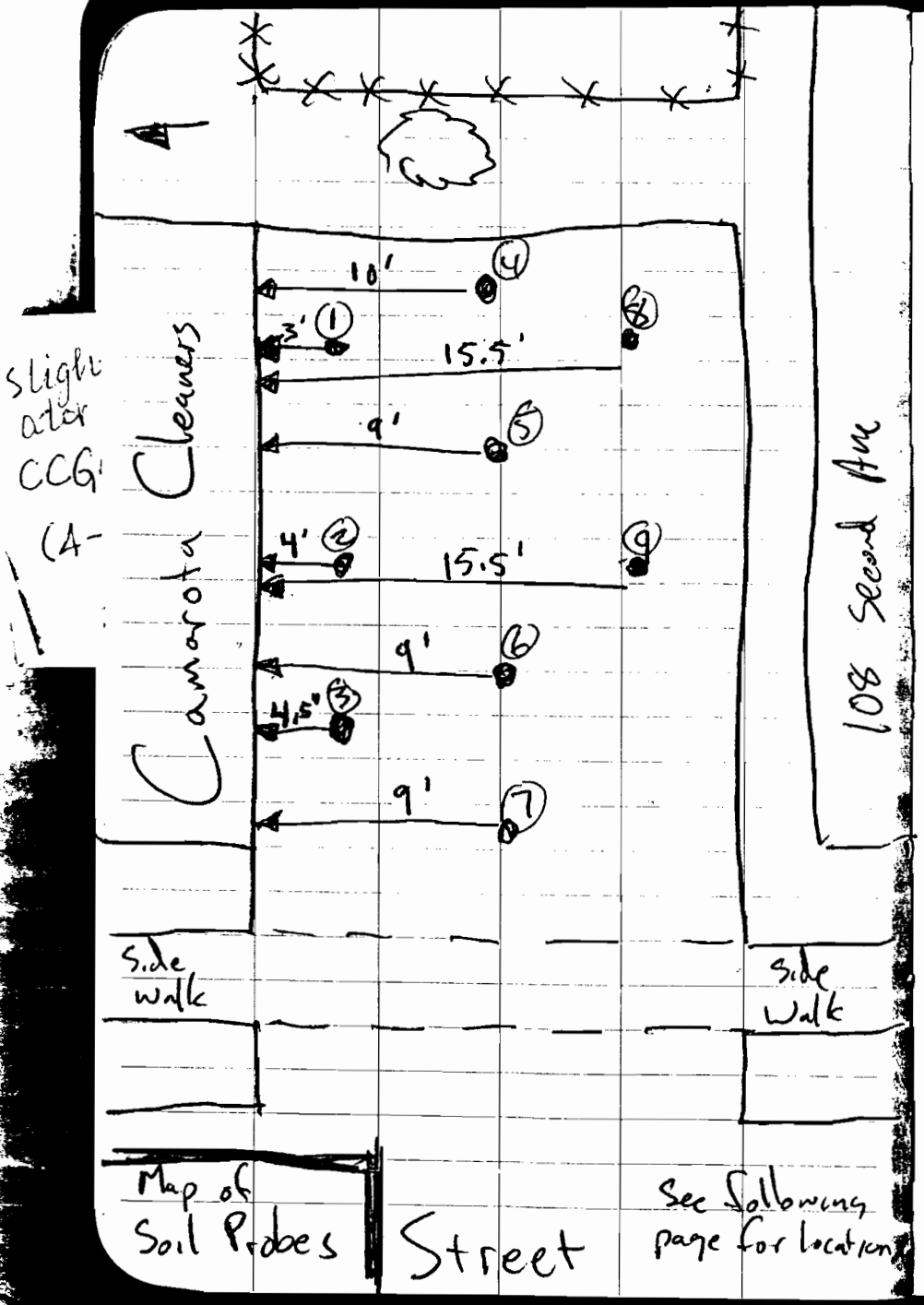
1500 retrived CCGP-9 (0-4)
1' recovery No PID
0-.2 Asphalt/Subase
.2-.6 Brick
.6-1 silty Sand little gravel

1505 retrived CCGP-9 (4-8)
1.6 recovery ~~No~~ PID 18-20 throughout
0-1.6 soft silty clay little gravel
bottom .5 wet

Collected CCGP-9 (4-8
2 x 2oz

ER-1 1520 3 VOC
equipment rinseate for soil

ER-2 1530 2 VOC
equipment rinseate for GW



ER-2 only has 2 vac 40ml because only a small bottle of DI water

1540 Walked around site and located water points with Elaine

M. Letineau onsite (1500 -

1600 Elaine offsite
we will attempt one water sample @ CCGW-5

1615 @ depth for CCGW-5 drilled to 14' pulled up to 11' purged and sampled

1625 Collected CCGW-5 (11')

1640 finished Decon for day and cleaned up site mgb to Home Depot for stud

End of Day

map

9/15

0740 Onsite
Filling soil probes w/ sand and measured locations of each soil probe

slight
ater
CCG
CA-

Soil Probes

ID	South of Camarota Cleaners Building	East of East side of sidewalk
1	3'	30'
2	4'	22'
3	4.5'	13'
4	10'	36'
5	9'	26'
6	9'	15'
7	9'	7.5'
8	15.5'	30.5'
9	15.5'	21'

0835 Walk around and get SWL measurments from existing wells on and around the site

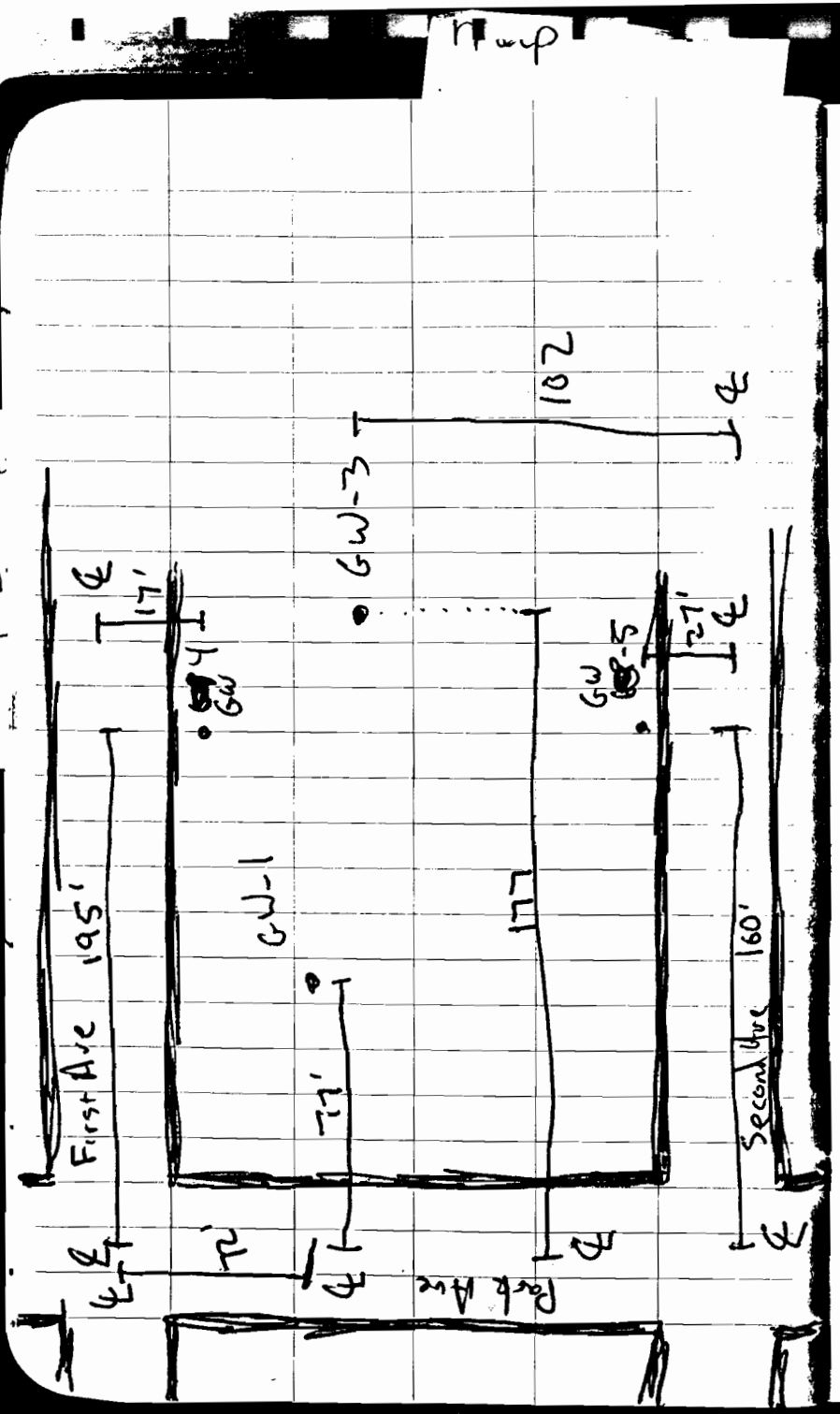
MW	SWL all measurements TOC
WP-2	5.65
SS-2	8.85
WP-6	5.75
EPS-3	~~7~~ 6.1
WP-4	~~6.4~~ 6.9
WP-3	6.4
WP-5	Unable to find
ESP-1	5.3

0910 Set up @ ~~GW-4~~ CCGW-4
reached a depth of 7' and hit bedrock - pulled back to 6.5

0925 Collected CCGW-4 (6.5) + MS/MSD

Measured CCGW-4 and CCGW-5

0950 Elaine onsite mob to CCGW-3



1010 Collected CCGW-3 (12)
+ Blind Dup CCGW-13

drove rods to 13' and pulled back to 12'

1040 After getting access we set up on CCGW-1 it is clear we will not be able to fit through the end of this drive way to collect CCGW-2 this point will be dropped

Drove to 10' pulled up to 9' Unable to get water will drive in another location

1050 Collected CCGW-1 (9) measured location

1100 Labled TB-1 pulled rods and deconed in Camarota parking lot

1150 Offsite headed home ship samples from there.

General Notes:

① When I arrived the town DPW was beginning to prep 2nd Ave north of Park Ave for road resurfacing. I collected the indoor + outdoor air samples as soon as possible to avoid possible contamination. After the samples were collected we began to smell the oil laid down as a base and later the asphalt.

② HNU readings (DL-101 PID)

OA-01	Bckgd (~0.5 ppm)	* unit calibrated to benzene using isobutylene span gas
IA-01	Bckgd	
SG-01	Bckgd	
SG-02	~1.2 ppm above bckgd	
* SG-03	~0.5 ppm above bckgd *	

This location was near SG-02 on other side of [illegible]. I told Elaine we would install 2 in this area + collect the sample from the one with the highest PID readings.

Fill/Clean-out at SE Corner: Bckgd
Fill/stickup along east side: Bckgd
PVC Clean-out inside (NE Corner area): Bckgd

③ The 2 openings on outside of building appear to go down under ground + turn + go under the slab. We tried to snake them + it doesn't appear that they run to a tank

Soil Gas

(~6-7" thick)

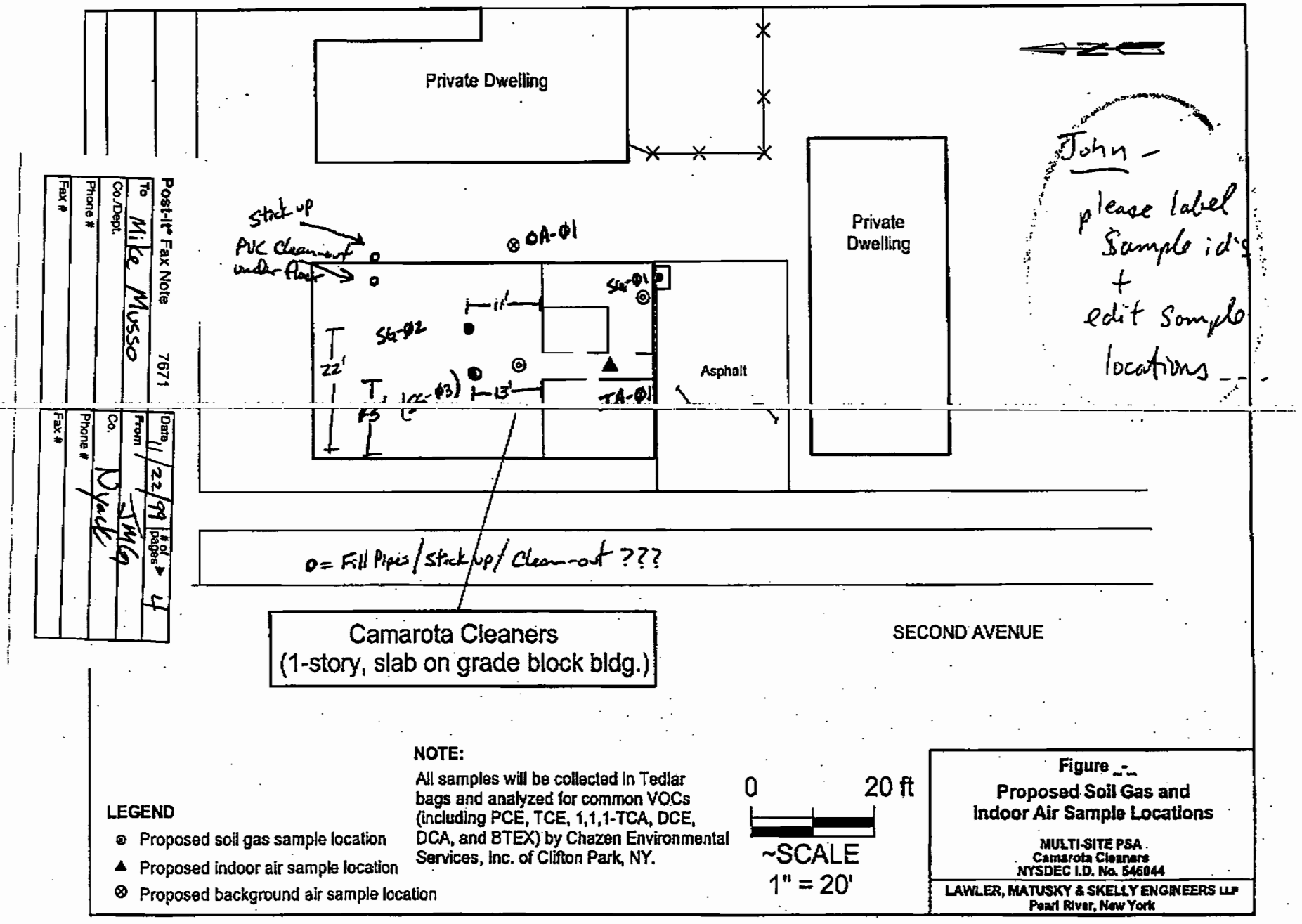
A hole was drilled through the concrete floor w/ a 7/8" drill bit and a hammer drill. The holes were opened to a depth of approximately 3.0' w/ a 5/8" steel "Slam Bar". The slam bar was removed and a soil gas point was installed using a KV soil gas kit. Stainless steel slotted aluminum soil gas points attached to dedicated 1/8" teflon tubing were driven to the required depth. After driving the soil gas points the rods were removed leaving the soil gas point and tubing in place. The annular space around the teflon tubing was filled with clean sand up to the concrete slab. The hole in the slab was filled w/ concrete patch. At each of the 59 locations it appeared that the soil gas point met refusal at approximately 3.5' below the slab.

A small diaphram pump with a flow rate of approximately 150 ml/min was used to purge each sample point & draw soil gas from each location. At each location the soil gas point was purged for approximately 5 minutes prior to sample collection. A photoionization detector (PID) was used to measure the air removed from the soil gas point during the purging process. The discharge side of the diaphram pump was attached to the PID with a short dedicated piece of 1/8" tubing. The Tedlar bags were supplied by the analytical laboratory (Tedlar bags).

The KV system allows the soil gas point to be set in the bottom of the hollow steel rods. The tubing comes up through the center of the drive rods. The unit is driven to the appropriate depth with a weighted slide hammer attached to the top of the drive rods. The rods are pulled up leaving the soil gas point & tubing in place

Indoor Air

The indoor air sample was collected with a small diaphram pump and a short piece of dedicated tubing. The pump was allowed to pump ambient air through the tubing for approximately 2 minutes. The tubing was then attached to the tedlar bag to allow it to fill. The area was scanned with a HNU systems DL-101 photoionization detector with a 10.2 eV lamp during this process. This sample was collected in the hallway between the office & bathrooms.



LEGEND

- ◎ Proposed soil gas sample location
- ▲ Proposed indoor air sample location
- ⊗ Proposed background air sample location

NOTE:

All samples will be collected in Tedlar bags and analyzed for common VOCs (including PCE, TCE, 1,1,1-TCA, DCE, DCA, and BTEX) by Chazen Environmental Services, Inc. of Clifton Park, NY.

0 20 ft

~SCALE
1" = 20'

Figure _-_
Proposed Soil Gas and Indoor Air Sample Locations

MULTI-SITE PSA
Camarota Cleaners
NYSDEC I.D. No. 546044

LAWLER, MATUSKY & SKELLY ENGINEERS LLP
Pearl River, New York