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PRELIMINARY SITE ASSESSMENT REPORT

HEMPSTEAD AREA DRY CLEANERS SITE
Incorporated Village of Hempstead, New York
Site No. 1-30-096

VOLUME I – REPORT

Work Assignment No. D002676-45

Prepared for:

New York State Department of Environmental Conservation
Division of Environmental Remediation

September 2000

LAWLER, MATUSKY & SKELLY ENGINEERS LLP
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Incorporated Village of Hempstead, New York

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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
Hempstead Area Dry Cleaners	130096	Hempstead	Nassau

5. REGION	6. CLASSIFICATION
1	CURRENT PROPOSED MODIFY

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

a. Quadrangle: Freeport

b. Site Latitude 40° 42' 31" Site Longitude 73° 37' 14"

c. Tax Map Numbers Top-Notch Cleaners (378 Fulton Ave.): Section 034, Block 342, Lot 270. June Dry Cleaners (391 Fulton Ave.): Section 034, Block 344, Lot 072.

d. Site Street Address: Area encompassing Fulton Avenue to the north, Robson Place to the east, Cooper Street to the south, and Washington Street to the west in Hempstead, NY

8. BRIEFLY DESCRIBE THE SITE (Attach site plan showing disposal/sampling locations) see Figures 2 through 6; Tables 1 through 3.

During the remedial investigation of the Franklin Cleaners site (Site No. 130050), groundwater contamination (VOCs, PCE) was identified upgradient of the Franklin Cleaners site. It was suspected, therefore, that this upgradient contamination may have originated from one of the dry cleaners identified north of Franklin Cleaners. Thus, an initial phase of Preliminary Site Assessment (PSA) work was conducted for NYSDEC by Lawler, Matusky & Skelly Engineers LLP (LMS) in October 1999 to confirm if any release of contamination to the subsurface has occurred at the Hempstead Area Dry Cleaners site. Two active dry cleaning facilities, June Dry Cleaners and Top-Notch Cleaners, were initially investigated for the PSA.

Since PCE contamination was documented during the October 1999 PSA (i.e., groundwater contamination was identified downgradient of Top-Notch Cleaners), a second phase of PSA work was conducted at the site, and at areas south of the site, in June-July 2000 to attempt to delineate the extent of PCE groundwater contamination. Deeper groundwater samples (i.e., to depths of approximately 85 ft bgs) were collected during the second phase of PSA work. Elevated levels of PCE were again found in groundwater, with a maximum concentration of 8100 ug/l detected at a depth of 85 ft bgs. Since no sampling at site properties was planned for the PSA work, no soil or waste samples were obtained.

a. Area: 4 acres (Assumes approximate site boundary of Fulton Avenue to the north, Cooper Street to the south, Robson Place to the east, and Washington Street to the west). b. EPA ID Number NA

c. Completed ( )Phase I ( )Phase II (X) PSA ( )RI/FS ( )PA/SI ( )Other

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

F002 (spent halogenated solvents) - tetrachloroethene (PCE)

10. ANALYTICAL DATA AVAILABLE

a. ( )Air (X)Groundwater ( )Surface Water ( )Sediment (X)Soil ( )Waste ( )Leachate ( )EPTox (X)TCLP

b. Exceedences in NYS Groundwater Standards or Guidance Values Refer to attached Tables 2 and 3.

11. CONCLUSION

12. SITE DATA

a. Nearest Surface Water: Distance 5500 ft Direction: SW Classification: Hempstead Reservoir

b. Nearest Groundwater: Depth 25 ft Flow Direction: South (X)Sole Source ( )Primary ( )Principal

c. Nearest Water Supply: Distance 0.5 mile Direction: North Active (X)Yes ( )No

d. Nearest Building: Distance (on-site) Direction: Not applicable Uses: Dry cleaning, miscellaneous commercial

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		



Map source:
USGS quadrangles
Printed from Wildflower
Productions "TOPO!" software, 1998.

Figure 1

Site Location

MULTI-SITE PSA
Hempstead Area Dry Cleaners
NYSDEC I.D. No. 130096

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

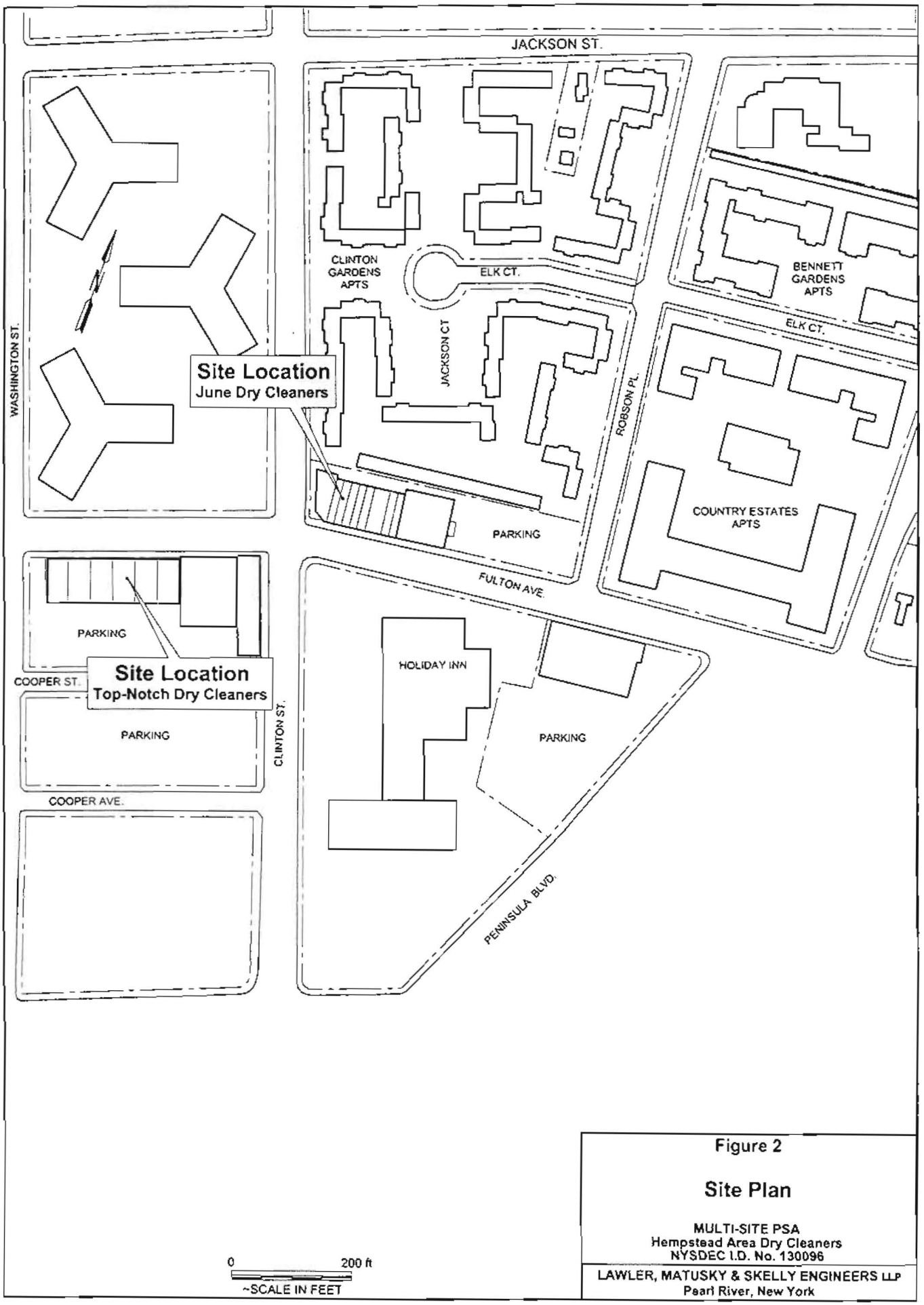
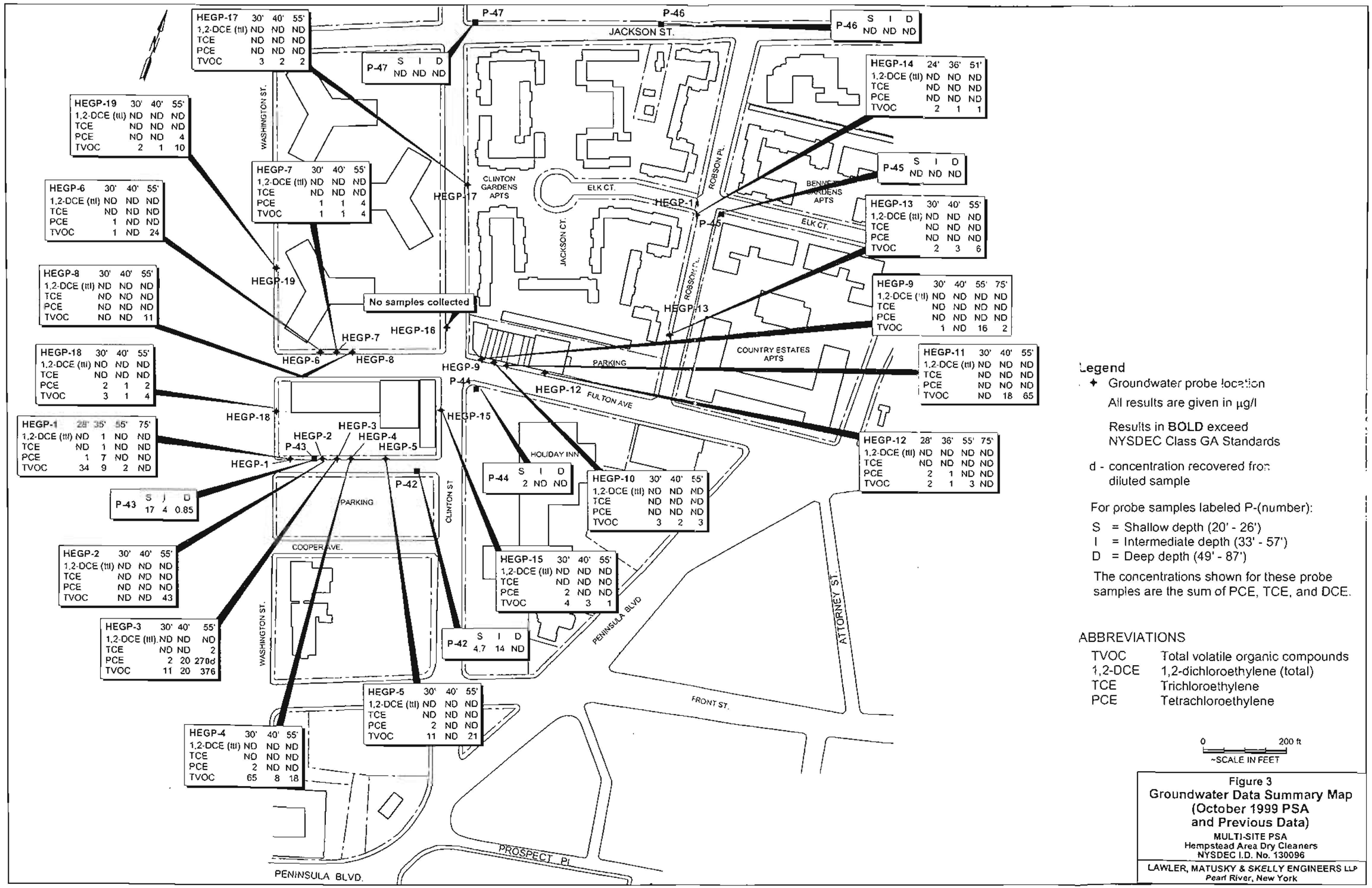


Figure 2

Site Plan

MULTI-SITE PSA
Hempstead Area Dry Cleaners
NYSDEC I.D. No. 130096

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



Legend

✦ Groundwater probe location

All results are given in µg/l

Results in **BOLD** exceed NYSDEC Class GA Standards

d - concentration recovered from diluted sample

For probe samples labeled P-(number):

S = Shallow depth (20' - 26')
I = Intermediate depth (33' - 57')
D = Deep depth (49' - 87')

The concentrations shown for these probe samples are the sum of PCE, TCE, and DCE.

ABBREVIATIONS

TVOC	Total volatile organic compounds
1,2-DCE	1,2-dichloroethylene (total)
TCE	Trichloroethylene
PCE	Tetrachloroethylene

0 200 ft
~SCALE IN FEET

Figure 3
Groundwater Data Summary Map (October 1999 PSA and Previous Data)
MULTI-SITE PSA
Hempstead Area Dry Cleaners
NYSDEC I.D. No. 130096

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

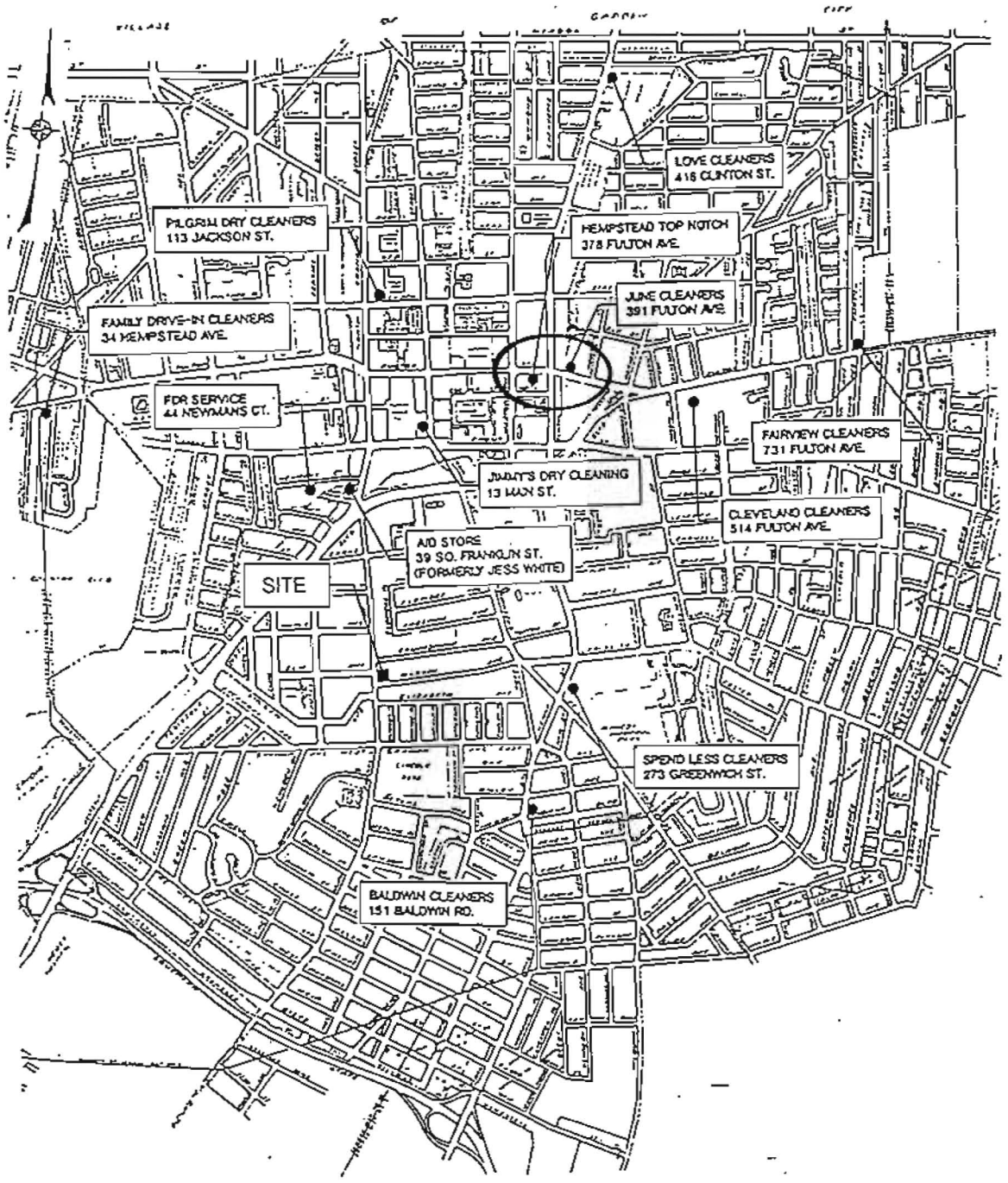
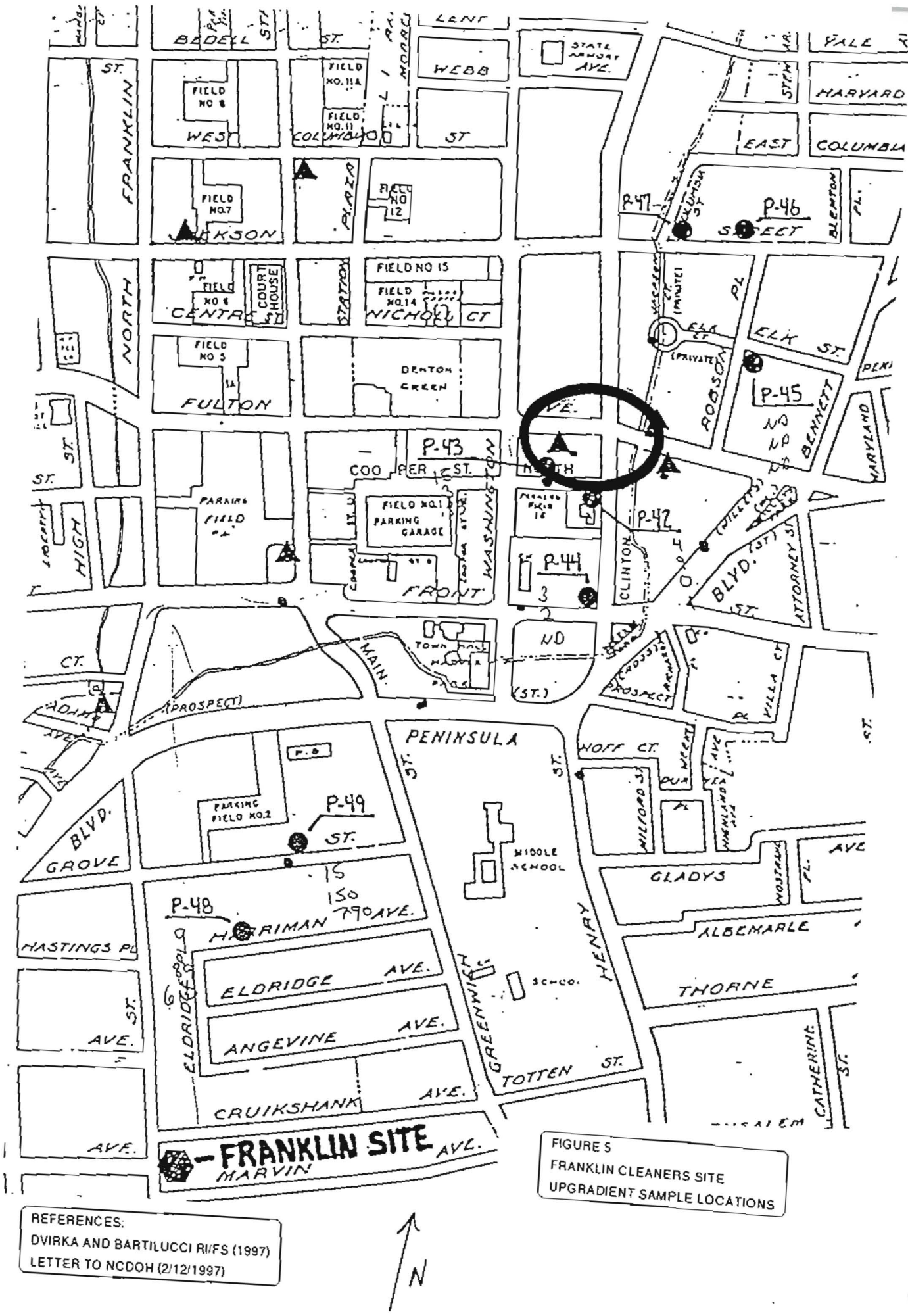


FIGURE 4
DRY CLEANING FACILITIES IN
VICINITY OF FRANKLIN CLEANERS SITE

REFERENCE:

DVIRKA AND BARTILUCCI RI/FS (1997)



REFERENCES:
DVIRKA AND BARTILUCCI RI/FS (1997)
LETTER TO NCDOH (2/12/1997)

FIGURE 5
FRANKLIN CLEANERS SITE
UPGRADIENT SAMPLE LOCATIONS

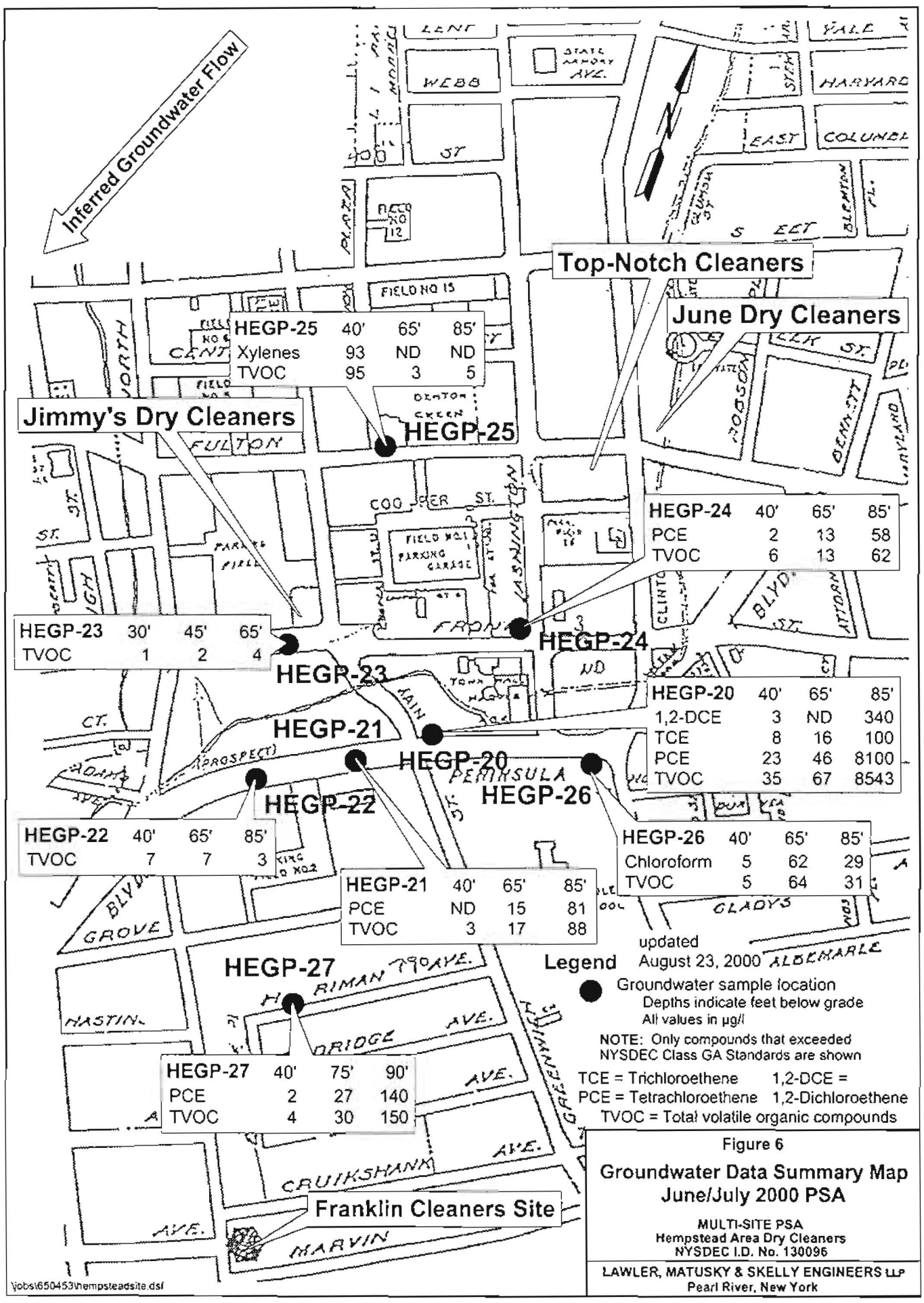

Inferred Groundwater Flow
Top-Notch Cleaners
June Dry Cleaners
Jimmy's Dry Cleaners
HEGP-25 40' 65' 85'
Xylenes 93 ND ND
TVOC 95 3 5
HEGP-24 40' 65' 85'
PCE 2 13 58
TVOC 6 13 62
HEGP-23 30' 45' 65'
TVOC 1 2 4
HEGP-20 40' 65' 85'
1,2-DCE 3 ND 340
TCE 8 16 100
PCE 23 46 8100
TVOC 35 67 8543
HEGP-22 40' 65' 85'
TVOC 7 7 3
HEGP-26 40' 65' 85'
Chloroform 5 62 29
TVOC 5 64 31
HEGP-21 40' 65' 85'
PCE ND 15 81
TVOC 3 17 88
HEGP-27 40' 75' 90'
PCE 2 27 140
TVOC 4 30 150
Franklin Cleaners Site
updated
August 23, 2000
Legend
Groundwater sample location
Depths indicate feet below grade
All values in µg/l
NOTE: Only compounds that exceeded NYSDEC Class GA Standards are shown
TCE = Trichloroethene 1,2-DCE =
PCE = Tetrachloroethene 1,2-Dichloroethene
TVOC = Total volatile organic compounds
Figure 6
Groundwater Data Summary Map
June/July 2000 PSA
MULTI-SITE PSA
Hempstead Area Dry Cleaners
NYSDEC I.D. No. 130096
LAWLER, MATUSKY & SKELLY ENGINEERS LLP
Pearl River, New York
\jobs\650453\hempsteadsite.dsf

Table 1 (Page 1 of 3)

SOIL DATA SUMMARY

HEMPSTEAD AREA DRY CLEANERS

October 1999

SDG Number	LMS165	LMS165	LMS165	LMS165	LMS165	LMS165	RECOMMENDED
LMS Sample ID	HEGP-2(4-8')	HEGP-2(12-14')	HEGP-2(18-20')	HEGP-2(22-24')	HEGP-7(4-8')	HEGP-7(12-14')	
Lab Sample Number	9930194	9930195	9930196	9930197	9930742	9930743	SOIL CLEANUP
Sampling Date	10/05/1999	10/05/1999	10/05/1999	10/05/1999	10/07/1999	10/07/1999	
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	OBJECTIVE (a)
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Volatile Organic Compounds (mg/kg)							
Acetone	ND g	ND g	ND g	ND g	0.003 j	0.002 j	0.2
Carbon Disulfide	ND g	ND g	ND g	ND g	0.002 j	ND	2.7
2-Butanone	ND	ND	ND	ND	ND	ND	0.3
Tetrachloroethylene	ND	ND	ND	ND	ND	ND	1.4
Total VOCs:	ND	ND	ND	ND	0.005	0.002	

(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
j - Estimated concentration; compound present below quantitation limit.
ND - Not detected at analytical detection limit.
g - Value considered estimated based on data validator's report (Appendix B).

SOIL DATA SUMMARY

HEMPSTEAD AREA DRY CLEANERS

October 1999

SDG Number	LMS165	LMS165	LMS165	LMS165	LMS165	RECOMMENDED
LMS Sample ID	HEGP-7(18-20')	HEGP-7(22-24')	HEGP-10(4-8')	HEGP-10(12-14')	HEGP-10(16-18')	
Lab Sample Number	9930744	9930745	9930795	9930796	9930797	SOIL CLEANUP
Sampling Date	10/07/1999	10/07/1999	10/09/1999	10/09/1999	10/09/1999	
Matrix	Soil	Soil	Soil	Soil	Soil	OBJECTIVE (a)
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Volatile Organic Compounds (mg/kg)						
Acetone	ND	ND	0.03 g	ND g	ND g	0.2
Carbon Disulfide	ND	ND	0.005 j	ND	ND	2.7
2-Butanone	ND	ND	0.002 j	ND	ND	0.3
Tetrachloroethylene	ND	ND	0.004 j	ND	ND	1.4
Total VOCs:	ND	ND	0.041	ND	ND	

(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
j - Estimated concentration; compound present below quantitation limit.
ND - Not detected at analytical detection limit.
g - Value considered estimated based on data validator's report (Appendix B).

SOIL DATA SUMMARY

HEMPSTEAD AREA DRY CLEANERS

October 1999

SDG Number	LMS165	LMS165	LMS165	LMS165	LMS165	RECOMMENDED
LMS Sample ID	HEGP-10(22-24')	HEGP-13(4-8')	HEGP-13(12-14')	HEGP-13(16-18')	HEGP-13(18-19')	
Lab Sample Number	9930798	9930799	9930800	9930801	9930802	SOIL CLEANUP
Sampling Date	10/09/1999	10/10/1999	10/10/1999	10/10/1999	10/10/1999	
Matrix	Soil	Soil	Soil	Soil	Soil	OBJECTIVE (a)
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Volatile Organic Compounds (mg/kg)						
Acetone	ND g	ND g	0.008 j	ND g	ND g	0.2
Carbon Disulfide	ND	ND	ND	ND	ND	2.7
2-Butanone	ND	ND	ND	ND	ND	0.3
Tetrachloroethylene	ND	ND	ND	ND	ND	1.4
Total VOCs:	ND	ND	0.008	ND	ND	

(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
j - Estimated concentration; compound present below quantitation limit.
ND - Not detected at analytical detection limit.
g - Value considered estimated based on data validator's report (Appendix 8).

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS162	LMS162	LMS162	LMS162	LMS162	
LMS Sample ID	HEEB-1	HEGP-1 (28')	HEGP-1 (35')	HEGP-1 (55')	HEGP-1 (75')*	
Lab Sample Number	9930179	9930180	9930181	9930182	9930183	
Sampling Date	10/05/1999	10/04/1999	10/04/1999	10/04/1999	10/04/1999	NYSDEC
Matrix	WATER	WATER	WATER	WATER	WATER	CLASS GA
Units	ug/L	ug/L	ug/L	ug/L	ug/L	STANDARDS (a)
Volatile Organic Compounds (ug/L)						
Benzene	ND	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	ND	ND	5
Acetone	ND g	28 g	ND g	2 j	ND g	50 GV
1,2-Dichloroethylene (total)	ND	ND	1	ND	ND	5
2-Butanone	ND	4 j	ND	ND	ND	50 GV
Chloroform	ND	ND	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	5
Trichloroethylene	ND g	ND g	1 g	ND g	ND g	5
Tetrachloroethylene	ND	1	7	ND	ND	5
Toluene	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	1	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	ND	ND	5
Total VOCs:	ND	34	9	2	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
* - Denotes QA/QC sample.
(a) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
GV - Guidance Value.
J - Estimated concentration; compound present below quantitation limit.
ND - Not detected at anatytical detection limit.
Note - Numbers in bold exceed cleanup standard.
g - Value considered estimated based on data validator's report (Appendix B).

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS162	LMS162	LMS162	LMS162	
LMS Sample ID	HEGP-2 (30')	HEGP-2 (40')	HEGP-2 (55')	T-BLANK-1	NYSDEC
Lab Sample Number	9930184	9930185	9930186	9930193	CLASS GA
Sampling Date	10/05/1999	10/05/1999	10/05/1999	10/05/1999	STANDARDS (a)
Matrix	WATER	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)					
Benzene	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	1 j	ND g	5
Acetone	ND g	ND g	30	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	ND	5
2-Butanone	ND	ND	12 g	ND	50 GV
Chloroform	ND	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND g	ND g	5
Tetrachloroethylene	ND	ND	ND	ND	5
Toluene	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	ND	5
Total VOCs	ND	ND	43	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.

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

GV - Guidance Value.

j - Estimated concentration; compound present below quantitation limit.

ND - Not detected at analytical detection limit.

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

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number LMS Sample ID Lab Sample Number Sampling Date Matrix Units	LMS162 HEGP-3 (30') 9930187 10/04/1999 WATER ug/L	LMS162 HEGP-3 (40') 9930188 10/04/1999 WATER ug/L	LMS162 HEGP-3 (55') 9930189 10/04/1999 WATER ug/L [DL 1; 2.5]	NYSDEC CLASS GA STANDARDS (a)
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	9 g	ND g	48 g	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	5
2-Butanone	ND	ND	14 g	50 GV
Chloroform	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	5
Trichloroethylene	ND g	ND g	2 g	5
Tetrachloroethylene	2	20	**270 d**	5
Toluene	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs:	11	20	**376**	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.
(a) - Division of Water Technical and Operational Guidance Series (1 1 1) June 1998.
d - Concentration recovered from diluted sample
DL - Dilution factor.
GV - Guidance Value.
ND - Not detected at analytical detection limit
Note - Numbers in bold exceed cleanup standard
g - Value considered estimated based on data validator's report (Appendix B)

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS162	LMS162	LMS162	
LMS Sample ID	HEGP-4 (30')	HEGP-4 (40')	HEGP-4 (55')	
Lab Sample Number	9930190	9930191	9930192	
Sampling Date	10/05/1999	10/05/1999	10/05/1999	NYSDEC
Matrix	WATER	WATER	WATER	CLASS GA
Units	ug/L	ug/L	ug/L	STANDARDS (a)
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	47 g	8 g	14 g	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	5
2-Butanone	16 g	ND	4 j	50 GV
Chloroform	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND g	5
Tetrachloroethylene	2	ND	ND	5
Toluene	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs:	65	8	18	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.
(a) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998
GV - Guidance Value.
j - Estimated concentration; compound present below quantitation limit.
ND - Not detected at analytical detection limit.
g - Value considered estimated based on data validator's report (Appendix B).

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS162	LMS162	LMS162	LMS162	
LMS Sample ID	HEGP-5 (30')	HEGP-5 (40')	HEGP-5 (55')	T-BLANK-2	
Lab Sample Number	9930622	9930623	9930624	9930625	NYSDEC
Sampling Date	10/06/1999	10/06/1999	10/06/1999	10/06/1999	CLASS GA
Matrix	WATER	WATER	WATER	WATER	STANDARDS (a)
Units	ug/L	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)					
Benzene	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	ND	5
Acetone	9 g	ND g	17 g	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	ND	5
2-Butanone	ND	ND	4 j	ND	50 GV
Chloroform	ND	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND g	ND	5
Tetrachloroethylene	2	ND	ND	ND	5
Toluene	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	ND	5
Total VOCs:	11	ND	21	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.
(a) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
GV - Guidance Value
j - Estimated concentration; compound present below quantitation limit
ND - Not detected at analytical detection limit.
g - Value considered estimated based on data validator's report (Appendix B)

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS167	LMS167	LMS167	LMS167	
LMS Sample ID	HEEB-02	HEGP-6 (30')	HEGP-6 (40')	HEGP-6 (55')	
Lab Sample Number	9930784	9930729	9930730	9930731	NYSDEC
Sampling Date	10/09/1999	10/07/1999	10/07/1999	10/07/1999	CLASS GA
Matrix	WATER	WATER	WATER	WATER	STANDARDS (a)
Units	ug/L	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)					
Benzene	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	2 j	5
Acetone	ND	ND g	ND g	18 g	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	ND	5
2-Butanone	ND	ND	ND	4 j	50 GV
Chloroform	ND	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND	5
Trichloroethylene	ND	ND g	ND g	ND g	5
Tetrachloroethylene	ND	1	ND	ND	5
Toluene	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	ND	5
Total VOCs:	ND	1	ND	24	100'

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.
(a) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998
GV - Guidance Value.
J - Estimated concentration, compound present below quantitation limit.
ND - Not detected at analytical detection limit.
g - Value considered estimated based on data validator's report (Appendix B).

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS167	LMS167	LMS167	LMS167	
LMS Sample ID	HEGP-7 (30')	HEGP-7 (40')	HEGP-7 (55')	T-BLANK-3	NYSDEC
Lab Sample Number	9930732	9930733	9930734	9930741	CLASS GA
Sampling Date	10/07/1999	10/07/1999	10/07/1999	10/07/1999	STANDARDS (a)
Matrix	WATER	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)					
Benzene	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	ND	5
Acetone	ND g	ND g	ND g	ND g	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	ND	5
2-Butanone	ND	ND	ND	ND	50 GV
Chloroform	ND	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND g	ND g	5
Tetrachloroethylene	1	1	4	ND	5
Toluene	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	ND	5
Total VOCs:	1	1	4	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.
(a) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998
GV - Guidance Value.
ND - Not detected at analytical detection limit.
g - Value considered estimated based on data validator's report (Appendix B)

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number LMS Sample ID Lab Sample Number Sampling Date Matrix Units	LMS167 HEGP-8 (30') 9930735 10/08/1999 WATER ug/L	LMS167 HEGP-8 (40') 9930736 10/08/1999 WATER ug/L	LMS167 HEGP-8 (55') 9930737 10/08/1999 WATER ug/L	NYSDEC CLASS GA STANDARDS (a)
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	ND g	ND g	9 g	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	5
2-Butanone	ND	ND	2 j	50 GV
Chloroform	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND g	5
Tetrachloroethylene	ND	ND	ND	5
Toluene	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs:	ND	ND	11	100*

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.
(a) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
GV - Guidance Value
j - Estimated concentration; compound present below quantitation limit
ND - Not detected at analytical detection limit
g - Value considered estimated based on data validator's report (Appendix B).

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS167	LMS167	LMS167	LMS167	
LMS Sample ID	HEGP-9 (30')	HEGP-9 (40')	HEGP-9 (55')	HEGP-9 (75')*	NYSDEC
Lab Sample Number	9930785	9930786	9930787	9930788	CLASS GA
Sampling Date	10/09/1999	10/09/1999	10/09/1999	10/09/1999	STANDARDS (a)
Matrix	WATER	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)					
Benzene	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	ND	5
Acetone	1 j	ND	12	2 j	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	ND	5
2-Butanone	ND	ND	4 j	ND	50 GV
Chloroform	ND	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND	5
Trichloroethylene	ND	ND g	ND	ND	5
Tetrachloroethylene	ND	ND	ND	ND	5
Toluene	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	ND	5
Total VOCs:	1	ND	16	2	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.
* - Denotes QA/QC sample.
(a) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
GV - Guidance Value.
J - Estimated concentration; compound present below quantitation limit.
ND - Not detected at analytical detection limit.
g - Value considered estimated based on data validator's report (Appendix B)

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS167	LMS167	LMS167	
LMS Sample ID	HEGP-10 (30')	HEGP-10 (40')	HEGP-10 (55')	
Lab Sample Number	9930789	9930790	9930791	
Sampling Date	10/09/1999	10/09/1999	10/09/1999	
Matrix	WATER	WATER	WATER	NYSDEC
Units	ug/L	ug/L	ug/L	CLASS GA STANDARDS (a)
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND g	2	1
Methylene Chloride	ND	ND g	ND	5
Acetone	3 j	2 j	1 j	50 GV
1,2-Dichloroethylene (total)	ND	ND g	ND	5
2-Butanone	ND	ND g	ND	50 GV
Chloroform	ND	ND g	ND	7
1,2-Dichloroethane	ND	ND g	ND	0.6
1,1,1-Trichloroethane	ND	ND g	ND	5
Trichloroethylene	ND	ND g	ND	5
Tetrachloroethylene	ND	ND g	ND	5
Toluene	ND	ND g	ND	5
Chlorobenzene	ND	ND g	ND	5
Ethylbenzene	ND	ND g	ND	5
Xylenes (total)	ND	ND g	ND	5
Total VOCs:	3	2	3	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.
(a) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
GV - Guidance Value
j - Estimated concentration, compound present below quantitation limit
ND - Not detected at analytical detection limit
Note - Numbers in bold exceed cleanup standard
g - Value considered estimated based on data validator's report (Appendix B)

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS167	LMS167	LMS167	
LMS Sample ID	HEGP-11 (30')	HEGP-11 (40')	HEGP-11 (55')	
Lab Sample Number	9930738	9930739	9930740	NYSDEC
Sampling Date	10/08/1999	10/08/1999	10/08/1999	CLASS GA
Matrix	WATER	WATER	WATER	STANDARDS (a)
Units	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)				
Benzene	ND	1	ND	1
Methylene Chloride	ND	ND	1 j	5
Acetone	ND g	13 g	50 g	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	5
2-Butanone	ND	2 j	14 g	50 GV
Chloroform	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND g	5
Tetrachloroethylene	ND	ND	ND	5
Toluene	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	5
Xylenes (total)	ND	2	ND	5
Total VOCs:	ND	18	65	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.
(a) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998
GV - Guidance Value
J - Estimated concentration, compound present below quantitation limit
ND - Not detected at analytical detection limit.
g - Value considered estimated based on data validator's report (Appendix B).

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number LMS Sample ID Lab Sample Number Sampling Date Matrix Units	LMS169 HEGP-12 (28') 9931954 10/18/1999 WATER ug/L	LMS169 HEGP-12 (36') 9931955 10/18/1999 WATER ug/L	LMS169 HEGP-12 (55') 9931956 10/18/1999 WATER ug/L	LMS169 HEGP-12 (75')* 9931957 10/18/1999 WATER ug/L	NYSDEC CLASS GA STANDARDS (a)
Volatile Organic Compounds (ug/L)					
Benzene	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	ND	5
Acetone	ND	ND	1 j	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	ND	5
2-Butanone	ND r	ND r	ND g	ND r	50 GV
Chloroform	ND	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND	ND g	5
Tetrachloroethylene	2	1	ND	ND	5
Toluene	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	ND	5
Total VOCs:	2	1	1	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.
* - Denotes QA/QC sample.
(a) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998
GV - Guidance Value
j - Estimated concentration; compound present below quantitation limit
ND - Not detected at analytical detection limit
g - Value considered estimated based on data validator's report (Appendix B).
r - Value rejected by data validator but useable to show approximate level of the compound (Appendix B)

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS162	LMS162	LMS162	LMS167	
LMS Sample ID	HEGP-13 (30')	HEGP-13 (40')	HEGP-13 (55')	T-BLANK-4	
Lab Sample Number	9930792	9930793	9930794	9930805	NYSDEC
Sampling Date	10/10/1999	10/10/1999	10/10/1999	10/10/1999	CLASS GA
Matrix	WATER	WATER	WATER	WATER	STANDARDS (a)
Units	ug/L	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)					
Benzene	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	2 j	5
Acetone	2 j	3 j	4 j	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	ND	5
2-Butanone	ND	ND	2 j	ND	50 GV
Chloroform	ND	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND	5
Trichloroethylene	ND	ND	ND	ND	5
Tetrachloroethylene	ND	ND	ND	ND	5
Toluene	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	ND	5
Total VOCs:	2	3	6	2	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

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

GV - Guidance Value.

j - Estimated concentration; compound present below quantitation limit

ND - Not detected at analytical detection limit.

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS169	LMS169	LMS169	
LMS Sample ID	HEGP-14 (24')	HEGP-14 (36')	HEGP-14 (51')	
Lab Sample Number	9931958	9931959	9931960	NYSDEC
Sampling Date	10/18/1999	10/18/1999	10/18/1999	CLASS GA
Matrix	WATER	WATER	WATER	STANDARDS (a)
Units	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	2 j	1 j	1 j	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	5
2-Butanone	ND r	ND r	ND r	50 GV
Chloroform	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND g	5
Tetrachloroethylene	ND	ND	ND	5
Toluene	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs:	2	1	1	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.
(a) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998
GV - Guidance Value.
j - Estimated concentration; compound present below quantitation limit
ND - Not detected at analytical detection limit.
g - Value considered estimated based on data validator's report (Appendix B)
r - Value rejected by data validator but useable to show approximate level of the compound (Appendix B).

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number LMS Sample ID Lab Sample Number Sampling Date Matrix Units	LMS169 HEGP-15 (30') 9932294 10/19/1999 WATER ug/L	LMS169 HEGP-15 (40') 9932295 10/19/1999 WATER ug/L	LMS169 HEGP-15 (55') 9932296 10/19/1999 WATER ug/L	NYSDEC CLASS GA STANDARDS (a)
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	2 j	3 j	1 j	50 GV
1,2-Dichloroethylene (total)	ND g	ND g	ND g	5
2-Butanone	ND g	ND g	ND g	50 GV
Chloroform	ND g	ND g	ND g	7
1,2-Dichloroethane	ND g	ND g	ND g	0.6
1,1,1-Trichloroethane	ND g	ND g	ND g	5
Trichloroethylene	ND g	ND g	ND g	5
Tetrachloroethylene	2	ND	ND	5
Toluene	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs:	4	3	1	100*

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.
(a) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
GV - Guidance Value.
J - Estimated concentration; compound present below quantitation limit.
ND - Not detected at analytical detection limit.
g - Value considered estimated based on data validator's report (Appendix B)

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS169	LMS169	LMS169	LMS169	
LMS Sample ID	HEGP-17 (30')	HEGP-17 (40')	HEGP-17 (55')	T-BLANK-6	
Lab Sample Number	9932297	9932298	9932299	9932300	
Sampling Date	10/19/1999	10/19/1999	10/19/1999	10/19/1999	
Matrix	WATER	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	ug/L	NYSDEC CLASS GA STANDARDS (a)
Volatile Organic Compounds (ug/L)					
Benzene	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	1 j	5
Acetone	3 j	2 j	2 j	ND	50 GV
1,2-Dichloroethylene (total)	ND g	ND g	ND g	ND g	5
2-Butanone	ND g	ND g	ND g	ND g	50 GV
Chloroform	ND	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND	ND g	5
Tetrachloroethylene	ND	ND	ND	ND	5
Toluene	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND g	ND	5
Total VOCs:	3	2	2	1	100*

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

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

GV - Guidance Value.

J - Estimated concentration; compound present below quantitation limit

ND - Not detected at analytical detection limit.

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

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS169	LMS169	LMS169	
LMS Sample ID	HEGP-18 (30')	HEGP-18 (40')	HEGP-18 (55')	
Lab Sample Number	9931961	9931962	9931963	NYSDEC
Sampling Date	10/19/1999	10/19/1999	10/19/1999	CLASS GA
Matrix	WATER	WATER	WATER	STANDARDS (a)
Units	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	1 j	ND	2 j	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	5
2-Butanone	ND r	ND r	ND r	50 GV
Chloroform	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND g	5
Tetrachloroethylene	2	1	2	5
Toluene	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs:	3	1	4	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.
(a) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
GV - Guidance Value.
j - Estimated concentration, compound present below quantitation limit
ND - Not detected at analytical detection limit.
g - Value considered estimated based on data validator's report (Appendix B)
r - Value rejected by data validator but useable to show approximate level of the compound (Appendix B).

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS169	LMS169	LMS169	LMS169	
LMS Sample ID	HEGP-19 (30')	HEGP-19 (40')	HEGP-19 (55')	T-BLANK-5	NYSDEC
Lab Sample Number	9931964	9931965	9931966	9931967	CLASS GA
Sampling Date	10/19/1999	10/19/1999	10/19/1999	10/19/1999	STANDARDS (a)
Matrix	WATER	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)					
Benzene	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	2 j	5
Acetone	2 j	1 j	5 j	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	ND	5
2-Butanone	ND r	ND r	1 j r	ND g	50 GV
Chloroform	ND	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND g	ND	5
Tetrachloroethylene	ND	ND	4	ND	5
Toluene	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	ND	5
Total VOCs:	2	1	10	2	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.

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

GV - Guidance Value.

j - Estimated concentration, compound present below quantitation limit

ND - Not detected at analytical detection limit.

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

r - Value rejected by data validator but useable to show approximate level of the compound (Appendix B).

Table 3 (1 of 8)

GROUNDWATER DATA SUMMARY - June/July 2000

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS180	LMS180	LMS180	
LMS Sample ID	HEGP-20 (40')	HEGP-20 (65')	HEGP-20 (85')	
Lab Sample Number	20000630-078	20000630-079	20000630-080	NYSDEC
Sampling Date	06/30/2000	06/30/2000	06/29/2000	CLASS GA
Matrix	WATER	WATER	WATER	STANDARDS (a)
Units	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)			[DF 1:200]	
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	ND	2 j	ND	50 GV
1,2-Dichloroethylene (total)	3	ND	340	5
2-Butanone	ND	ND	ND	50 GV
Chloroform	ND	ND	ND	7
Trichloroethylene	8	16	100	5
Tetrachloroethylene	23	46	8100 d	5
Toluene	1	3	3	5
Chlorobenzene	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs:	35	67	8543	100'

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.

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

GV - Guidance Value.

J - Estimated concentration; compound present below quantitation limit.

ND - Not detected at analytical reporting limit.

d - Compound identified in an analysis at a dilution factor.

DF - Dilution Factor

Note - Numbers in bold exceed cleanup standard.

Table 3 (2 of 8)

GROUNDWATER DATA SUMMARY - June/July 2000

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS180	LMS180	LMS180	
LMS Sample ID	HEGP-21 (40')	HEGP-21 (65')	HEGP-21 (85')	
Lab Sample Number	20000630-081	20000630-082	20000630-083	NYSDEC
Sampling Date	06/30/2000	06/30/2000	06/30/2000	CLASS GA
Matrix	WATER	WATER	WATER	STANDARDS (a)
Units	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	ND	ND	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	2	5
2-Butanone	ND	ND	ND	50 GV
Chloroform	ND	ND	1	7
Trichloroethylene	ND	ND	2	5
Tetrachloroethylene	ND	**15**	**81**	5
Toluene	3	2	2	5
Chlorobenzene	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs:	3	17	88	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.

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

GV - Guidance Value.

ND - Not detected at analytical reporting limit.

Note - Numbers in bold exceed cleanup standard.

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Table 3 (3 of 8)

GROUNDWATER DATA SUMMARY - June/July 2000

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS180	LMS180	LMS180	
LMS Sample ID	HEGP-22 (40')	HEGP-22 (65')	HEGP-22 (85')*	NYSDEC
Lab Sample Number	20000707-002	20000707-003	20000707-004	CLASS GA
Sampling Date	07/05/2000	07/05/2000	07/05/2000	STANDARDS (a)
Matrix	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	ND	ND	1j	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	5
2-Butanone	ND	ND	ND	50 GV
Chloroform	3	3	ND	7
Trichloroethylene	ND	ND	ND	5
Tetrachloroethylene	1	2	ND	5
Toluene	3	2	2	5
Chlorobenzene	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs:	7	7	3	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.

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

GV - Guidance Value.

j - Estimated concentration; compound present below quantitation limit.

ND - Not detected at analytical reporting limit.

* - Denotes QA/QC sample

Table 3 (4 of 8)

GROUNDWATER DATA SUMMARY - June/July 2000

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS180	LMS180	LMS180	
LMS Sample ID	HEGP-23 (30')	HEGP-23 (45')	HEGP-23 (65')	
Lab Sample Number	20000707-005	20000707-006	20000707-007	NYSDEC
Sampling Date	07/05/2000	07/05/2000	07/05/2000	CLASS GA
Matrix	WATER	WATER	WATER	STANDARDS (a)
Units	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	ND	ND	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	5
2-Butanone	ND	ND	ND	50 GV
Chloroform	ND	ND	1	7
Trichloroethylene	ND	ND	ND	5
Tetrachloroethylene	ND	ND	ND	5
Toluene	1	2	3	5
Chlorobenzene	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs:	1	2	4	100'

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.

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

GV - Guidance Value.

ND - Not detected at analytical reporting limit.

Table 3 (5 of 8)

GROUNDWATER DATA SUMMARY - June/July 2000

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS180	LMS180	LMS180	
LMS Sample ID	HEGP-24 (40')	HEGP-24 (65')	HEGP-24 (85')	
Lab Sample Number	20000707-008	20000707-009	20000707-010	NYSDEC
Sampling Date	07/05/2000	07/05/2000	07/05/2000	CLASS GA
Matrix	WATER	WATER	WATER	STANDARDS (a)
Units	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	ND	ND	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	3	5
2-Butanone	ND	ND	ND	50 GV
Chloroform	ND	ND	ND	7
Trichloroethylene	ND	ND	ND	5
Tetrachloroethylene	2	13	58	5
Toluene	2	ND	1	5
Chlorobenzene	2	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs:	6	13	62	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.

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

GV - Guidance Value.

ND - Not detected at analytical reporting limit.

Note - Numbers in bold exceed cleanup standard.

Table 3 (6 of 8)

GROUNDWATER DATA SUMMARY - June/July 2000

HEMPSTEAD AREA DRY CLEANERS

SDG Number LMS Sample ID Lab Sample Number Sampling Date Matrix Units	LMS180 HEGP-25 (40') 20000707-011 07/06/2000 WATER ug/L	LMS180 HEGP-25 (65') 20000707-012 07/06/2000 WATER ug/L	LMS180 HEGP-25 (85') 20000707-013 07/06/2000 WATER ug/L	NYSDEC CLASS GA STANDARDS (a)
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	ND	ND	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	5
2-Butanone	ND	ND	ND	50 GV
Chloroform	ND	ND	ND	7
Trichloroethylene	ND	ND	ND	5
Tetrachloroethylene	ND	ND	2	5
Toluene	2	3	3	5
Chlorobenzene	ND	ND	ND	5
Xylenes (total)	93	ND	ND	5
Total VOCs:	95	3	5	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.

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

GV - Guidance Value.

j - Estimated concentration; compound present below quantitation limit.

ND - Not detected at analytical reporting limit.

Note - Numbers in bold exceed cleanup standard.

Table 3 (7 of 8)

GROUNDWATER DATA SUMMARY - June/July 2000

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS180	LMS180	LMS180	
LMS Sample ID	HEGP-26 (40')	HEGP-26 (65')	HEGP-26 (85')	
Lab Sample Number	20000707-014	20000707-015	20000707-016	NYSDEC
Sampling Date	07/06/2000	07/06/2000	07/06/2000	CLASS GA
Matrix	WATER	WATER	WATER	STANDARDS (a)
Units	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	ND	ND	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	5
2-Butanone	ND	ND	ND	50 GV
Chloroform	5	62	29	7
Trichloroethylene	ND	ND	ND	5
Tetrachloroethylene	ND	ND	ND	5
Toluene	ND	2	2	5
Chlorobenzene	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs:	5	64	31	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.

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

GV - Guidance Value.

ND - Not detected at analytical reporting limit.

Note - Numbers in bold exceed cleanup standard.

Table 3 (8 of 8)

GROUNDWATER DATA SUMMARY - June/July 2000

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS180	LMS180	LMS180	LMS180	LMS180	
LMS Sample ID	HEGP-27 (40')	HEGP-27 (75')	HEGP-27 (90')	HEFB-01*	TB-2 7/5/00*	NYSDEC
Lab Sample Number	20000707-017	20000707-018	20000707-019	20000707-020	20000707-021	CLASS GA
Sampling Date	07/06/2000	07/06/2000	07/06/2000	07/06/2000	07/06/2000	STANDARDS (a)
Matrix	WATER	WATER	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)						
Benzene	ND	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	ND	ND	5
Acetone	ND	ND	ND	ND	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	3	ND	ND	5
2-Butanone	ND	ND	ND	ND	ND	50 GV
Chloroform	ND	ND	ND	ND	ND	7
Trichloroethylene	ND	2	3	ND	ND	5
Tetrachloroethylene	2	27	140	ND	ND	5
Toluene	2	1	4	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	ND	ND	5
Total VOCs:	4	30	150	0	0	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.

* - Denotes QA/QC sample.

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

GV - Guidance Value.

ND - Not detected at analytical reporting limit.

Note - Numbers in bold exceed cleanup standard.

+Disk No.: DATA J:\06xx-xxx\0650-NYSDEC\650-453 Hempstead PSA\tables.xls groundwater2 8/17/00 10:49:43 AM+

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 PA and other investigations if available. Follow the outline on the next page:

SITE CONDITIONS AND BACKGROUND

1. PHYSICAL LOCATION

The Hempstead Area Dry Cleaners site consists of two active dry cleaning facilities located in the Incorporated Village of Hempstead, Nassau County, New York (see Figures 1 and 2). The site area is zoned for mixed land uses including commercial, governmental/institutional, and residential. The commercial properties in the site vicinity are primarily located along Fulton Avenue. The site coordinates (central location) are 40° 42' 31" N (latitude) and 73° 37' 14" W (longitude). Figure 2 shows the assumed site boundaries (i.e, Fulton Avenue to the north; Washington Street to the west; Robson Place to the east; and Cooper Street to the south). **Ref: 1.**

2. SITE CHARACTERISTICS

Two active dry cleaning facilities were initially investigated during the Preliminary Site Assessment (PSA): June Dry Cleaners (located on the north side of Fulton Avenue, between Clinton Street and Robson Place) and Top-Notch Cleaners (located on the south side of Fulton Avenue, between Washington Street and Clinton Street). The locations of both of these facilities are shown on Figure 2. A former dry cleaner was located on what is now a hotel property and was demolished when the hotel (Holiday Inn) was constructed around 1970. **Ref: 2.**

June Dry Cleaners is located at 391 Fulton Avenue, near the northeast corner of the intersection of Fulton Avenue and Clinton Street (Tax Section No. 34, Block 344, Lot 072). The one-story building that presently houses June Dry Cleaners has existed since at least 1950, as depicted on historic maps of the site area. The approximate building dimensions are 65 ft by 20 ft. A basement was shown to exist in the building on a sketch from a Nassau County Department of Health (NCDOH) chemical and waste inventory. The building is part of a chain of commercial businesses, as shown on Figure 2. Fulton Avenue borders June Dry Cleaners to the south. A paved alley exists to the north of the building. Drainage structures (i.e., drywells) were observed in the alley during the PSA. Information



Map source:
USGS quadrangles
Printed from Wildflower Productions "TOPO!" software, 1998.

Figure 1

Site Location

MULTI-SITE PSA
Hempstead Area Dry Cleaners
NYSDEC I.D. No. 130096

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

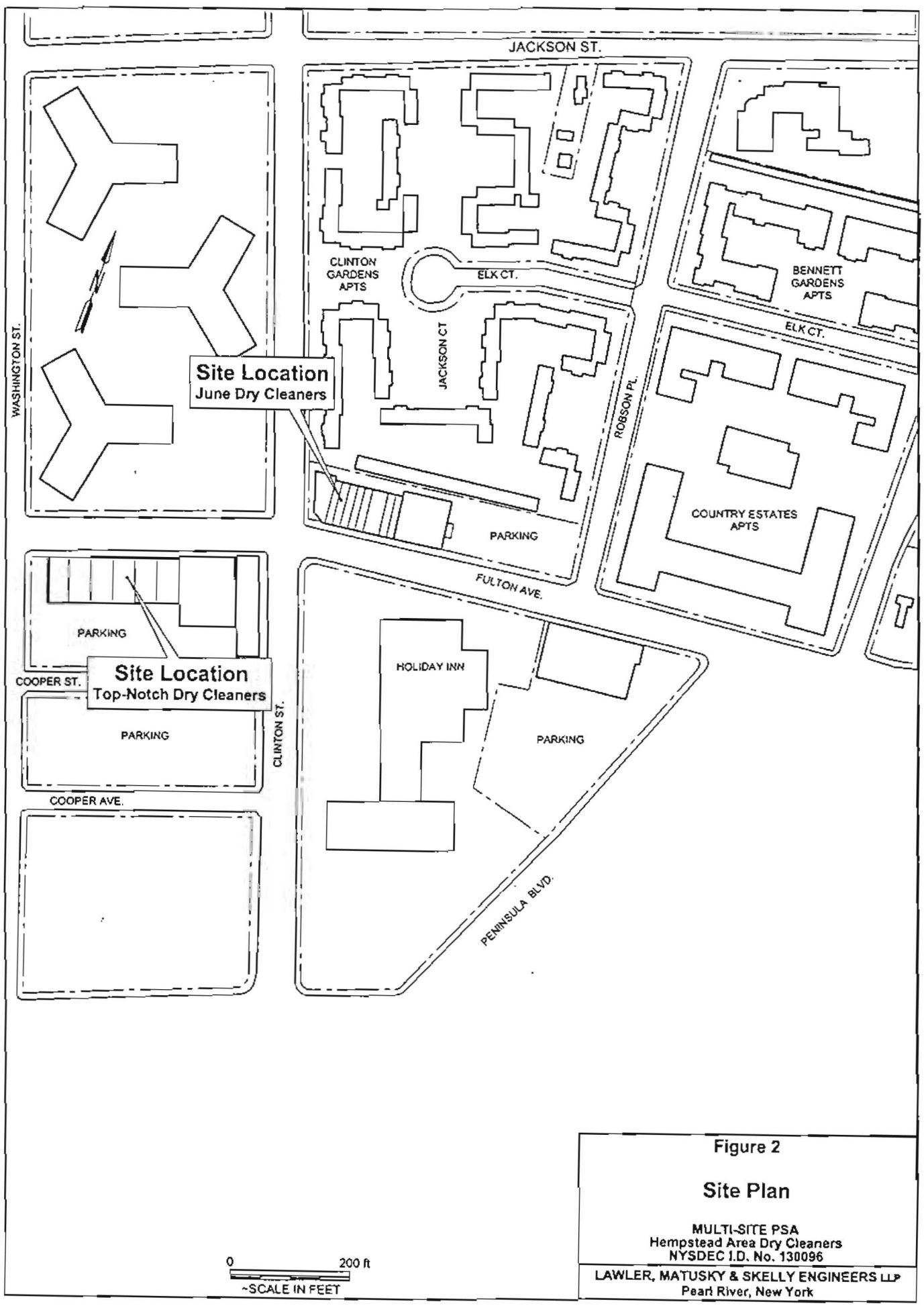


Figure 2

Site Plan

MULTI-SITE PSA
Hempstead Area Dry Cleaners
NYSDEC I.D. No. 130096

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

on the configuration or discharges associated with these structures could not be determined during the PSA. **Ref: 2, 3, 4.**

Top-Notch Cleaners is located at 378 Fulton Avenue, between Washington Street and Clinton Street (Tax Section No. 34, Block 342, Lot 270). The building which currently houses Top-Notch Cleaners was constructed in about 1968, as depicted on a historic map. The building is one story with concrete block walls, and steel columns, beams, and joists. A basement with two floor drains and a PCE storage tank was also noted to exist. The Top-Notch building lies within a chain of commercial establishments, as depicted on Figure 2. Fulton Avenue borders Top-Notch Cleaners to the north. A paved parking area exists south of the building and its neighboring stores. Stormwater catchbasins/drywells were observed to exist in the parking area. **Ref: 2, 3, 5.**

An investigation of the two basement floor drain structures at Top-Notch Cleaners was conducted by CA Rich Consultants, Inc. of Sea Cliff, New York, in 1997. The investigation, conducted under the USEPA Underground Injection Control (UIC) program, showed that low levels of VOCs (including PCE at 5.1 ppb) were detected in shallow soil samples collected from the floor drains. All identified compounds were found to be below applicable standards/guidelines. The floor drains were subsequently decommissioned, and USEPA acknowledged that a satisfactory closure of the UIC Class V structures had been accomplished at the facility. **Ref: 5.**

The site area, including the June Dry Cleaners and Top-Notch Cleaners facilities, is serviced by a municipal potable water system (Village of Hempstead Water Department). Each building is also tied into a municipal sanitary sewer system operated by the Village of Hempstead. It is unknown whether or not on-site septic/sanitary systems have ever existed at the two facilities, but the municipal sewer system has been in place at the site since at least 1919 (i.e., prior to the construction of the two dry cleaners buildings). As noted, stormwater drainage structures exist behind the two active dry cleaners. It is possible that sanitary and/or waste discharges from the facilities may have occurred into these structures historically. Groundwater in the site area flows to the south. **Ref: 2.**

3. RELEASE OR THREATENED RELEASE INTO THE ENVIRONMENT OF A HAZARDOUS SUBSTANCE, OR POLLUTANT OR CONTAMINANT

Previous investigations at a nearby site (the Franklin Cleaners site, No. 1-30-050) located approximately 3500 ft south (downgradient) of the Hempstead Area Dry Cleaners site suggested that a release of VOC contamination (PCE, TCE) from upgradient locations may have occurred. Thus, an initial phase of PSA work was conducted for the NYSDEC by Lawler, Matusky & Skelly LLP (LMS) in October 1999 to confirm if any release of contamination to the subsurface has occurred at the Hempstead Area Dry Cleaners site. The major contaminant of concern targeted at the Hempstead Area Dry Cleaners site was PCE, a compound used in dry cleaning. **Ref: 6, 7.**

Since PCE contamination was documented at the site (i.e., south of Top-Notch Cleaners) during the PSA, it was suspected that a release of PCE occurred at the site and that this contamination may be

contributing to the groundwater contamination that was previously detected upgradient of the Franklin Cleaners site. Thus a second phase of PSA work was initiated by LMS in June - July 2000 to attempt to better characterize the groundwater contamination at the site and in areas south of the site. A detailed summary of all PSA activities is provided below (see Item No. 4).

No definite source of contamination could be identified during the PSA work. It is possible that improper handling of PCE or PCE waste or poor housekeeping practices that may have historically occurred at the dry cleaning facilities may have resulted in a release of PCE to the subsurface at the site.

4. SITE ASSESSMENT ACTIVITIES / OBSERVATIONS

The Hempstead Area Dry Cleaners site was first proposed to be a Potential Hazardous Waste Disposal site ("P" site) by NYSDEC in March 1999 based on findings of groundwater contamination upgradient of the Franklin Cleaners site. The site was confirmed as a "P" site on April 13, 1999 (Site No. 1-30-096). The PSA was conducted by LMS to identify potential PCE or other VOCs in subsurface media at the site. As part of the initial phase of PSA work, reviews of agency files and historic maps were conducted, as described below. **Ref: 6, 8, 9.**

Historic maps from 1919, 1925, 1936, 1950, 1961, 1963, and 1970 were reviewed. On each map, the site area and surrounding vicinity (selected as the area bounded by Washington Street to the west, Jackson Avenue to the north, Robson Place to the east, and Front Street to the south) were analyzed for land use changes and development. The areas around June Dry Cleaners and Top-Notch Cleaners and business establishments along Fulton Avenue were focused on. Copies of all of the historic maps that were reviewed are included as Reference No. 2. **Ref: 2**

The historic map from 1919 shows the general site area layout. Washington Street, Jackson Avenue, Fulton Avenue, and Clinton Street are all present. The street currently known as Robson Place is referred to as Park Avenue on the 1919 map. Cooper Street and Cooper Avenue are not shown to exist. The site area is predominantly residential. A large, unnamed pond is shown north of Fulton Avenue and south of Jackson Avenue, between Clinton Street and Park Avenue (on the present-day location of the Clinton Gardens Apartments). An unnamed stream is shown to enter and exit the pond, flowing south. The stream is shown to cross beneath Fulton Avenue and flow to areas south of the site. The area along the north side of Fulton Avenue, between Clinton Street and Park Avenue (present location of June Dry Cleaners) is shown to be undeveloped in 1919 as no structures are present. A tailor shop is shown to exist at 400 Fulton Avenue, across the street from the present-day location of June Dry Cleaners and on the property of what is today a hotel. **Ref: 1, 2.**

An underground gasoline storage tank was noted to exist south of the present location of Top-Notch Cleaners, near the current location of Cooper Street. Downgradient of the site area, commercial/business establishments are depicted. Pettit Bros. Undertakers were located along the east side of Washington Street, approximately 300 ft south of Fulton Avenue. A private automobile repair shop is located just south of the undertakers. The Francis Brill Co. (unknown activities) is

also shown along Washington Street, approximately 500 ft south of Fulton Avenue. Nassau & Suffolk Lighting Co. is shown to be located along the east side of Clinton Street, approximately 500 ft south of Fulton Avenue. A 500 gallon UST is shown on the property. **Ref: 2.**

As shown on the 1925 historic map, the site area was relatively unchanged since 1919 (i.e., the area is predominantly residential). The pond north of the present-day location of June Dry Cleaners and the stream are still depicted. The building labeled as a tailor shop on the 1919 map exists on the 1925 map, but it is unclear whether or not a tailor shop was still active at the time. A possible gasoline tank is shown on the west side of this building, along Fulton Avenue. **Ref: 2.**

The UST noted in the 1919 map south of the current location of Top-Notch Cleaners is not shown on the 1925 map. In addition, Pettit Bros. Undertakers and the Francis Brill Co. (formerly along Washington Street) are not depicted on the 1925 map. An automobile repair shop is shown on the 1925 map between Washington Street and Clinton Street, approximately 500 ft south of Fulton Avenue. Nassau & Suffolk Lighting Co. is still shown to exist. **Ref: 2.**

The 1936 historic map documents that some changes in the vicinity of the Hempstead Area Dry Cleaners site have occurred since 1925. Residential structures on the southwest and southeast corners of the intersection of Fulton Avenue and Clinton Street are no longer depicted (empty lots are shown). The building along Fulton Avenue that was previously shown to house a tailor shop still exists, and a store is shown to be present at this time. The site area has generally begun to shift toward commercial/business land uses, as evidenced by structures on the north side of Fulton Avenue that have been converted to stores. The auto mobile repair shop located approximately 500 ft south of Fulton Avenue is still present. Nassau & Suffolk Lighting Co. is still depicted along Clinton Street. A gasoline filling station is shown on the northwest corner of the intersection of Front Street and Clinton Street (approximately 700 ft south of Fulton Avenue). Two gasoline tanks are noted to exist at the station on the 1936 map. A United Parcel Service (UPS) garage/warehouse is also shown along the north side of Front Street, between Washington Street and Clinton Street. Four tanks associated with the UPS property are depicted. Several stores/commercial structures are also shown to be located along Fulton Avenue in the 1936 historic map. **Ref: 2.**

The 1950 historic map shows that the site area has changed dramatically since 1936. The pond previously identified north of Fulton Avenue has been filled in, and the Clinton Gardens Apartments have been constructed (approximately 100 residential units). Park Avenue is now known as Robson Place. A chain of ten stores (including the building that presently houses June Dry Cleaners) is depicted near the northeast corner of the Clinton Street/Fulton Avenue intersection, extending east toward Robson Place. An upholster is shown to exist in this chain of stores, approximately 130 ft east of Clinton Street. The building previously labeled as a tailor shop (south side of Fulton Avenue) still exists. The tank is also shown on the 1950 map. East of this building along Fulton Avenue, former residential structures have been developed into stores. A gasoline filling station (and two tanks) is shown at the southeast corner of the Clinton Street/Fulton Avenue intersection. **Ref: 2.**

A portion of the stream that was previously noted to flow from the pond and beneath Fulton Avenue to areas south of the site has been diverted underground (similar to current configuration), as it does

not appear on the 1950 map. However, portions of the stream located approximately 400 ft south of Fulton Avenue are still depicted. **Ref: 1, 2, 10.**

Additional commercial buildings have been constructed since 1936 along Fulton Avenue, between Clinton Street and Washington Street. A gasoline filling station with five tanks is depicted at the northwest corner of the Fulton Avenue/Clinton Street intersection (formerly depicted as a residential parcel in 1936). A structure housing commercial/business operations has also been built by 1950 at the southwest corner of the Fulton Avenue/Clinton Street intersection. Chain stores are also depicted along Fulton Avenue, at the northeast and southeast corners of the Washington Street intersection. An undertaker is shown to exist along the east side of Washington Street, approximately 250 ft south of Fulton Avenue. The Nassau & Suffolk Lighting Co. along Clinton Street (described above) is now referred to as the Long Island Lighting Co. (gasoline tank still present at the property). The filling station previously noted at the northwest corner of the Front Street/Clinton Street intersection is still present in 1950. Another gasoline filling station has been constructed south of the Long Island Lighting Co., at the northeast corner of the Front Street/Clinton Street intersection. Three gasoline tanks are depicted. The UPS facility is depicted along Front Street, and some additional commercial development has also occurred along Front Street since 1936. **Ref: 2.**

The 1961 historic map shows that the site area has undergone some changes since 1950. The building across Fulton Avenue from the present-day location of June Dry Cleaners that had previously been identified as a tailor shop still exists and is now occupied by a restaurant. A dry cleaners is shown to be located at 418 Fulton Avenue, along the south side of the street, approximately 300 ft east of Clinton Street. A small automobile repair shop is shown to the rear of the dry cleaners. The Bennett Gardens Apartments are shown on the east side of Robson Place, approximately 500 ft north of Fulton Avenue. **Ref: 2.**

The chain of stores which currently houses June Dry Cleaners is still depicted in the 1961 map. An undertaker is depicted on the north side of Fulton Avenue, between Clinton Street and Washington Street. The chain of stores along the south side of Fulton Avenue (between Washington Street and Clinton Street) has been expanded, and a building is shown to exist at the present-day location of Top-Notch Cleaners. Office spaces are also depicted on this block. Cooper Avenue is shown for the first time between Washington Street and Clinton Street, approximately 260 ft south of Fulton Avenue. Just north of Cooper Avenue, a large parking area is depicted (many residential buildings have been demolished since 1950). An automobile repair facility is shown to exist along the south side of Cooper Avenue (this facility has been present since at least 1919). A beverage company is shown along the west side of Clinton Street, approximately 120 ft south of Cooper Avenue (across from L.I. Lighting Co.). The UPS facility and the two filling stations are still shown to exist along the north side of Front Street. Additional commercial development has occurred along the south side of Front Street since 1950. **Ref: 2.**

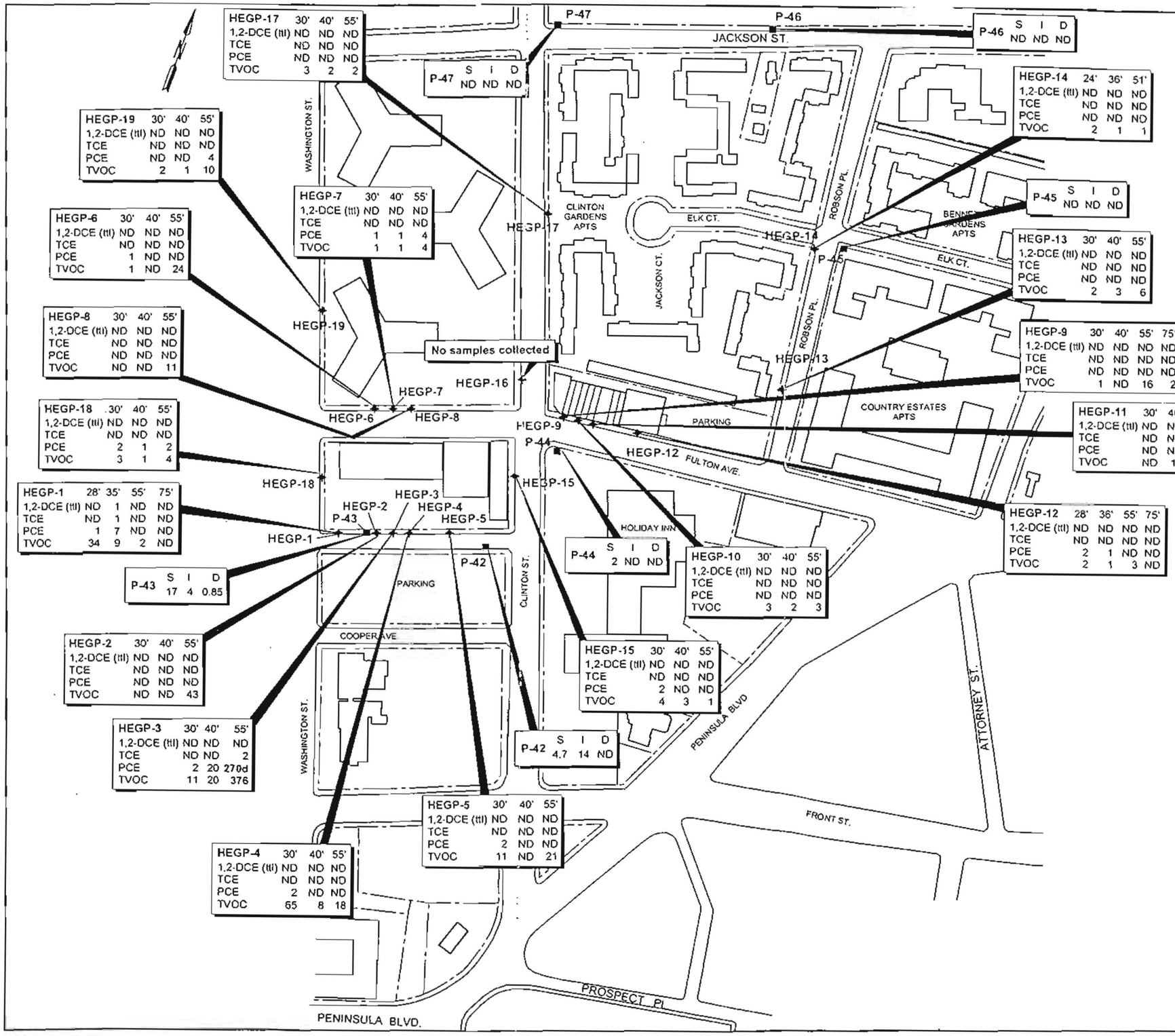
The 1963 historic map shows that the County Estates Apartments have been constructed along the north side of Fulton Avenue, east of Robson Place. No other significant changes were shown to have occurred in the site vicinity since 1961. **Ref: 2.**

A review of the 1970 historic map shows that major changes have occurred at the site since 1963. The land use north of Fulton Avenue and east of Clinton Street is relatively unchanged from 1963: the Clinton Gardens Apartments, Bennett Gardens Apartments, and Country Estates Apartments are all shown to be present in 1970. The present-day configuration of the building that today houses June Dry Cleaners (391 Fulton Avenue) is also shown. A hotel (Holiday Inn) was constructed around 1970 and occupied the majority of land on the parcel bounded by Fulton Avenue to the north, Clinton Street to the west, and Peninsula Boulevard to the east. The former tailor shop, dry cleaners, automobile repair shop, filling station, L.I. Lighting Co., and numerous residents that were depicted on this parcel on previous maps have been demolished. Three residential high-rise housing units are shown on the 1970 map on the north side of Fulton Avenue, between Clinton Street and Washington Street (present today). The south side of Fulton Avenue between Washington and Clinton Streets is shown to be entirely commercial, and shown to be in its present-day configuration. The building that presently houses Top-Notch Cleaners (378 Fulton Avenue) is shown to have been constructed (in approximately 1968) of concrete block walls, steel columns and beams, and a concrete floor (no basement or substory or USTs are depicted). Cooper Street is also shown to exist approximately 170 ft south of Fulton Avenue. The commercial facilities south of Cooper Avenue are no longer shown to exist. **Ref: 2.**

The site area was first investigated by Dvirka and Bartilucci Consulting Engineers (DB) of Woodbury, New York for NYSDEC as part of a Remedial Investigation/Feasibility Study (RI/FS) for the Franklin Cleaners site (No. 1-30-050), located at 206-208B South Franklin Street in the Village of Hempstead (approximately 3500 ft south of Fulton Avenue). A copy of the DB RI/FS report, which includes a description of groundwater sampling in the vicinity of the Hempstead Area Dry Cleaners site, is included as Reference No. 6. Figure 3 displays the Hempstead Dry Cleaners site area and includes data from the 1999 PSA and investigations associated with the Franklin Cleaners site. As shown in Figure 4, several other active or former dry cleaning facilities in addition to June Dry Cleaners and Top-Notch Cleaners exist upgradient of the Franklin Cleaners site. **Ref: 6.**

A letter from NYSDEC to Mr. John Lovejoy of NCDOH summarizes the initial findings upgradient of the Franklin Cleaners site. A copy of the letter is included as Reference No. 7. Groundwater samples initially collected for the Franklin Cleaners RI from four upgradient probe locations within about 400 ft of the Franklin Cleaners site contained total VOC concentrations at three sample depth intervals. The samples collected at shallow depths (20 to 25 ft bgs) had total VOC concentrations ranging from 4 to 31 ug/l; intermediate depth (50 to 55 ft bgs) samples contained total VOC levels of 63 to 954 ug/l; and total VOC concentrations in the deep samples (80 to 85 ft bgs) ranged from 16 to 658 ug/l. Reference No. 6 contains all of the data associated with the Franklin Cleaners investigation. **Ref: 6, 7.**

Based on the elevated VOC concentrations detected in the initial upgradient samples, additional upgradient groundwater probes were performed to determine if any other potential VOC sources could be identified north of the Franklin Cleaners site. Some of the additional probe locations focused on the dry cleaners along Fulton Avenue (i.e., June Dry Cleaners, Top-Notch Cleaners). Three probes (P-45, -46, and -47) were performed upgradient of these cleaners (refer to Figures 3



Legend

✦ Groundwater probe location

All results are given in µg/l

Results in **BOLD** exceed NYSDEC Class GA Standards

d - concentration recovered from diluted sample

For probe samples labeled P-(number):

S = Shallow depth (20' - 26')
I = Intermediate depth (33' - 57')
D = Deep depth (49' - 87')

The concentrations shown for these probe samples are the sum of PCE, TCE, and DCE.

ABBREVIATIONS

TVOC	Total volatile organic compounds
1,2-DCE	1,2-dichloroethylene (total)
TCE	Trichloroethylene
PCE	Tetrachloroethylene

0 200 ft
–SCALE IN FEET

Figure 3
Groundwater Data Summary Map
(October 1999 PSA and Previous Data)
MULTI-SITE PSA
Hempstead Area Dry Cleaners
NYSDEC I.D. No. 130096

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

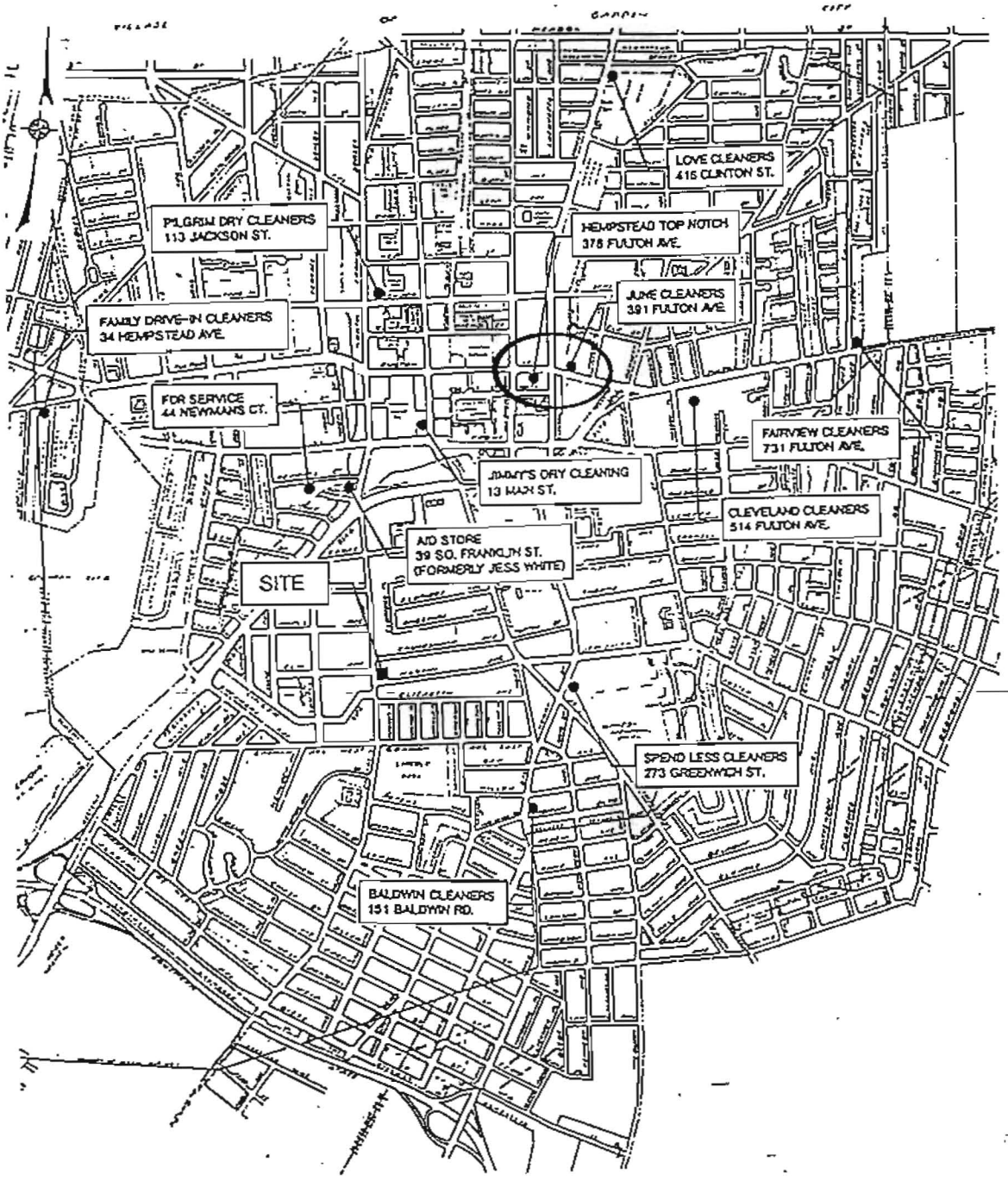


FIGURE 4
DRY CLEANING FACILITIES IN
VICINITY OF FRANKLIN CLEANERS SITE

REFERENCE:

DVIRKA AND BARTILUCCI RI/FS (1997)

0 1200
SCALE IN FEET

and 5). None of these three upgradient groundwater probes exhibited detectable VOC concentrations at the shallow (about 20 ft bgs), intermediate (about 35 ft bgs), or deep (about 53 ft bgs) sample intervals. Three more groundwater probes (P-42, -43, and -44) were subsequently performed downgradient of these dry cleaners as depicted on Figure 5. Each of these three probes exhibited low levels of total VOCs. Total VOC concentrations in the shallow groundwater ranged from 3 to 17 ug/l, groundwater samples collected at intermediate intervals contained VOCs at 2 to 14 ug/l, and VOCs in the deep groundwater samples ranged from non-detect to 1 ug/l. Two additional probes (P-48 and P-49) were performed along Harriman Avenue and Grove Street, between South Franklin Street and Greenwich Street (approximately 2300 and 1900 ft south of Fulton Avenue, respectively), as shown on Figure 5. They contained VOC concentrations of 10 to 17 ug/l in the shallow samples, 98 to 135 ug/l in the intermediate samples, and 658 to 738 ug/l in the deep samples. Reference No. 6 contains all of the data associated with the Franklin Cleaners investigation. **Ref: 6, 7.**

As discussed above, an investigation of two interior basement floor drain structures at Top-Notch Cleaners was conducted by CA Rich Consultants, Inc. in 1997. The investigation, conducted under the USEPA UIC program, showed that low levels of VOCs (including PCE at 5.1 ppb) were detected in shallow soil samples collected from the floor drains. All identified compounds were found to be below applicable standards/guidelines. The floor drains were subsequently decommissioned, and USEPA acknowledged that a satisfactory closure of the UIC Class V structures had been accomplished at the facility. **Ref: 5.**

On 5 August 1999, a site reconnaissance of the site area was conducted for the PSA to field locate possible sample locations prior to utility markouts. The locations of sampling points were tentatively marked in the field with spray paint. Sampling points were subsequently relocated as required based on site access or underground utilities. Drainage structures were observed in the alley north of June Dry Cleaners during the PSA. The discharge locations of the drains could not be determined. A large parking lot exists south of Top-Notch Cleaners and provides parking spaces for the shopping center. Numerous drywells were observed in the parking lot; however, it was not determined if there was any connection (presently or historically) of these drywells to Top-Notch Cleaners or other stores in the shopping center or if they only provide drainage for the parking area. Several dumpsters were located in close proximity to the drywells. During the course of the PSA field investigation, the parking lot was observed to have flooded during moderate rain events indicating that the drywells are clogged and do not provide adequate stormwater collection. Both dry cleaning facility buildings were noted to be constructed after the municipal sewer system was in place. **Ref: 2.**

The initial phase of the PSA, conducted in October 1999, consisted of the installation of 18 groundwater probes that were installed at locations upgradient, side gradient, or downgradient of the two active dry cleaners (see Figure 3). As possible contaminated soil source areas associated with the former dry cleaner along Fulton Avenue were probably removed during the development of the hotel property, probe samples were not collected downgradient of the former dry cleaner during the PSA.

Soil samples were collected at four of the probe locations (HEGP-2, -7, -10, and -13) at varying depth intervals to approximately the water table interface (see Figure 3 and Table 1). None of the

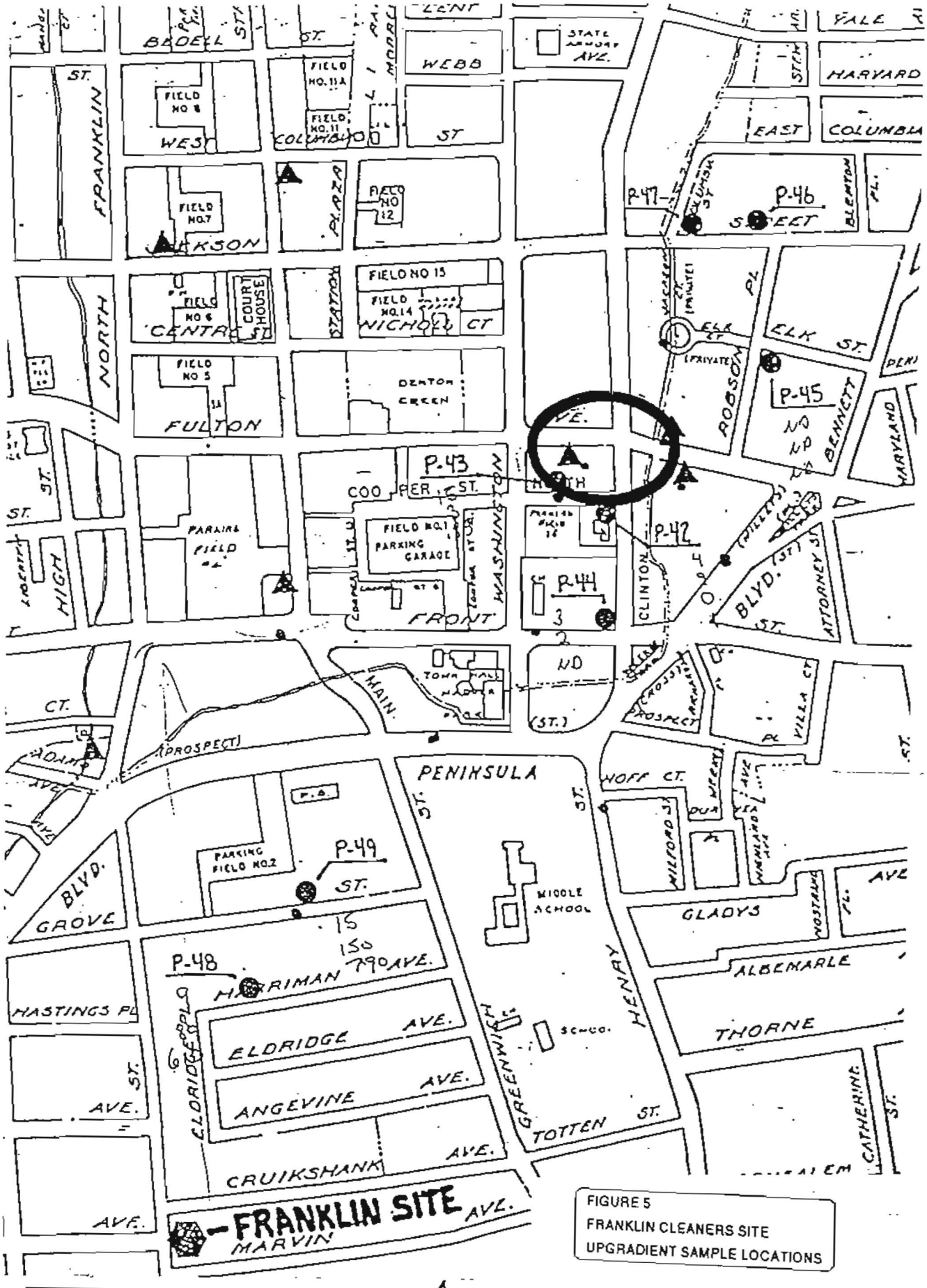


FIGURE 5
FRANKLIN CLEANERS SITE
UPGRADIENT SAMPLE LOCATIONS

REFERENCES:
DVIRKA AND BARTILUCCI RI/FS (1997)
LETTER TO NCDOH (2/12/1997)

Table 1 (Page 1 of 3)

SOIL DATA SUMMARY

HEMPSTEAD AREA DRY CLEANERS

October 1999

SDG Number	LMS165	LMS165	LMS165	LMS165	LMS165	LMS165	RECOMMENDED
LMS Sample ID	HEGP-2(4-8')	HEGP-2(12-14')	HEGP-2(18-20')	HEGP-2(22-24')	HEGP-7(4-8')	HEGP-7(12-14')	
Lab Sample Number	9930194	9930195	9930196	9930197	9930742	9930743	SOIL CLEANUP
Sampling Date	10/05/1999	10/05/1999	10/05/1999	10/05/1999	10/07/1999	10/07/1999	
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	OBJECTIVE (a)
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Volatile Organic Compounds (mg/kg)							
Acetone	ND g	ND g	ND g	ND g	0.003 j	0.002 j	0.2
Carbon Disulfide	ND g	ND g	ND g	ND g	0.002 j	ND	2.7
2-Butanone	ND	ND	ND	ND	ND	ND	0.3
Tetrachloroethylene	ND	ND	ND	ND	ND	ND	1.4
Total VOCs:	ND	ND	ND	ND	0.005	0.002	

(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
j - Estimated concentration; compound present below quantitation limit.
ND - Not detected at analytical detection limit.
g - Value considered estimated based on data validator's report (Appendix B)

SOIL DATA SUMMARY

HEMPSTEAD AREA DRY CLEANERS

October 1999

SDG Number	LMS165	LMS165	LMS165	LMS165	LMS165	RECOMMENDED
LMS Sample ID	HEGP-7(18-20')	HEGP-7(22-24')	HEGP-10(4-8')	HEGP-10(12-14')	HEGP-10(16-18')	
Lab Sample Number	9930744	9930745	9930795	9930796	9930797	SOIL CLEANUP
Sampling Date	10/07/1999	10/07/1999	10/09/1999	10/09/1999	10/09/1999	
Matrix	Soil	Soil	Soil	Soil	Soil	OBJECTIVE (a)
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Volatile Organic Compounds (mg/kg)						
Acetone	ND	ND	0.03 g	ND g	ND g	0.2
Carbon Disulfide	ND	ND	0.005 j	ND	ND	2.7
2-Butanone	ND	ND	0.002 j	ND	ND	0.3
Tetrachloroethylene	ND	ND	0.004 j	ND	ND	1.4
Total VOCs:	ND	ND	0.041	ND	ND	

(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994.
j - Estimated concentration, compound present below quantitation limit.
ND - Not detected at analytical detection limit.
g - Value considered estimated based on data validator's report (Appendix B).

SOIL DATA SUMMARY

HEMPSTEAD AREA DRY CLEANERS

October 1999

SDG Number	LMS165	LMS165	LMS165	LMS165	LMS165	RECOMMENDED
LMS Sample ID	HEGP-10(22-24')	HEGP-13(4-8')	HEGP-13(12-14')	HEGP-13(16-18')	HEGP-13(18-19')	
Lab Sample Number	9930798	9930799	9930800	9930801	9930802	SOIL CLEANUP
Sampling Date	10/09/1999	10/10/1999	10/10/1999	10/10/1999	10/10/1999	
Matrix	Soil	Soil	Soil	Soil	Soil	OBJECTIVE (a)
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Volatile Organic Compounds (mg/kg)						
Acetone	ND g	ND g	0.008 j	ND g	ND g	0.2
Carbon Disulfide	ND	ND	ND	ND	ND	2.7
2-Butanone	ND	ND	ND	ND	ND	0.3
Tetrachloroethylene	ND	ND	ND	ND	ND	1.4
Total VOCs:	ND	ND	0.008	ND	ND	

(a) - NYSDEC Technical Administrative Guidance Memorandum, January 1994
J - Estimated concentration, compound present below quantitation limit
ND - Not detected at analytical detection limit.
g - Value considered estimated based on data validator's report (Appendix B)

soil samples collected for the PSA contained levels of any VOC that exceeded NYS soil cleanup objectives (TAGM #4046). Groundwater samples were collected for laboratory analysis from 18 probe locations, as shown in Figure 3. Three groundwater samples were collected at each probe location from discrete depth intervals (see Table 2). The shallow groundwater samples were collected at depths ranging from approximately 24 to 30 ft bgs, intermediate samples were collected at about 35 to 40 ft bgs, and deep samples were collected at depths of approximately 50 to 55 ft bgs. Five probe samples (HEGP-1 through HEGP-5) including one soil probe (HEGP-2) were installed on Cooper Street, downgradient of Top-Notch Cleaners. Two groundwater probes (HEGP-18 and -19) were installed on Washington Street at either side or upgradient locations of Top-Notch Cleaners. Three probes (HEGP-6, -7, and -8) including one soil probe (HEGP-7) were installed upgradient of Top-Notch Cleaners along the north side of Fulton Avenue. Two probes (HEGP-15 and 17) were installed on Clinton Street, at locations that were either side or upgradient to June Dry Cleaners and Top-Notch Cleaners. Four probes (HEGP-9, -10, -11, and -12) including one soil probe (HEGP-10) were installed downgradient of June Dry Cleaners along Fulton Avenue. The remaining two probes (HEGP-13 and HEGP-14) were conducted on Robson Place either side or upgradient of June Dry Cleaners. All samples were submitted to H2M Labs, Inc. (H2M) of Melville, New York, for TCL VOC analysis by Method ASP 8260B. Groundwater samples from two probe locations (HEGP-1[35 ft] and HEGP-3[40 ft and 55 ft]) downgradient of Top-Notch Cleaners exceeded the NYSDEC Class GA groundwater standard for PCE. The PCE concentration of groundwater sample HEGP-1[35 ft] was 7 ug/l, the concentration detected in HEGP-3[40 ft] was 20 ug/l, and the PCE level found in HEGP-3[55ft] was 270 ug/l. No other groundwater samples collected at the site during the initial PSA work (October 1999) exhibited PCE or VOC concentrations that were above NYS criteria. The first phase PSA groundwater sampling results are shown on Table 2 and graphically summarized on Figure 3. Detailed descriptions of all PSA work is included below in Part III, "Sampling Results".

The second phase of PSA work, conducted in June - July 2000, consisted of the installation of additional groundwater probes at eight locations. The additional PSA sampling was conducted to further evaluate the horizontal and vertical extent of PCE groundwater contamination at the Hempstead Area Dry Cleaners site and at locations south of the site. In particular, the additional work was initiated to assess the possibility of deep PCE contamination pooling on top of a suspected clay layer. Groundwater samples were collected from three depth intervals at each of the eight locations, as shown on Figure 6. Probe points HEGP-20, -21, -22, and -26 were located along or just off of Peninsula Boulevard. Probe HEGP-25, the northernmost sample location for the June - July 2000 work, was located along Fulton Avenue, west of Washington Street. HEGP-27, the southernmost PSA probe location, was conducted along Harriman Avenue. Sample location HEGP-24 was located along Front Street, near the intersection of Washington Street. Probe point HEGP-23 was also located along Front Street, just south of another active dry cleaner, Jimmy's Dry Cleaners.

Zebra Environmental Corp. (Zebra) of Lynbrook, New York, was contracted to perform the deep groundwater sampling and to identify the subsurface clay layer that was suspected to exist in the site area. The clay layer identification efforts met with limited success, as probe refusal was encountered at depths where the layer was suspected to exist. However, it appears that the presence of clay and the depth of the clay may be somewhat sporadic across the site area. All groundwater samples were

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS162	LMS162	LMS162	LMS162	LMS162	
LMS Sample ID	HEEB-1	HEGP-1 (28')	HEGP-1 (35')	HEGP-1 (55')	HEGP-1 (75')*	NYSDEC
Lab Sample Number	9930179	9930180	9930181	9930182	9930183	CLASS GA
Sampling Date	10/05/1999	10/04/1999	10/04/1999	10/04/1999	10/04/1999	STANDARDS (a)
Matrix	WATER	WATER	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)						
Benzene	ND	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	ND	ND	5
Acetone	ND g	28 g	ND g	2 j	ND g	50 GV
1,2-Dichloroethylene (total)	ND	ND	1	ND	ND	5
2-Butanone	ND	4 j	ND	ND	ND	50 GV
Chloroform	ND	ND	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	5
Trichloroethylene	ND g	ND g	1 g	ND g	ND g	5
Tetrachloroethylene	ND	1	7	ND	ND	5
Toluene	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	1	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	ND	ND	5
Total VOCs:	ND	34	9	2	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

* - Denotes QA/QC sample

(a) - Division of Water Technical and Operational Guidance Series (1 1 1) June 1998

GV - Guidance Value.

j - Estimated concentration; compound present below quantitation limit

ND - Not detected at analytical detection limit

Note - Numbers in bold exceed cleanup standard

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

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS162	LMS162	LMS162	LMS162	
LMS Sample ID	HEGP-2 (30')	HEGP-2 (40')	HEGP-2 (55')	T-BLANK-1	
Lab Sample Number	9930184	9930185	9930186	9930193	
Sampling Date	10/05/1999	10/05/1999	10/05/1999	10/05/1999	
Matrix	WATER	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	ug/L	NYSDEC CLASS GA STANDARDS (a)
Volatile Organic Compounds (ug/L)					
Benzene	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	1 j	ND g	5
Acetone	ND g	ND g	30	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	ND	5
2-Butanone	ND	ND	12 g	ND	50 GV
Chloroform	ND	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND g	ND g	5
Tetrachloroethylene	ND	ND	ND	ND	5
Toluene	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	ND	5
Total VOCs	ND	ND	43	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.
(a) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
GV - Guidance Value.
j - Estimated concentration, compound present below quantitation limit
ND - Not detected at analytical detection limit
g - Value considered estimated based on data validator's report (Appendix B)

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number		LMS162	LMS162	LMS162	
LMS Sample ID		HEGP-3 (30')	HEGP-3 (40')	HEGP-3 (55')	
Lab Sample Number		9930187	9930188	9930189	NYSDEC
Sampling Date		10/04/1999	10/04/1999	10/04/1999	CLASS GA
Matrix		WATER	WATER	WATER	STANDARDS (a)
Units		ug/L	ug/L	ug/L [DL 1; 2.5]	
Volatile Organic Compounds (ug/L)					
Benzene		ND	ND	ND	1
Methylene Chloride		ND	ND	ND	5
Acetone		9 g	ND g	48 g	50 GV
1,2-Dichloroethylene (total)		ND	ND	ND	5
2-Butanone		ND	ND	14 g	50 GV
Chloroform		ND	ND	ND	7
1,2-Dichloroethane		ND	ND	ND	0.6
1,1,1-Trichloroethane		ND	ND	ND	5
Trichloroethylene		ND g	ND g	2 g	5
Tetrachloroethylene		2	20	270 d	5
Toluene		ND	ND	ND	5
Chlorobenzene		ND	ND	ND	5
Ethylbenzene		ND	ND	ND	5
Xylenes (total)		ND	ND	ND	5
Total VOCs:		11	20	376	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.
(a) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998
d - Concentration recovered from diluted sample
DL - Dilution factor.
GV - Guidance Value
ND - Not detected at analytical detection limit.
Note - Numbers in bold exceed cleanup standard
g - Value considered estimated based on data validator's report (Appendix B)

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS162	LMS162	LMS162	
LMS Sample ID	HEGP-4 (30')	HEGP-4 (40')	HEGP-4 (55')	
Lab Sample Number	9930190	9930191	9930192	NYSDEC
Sampling Date	10/05/1999	10/05/1999	10/05/1999	CLASS GA
Matrix	WATER	WATER	WATER	STANDARDS (a)
Units	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	47 g	8 g	14 g	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	5
2-Butanone	16 g	ND	4 j	50 GV
Chloroform	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND g	5
Tetrachloroethylene	2	ND	ND	5
Toluene	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs	65	8	18	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

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

GV - Guidance Value.

j - Estimated concentration, compound present below quantitation limit.

ND - Not detected at analytical detection limit

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

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS162	LMS162	LMS162	LMS162	
LMS Sample ID	HEGP-5 (30')	HEGP-5 (40')	HEGP-5 (55')	T-BLANK-2	
Lab Sample Number	9930622	9930623	9930624	9930625	NYSDEC
Sampling Date	10/06/1999	10/06/1999	10/06/1999	10/06/1999	CLASS GA
Matrix	WATER	WATER	WATER	WATER	STANDARDS (a)
Units	ug/L	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)					
Benzene	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	ND	5
Acetone	9 g	ND g	17 g	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	ND	5
2-Butanone	ND	ND	4 j	ND	50 GV
Chloroform	ND	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND g	ND	5
Tetrachloroethylene	2	ND	ND	ND	5
Toluene	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	ND	5
Total VOCs.	11	ND	21	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

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

GV - Guidance Value

j - Estimated concentration, compound present below quantitation limit

ND - Not detected at analytical detection limit

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

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS167	LMS167	LMS167	LMS167	
LMS Sample ID	HEEB-02	HEGP-6 (30')	HEGP-6 (40')	HEGP-6 (55')	
Lab Sample Number	9930784	9930729	9930730	9930731	
Sampling Date	10/09/1999	10/07/1999	10/07/1999	10/07/1999	
Matrix	WATER	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	ug/L	NYSDEC CLASS GA STANDARDS (a)
Volatile Organic Compounds (ug/L)					
Benzene	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	2 j	5
Acetone	ND	ND g	ND g	18 g	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	ND	5
2-Butanone	ND	ND	ND	4 j	50 GV
Chloroform	ND	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND	5
Trichloroethylene	ND	ND g	ND g	ND g	5
Tetrachloroethylene	ND	1	ND	ND	5
Toluene	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	ND	5
Total VOCs.	ND	1	ND	24	100'

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

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

GV - Guidance Value.

j - Estimated concentration, compound present below quantitation limit.

ND - Not detected at analytical detection limit

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

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS167	LMS167	LMS167	LMS167	
LMS Sample ID	HEGP-7 (30')	HEGP-7 (40')	HEGP-7 (55')	T-BLANK-3	
Lab Sample Number	9930732	9930733	9930734	9930741	
Sampling Date	10/07/1999	10/07/1999	10/07/1999	10/07/1999	NYSDEC
Matrix	WATER	WATER	WATER	WATER	CLASS GA
Units	ug/L	ug/L	ug/L	ug/L	STANDARDS (a)
Volatile Organic Compounds (ug/L)					
Benzene	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	ND	5
Acetone	ND g	ND g	ND g	ND g	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	ND	5
2-Butanone	ND	ND	ND	ND	50 GV
Chloroform	ND	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND g	ND g	5
Tetrachloroethylene	1	1	4	ND	5
Toluene	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	ND	5
Total VOCs	1	1	4	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

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

GV - Guidance Value.

ND - Not detected at analytical detection limit

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

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS167	LMS167	LMS167	
LMS Sample ID	HEGP-8 (30')	HEGP-8 (40')	HEGP-8 (55')	
Lab Sample Number	9930735	9930736	9930737	
Sampling Date	10/08/1999	10/08/1999	10/08/1999	
Matrix	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	NYSDEC CLASS GA STANDARDS (a)
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	ND g	ND g	9 g	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	5
2-Butanone	ND	ND	2 j	50 GV
Chloroform	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND g	5
Tetrachloroethylene	ND	ND	ND	5
Toluene	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs	ND	ND	11	100'

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

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

GV - Guidance Value.

j - Estimated concentration, compound present below quantitation limit.

ND - Not detected at analytical detection limit

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

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS167	LMS167	LMS167	LMS167	
LMS Sample ID	HEGP-9 (30')	HEGP-9 (40')	HEGP-9 (55')	HEGP-9 (75')*	NYSDEC
Lab Sample Number	9930785	9930786	9930787	9930788	CLASS GA
Sampling Date	10/09/1999	10/09/1999	10/09/1999	10/09/1999	STANDARDS (a)
Matrix	WATER	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)					
Benzene	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	ND	5
Acetone	1 j	ND	12	2 j	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	ND	5
2-Butanone	ND	ND	4 j	ND	50 GV
Chloroform	ND	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND	5
Trichloroethylene	ND	ND g	ND	ND	5
Tetrachloroethylene	ND	ND	ND	ND	5
Toluene	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	ND	5
Total VOCs:	1	ND	16	2	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

* - Denotes QA/QC sample.

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

GV - Guidance Value

j - Estimated concentration; compound present below quantitation limit

ND - Not detected at analytical detection limit

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

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number LMS Sample ID Lab Sample Number Sampling Date Matrix Units	LMS167 HEGP-10 (30') 9930789 10/09/1999 WATER ug/L	LMS167 HEGP-10 (40') 9930790 10/09/1999 WATER ug/L	LMS167 HEGP-10 (55') 9930791 10/09/1999 WATER ug/L	NYSDEC CLASS GA STANDARDS (a)
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND g	2	1
Methylene Chloride	ND	ND g	ND	5
Acetone	3 j	2 j	1 j	50 GV
1,2-Dichloroethylene (total)	ND	ND g	ND	5
2-Butanone	ND	ND g	ND	50 GV
Chloroform	ND	ND g	ND	7
1,2-Dichloroethane	ND	ND g	ND	0.6
1,1,1-Trichloroethane	ND	ND g	ND	5
Trichloroethylene	ND	ND g	ND	5
Tetrachloroethylene	ND	ND g	ND	5
Toluene	ND	ND g	ND	5
Chlorobenzene	ND	ND g	ND	5
Ethylbenzene	ND	ND g	ND	5
Xylenes (total)	ND	ND g	ND	5
Total VOCs	3	2	3	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

(a) - Division of Water Technical and Operational Guidance Series (1 1 1) June 1998.

GV - Guidance Value.

j - Estimated concentration, compound present below quantitation limit.

ND - Not detected at analytical detection limit

Note - Numbers in bold exceed cleanup standard.

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

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS167	LMS167	LMS167	
LMS Sample ID	HEGP-11 (30')	HEGP-11 (40')	HEGP-11 (55')	
Lab Sample Number	9930738	9930739	9930740	
Sampling Date	10/08/1999	10/08/1999	10/08/1999	
Matrix	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	NYSDEC CLASS GA STANDARDS (a)
Volatile Organic Compounds (ug/L)				
Benzene	ND	1	ND	1
Methylene Chloride	ND	ND	1 j	5
Acetone	ND g	13 g	50 g	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	5
2-Butanone	ND	2 j	14 g	50 GV
Chloroform	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND g	5
Tetrachloroethylene	ND	ND	ND	5
Toluene	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	5
Xylenes (total)	ND	2	ND	5
Total VOCs	ND	18	65	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

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

GV - Guidance Value

j - Estimated concentration, compound present below quantitation limit

ND - Not detected at analytical detection limit

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

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS169	LMS169	LMS169	LMS169	
LMS Sample ID	HEGP-12 (28')	HEGP-12 (36')	HEGP-12 (55')	HEGP-12 (75')*	NYSDEC
Lab Sample Number	9931954	9931955	9931956	9931957	CLASS GA
Sampling Date	10/18/1999	10/18/1999	10/18/1999	10/18/1999	STANDARDS (a)
Matrix	WATER	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)					
Benzene	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	ND	5
Acetone	ND	ND	1 j	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	ND	5
2-Butanone	ND r	ND r	ND g	ND r	50 GV
Chloroform	ND	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND	ND g	5
Tetrachloroethylene	2	1	ND	ND	5
Toluene	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	ND	5
Total VOCs	2	1	1	ND	100'

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

* - Denotes QA/QC sample

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

GV - Guidance Value

j - Estimated concentration; compound present below quantitation limit.

ND - Not detected at analytical detection limit.

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

r - Value rejected by data validator but useable to show approximate level of the compound (Appendix B)

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS162	LMS162	LMS162	LMS167	
LMS Sample ID	HEGP-13 (30')	HEGP-13 (40')	HEGP-13 (55')	T-BLANK-4	
Lab Sample Number	9930792	9930793	9930794	9930805	
Sampling Date	10/10/1999	10/10/1999	10/10/1999	10/10/1999	
Matrix	WATER	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	ug/L	NYSDEC CLASS GA STANDARDS (a)
Volatile Organic Compounds (ug/L)					
Benzene	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	2 j	5
Acetone	2 j	3 j	4 j	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	ND	5
2-Butanone	ND	ND	2 j	ND	50 GV
Chloroform	ND	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND	5
Trichloroethylene	ND	ND	ND	ND	5
Tetrachloroethylene	ND	ND	ND	ND	5
Toluene	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	ND	5
Total VOCs:	2	3	6	2	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.

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

GV - Guidance Value.

j - Estimated concentration; compound present below quantitation limit

ND - Not detected at analytical detection limit

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS169	LMS169	LMS169	
LMS Sample ID	HEGP-14 (24')	HEGP-14 (36')	HEGP-14 (51')	
Lab Sample Number	9931958	9931959	9931960	
Sampling Date	10/18/1999	10/18/1999	10/18/1999	
Matrix	WATER	WATER	WATER	NYSDEC
Units	ug/L	ug/L	ug/L	CLASS GA STANDARDS (a)
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	2 j	1 j	1 j	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	5
2-Butanone	ND r	ND r	ND r	50 GV
Chloroform	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND g	5
Tetrachloroethylene	ND	ND	ND	5
Toluene	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs:	2	1	1	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.
(a) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998.
GV - Guidance Value.
j - Estimated concentration, compound present below quantitation limit
ND - Not detected at analytical detection limit
g - Value considered estimated based on data validator's report (Appendix B)
r - Value rejected by data validator but useable to show approximate level of the compound (Appendix B)

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS169	LMS169	LMS169	
LMS Sample ID	HEGP-15 (30')	HEGP-15 (40')	HEGP-15 (55')	
Lab Sample Number	9932294	9932295	9932296	NYSDEC
Sampling Date	10/19/1999	10/19/1999	10/19/1999	CLASS GA
Matrix	WATER	WATER	WATER	STANDARDS (a)
Units	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	2 j	3 j	1 j	50 GV
1,2-Dichloroethylene (total)	ND g	ND g	ND g	5
2-Butanone	ND g	ND g	ND g	50 GV
Chloroform	ND g	ND g	ND g	7
1,2-Dichloroethane	ND g	ND g	ND g	0.6
1,1,1-Trichloroethane	ND g	ND g	ND g	5
Trichloroethylene	ND g	ND g	ND g	5
Tetrachloroethylene	2	ND	ND	5
Toluene	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs:	4	3	1	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

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

GV - Guidance Value.

j - Estimated concentration; compound present below quantitation limit.

ND - Not detected at analytical detection limit

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

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS169	LMS169	LMS169	LMS169	
LMS Sample ID	HEGP-17 (30')	HEGP-17 (40')	HEGP-17 (55')	T-BLANK-6	
Lab Sample Number	9932297	9932298	9932299	9932300	
Sampling Date	10/19/1999	10/19/1999	10/19/1999	10/19/1999	
Matrix	WATER	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	ug/L	NYSDEC CLASS GA STANDARDS (a)
Volatile Organic Compounds (ug/L)					
Benzene	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	1 j	5
Acetone	3 j	2 j	2 j	ND	50 GV
1,2-Dichloroethylene (total)	ND g	ND g	ND g	ND g	5
2-Butanone	ND g	ND g	ND g	ND g	50 GV
Chloroform	ND	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND	ND g	5
Tetrachloroethylene	ND	ND	ND	ND	5
Toluene	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND g	ND	5
Total VOCs.	3	2	2	1	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.
(a) - Division of Water Technical and Operational Guidance Series (1 1 1) June 1998.
GV - Guidance Value
j - Estimated concentration, compound present below quantitation limit
ND - Not detected at analytical detection limit
g - Value considered estimated based on data validator's report (Appendix B).

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS169	LMS169	LMS169	
LMS Sample ID	HEGP-18 (30')	HEGP-18 (40')	HEGP-18 (55')	
Lab Sample Number	9931961	9931962	9931963	
Sampling Date	10/19/1999	10/19/1999	10/19/1999	
Matrix	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	NYSDEC CLASS GA STANDARDS (a)
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	1 j	ND	2 j	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	5
2-Butanone	ND r	ND r	ND r	50 GV
Chloroform	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND g	5
Tetrachloroethylene	2	1	2	5
Toluene	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs	3	1	4	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.
(a) - Division of Water Technical and Operational Guidance Series (1.1.1) June 1998
GV - Guidance Value.
j - Estimated concentration, compound present below quantitation limit.
ND - Not detected at analytical detection limit
g - Value considered estimated based on data validator's report (Appendix B).
r - Value rejected by data validator but useable to show approximate level of the compound (Appendix B).

GROUNDWATER DATA SUMMARY - October 1999

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS169	LMS169	LMS169	LMS169	
LMS Sample ID	HEGP-19 (30')	HEGP-19 (40')	HEGP-19 (55')	T-BLANK-5	NYSDEC
Lab Sample Number	9931964	9931965	9931966	9931967	CLASS GA
Sampling Date	10/19/1999	10/19/1999	10/19/1999	10/19/1999	STANDARDS (a)
Matrix	WATER	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)					
Benzene	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	2 j	5
Acetone	2 j	1 j	5 j	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	ND	5
2-Butanone	ND r	ND r	1 j r	ND g	50 GV
Chloroform	ND	ND	ND	ND	7
1,2-Dichloroethane	ND	ND	ND	ND	0.6
1,1,1-Trichloroethane	ND	ND	ND	ND	5
Trichloroethylene	ND g	ND g	ND g	ND	5
Tetrachloroethylene	ND	ND	4	ND	5
Toluene	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	ND	5
Total VOCs	2	1	10	2	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

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

GV - Guidance Value.

j - Estimated concentration; compound present below quantitation limit

ND - Not detected at analytical detection limit

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

r - Value rejected by data validator but useable to show approximate level of the compound (Appendix B)

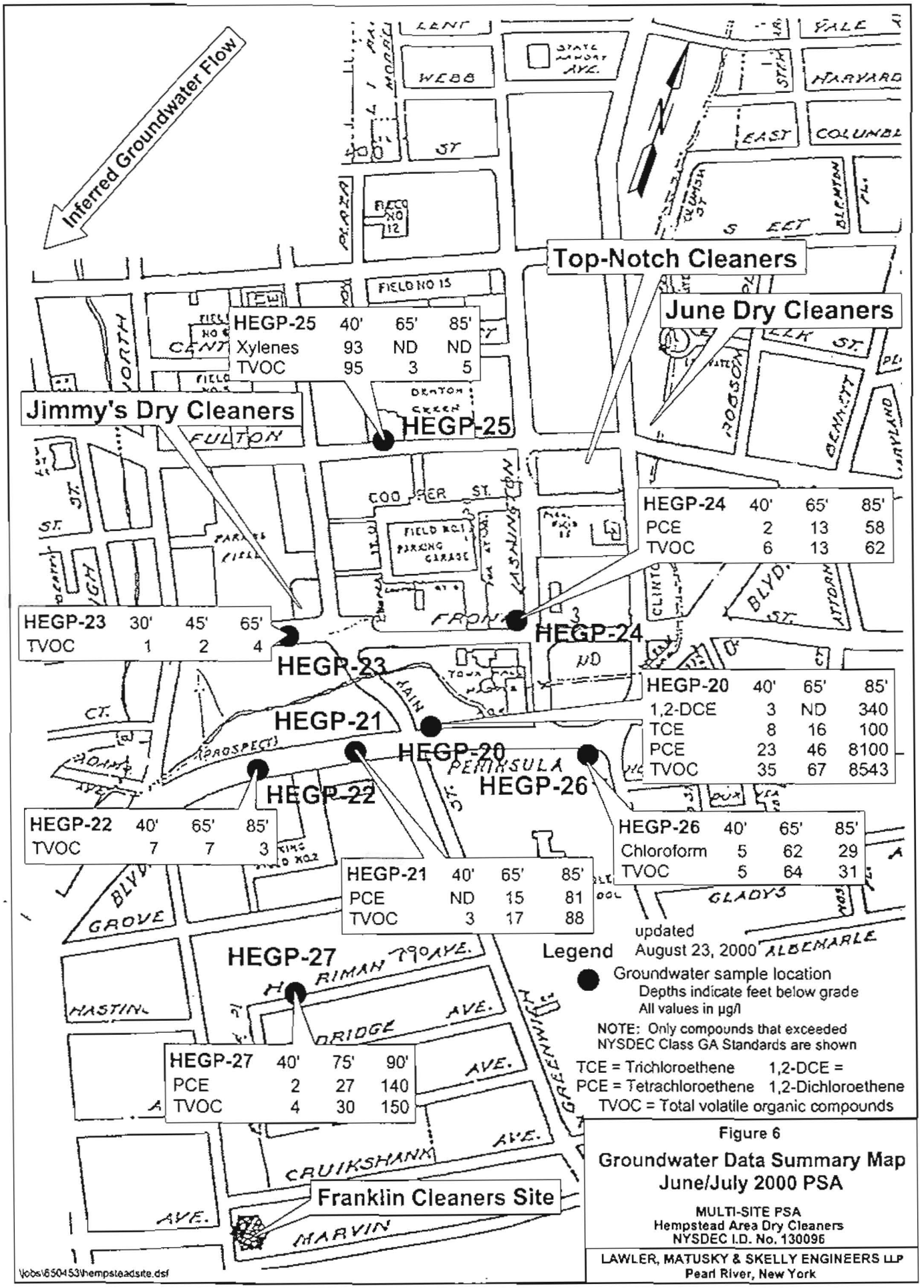


Figure 6

Groundwater Data Summary Map June/July 2000 PSA

MULTI-SITE PSA
Hempstead Area Dry Cleaners
NYSDEC I.D. No. 130096

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

analyzed for TCL VOCs by H2M. Twelve of the 24 groundwater samples collected during the second phase of the PSA had elevated concentrations of VOCs, as shown in Table 3 and Figure 6. PCE was detected in fourteen of the groundwater samples, and nine of the samples had elevated levels of PCE (maximum concentration of 8100 ug/l) that were above the 5 ug/l NYS Class GA standard. No levels of PCE were detected in the groundwater samples collected at probe point HEGP-23, which was located just south of Jimmy's Dry Cleaners. The analytical results from the June - July 2000 PSA sampling event are shown on Table 3 and Figure 6. A detailed discussion of all PSA field activities is included below in Part III.

A review of additional historic maps of the area just downgradient (i.e., south) of the Hempstead Area Dry Cleaners site was conducted as part of the second phase of PSA work. Maps from 1886, 1897, 1909, 1925, 1936, 1950, 1961, 1963, and 1970 were reviewed (refer to Reference No. 2). Historically, many labeled and unlabeled commercial facilities (hotels, stores) existed along main Street and in other areas south of the Hempstead Area Dry Cleaners site. In the 1909 historic map, a "Chinese Laundry" (possible dry cleaner/VOC source) is noted to exist along the east side of Greenwich Street, about 400 ft south of Front Street (in vicinity of PSA probe point HEGP-20). In the 1925 map, this facility is shown to be occupied by an office. However, two adjacent tailor shops (possible dry cleaners/VOC sources) are shown to exist on the 1925 map along the west side of Greenwich Street, across the street from the "Chinese Laundry" building previously noted. One of the tailor shop locations was also shown on the 1936 and 1950 historic maps. **Ref: 2.**

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)

In June 1999, NYSDEC assigned LMS to conduct a PSA to determine if the dry cleaners located on Fulton Avenue are contributing VOC contamination to the plume first identified during the Remedial Investigation conducted for the downgradient Franklin Cleaners site in 1997.

Table 3 (1 of 8)

GROUNDWATER DATA SUMMARY - June/July 2000

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS180	LMS180	LMS180	NYSDEC
LMS Sample ID	HEGP-20 (40')	HEGP-20 (65')	HEGP-20 (85')	CLASS GA
Lab Sample Number	20000630-078	20000630-079	20000630-080	STANDARDS (a)
Sampling Date	06/30/2000	06/30/2000	06/29/2000	
Matrix	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)			[DF 1 200]	
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	ND	2 j	ND	50 GV
1,2-Dichloroethylene (total)	3	ND	340	5
2-Butanone	ND	ND	ND	50 GV
Chloroform	ND	ND	ND	7
Trichloroethylene	8	16	100	5
Tetrachloroethylene	23	46	8100 d	5
Toluene	1	3	3	5
Chlorobenzene	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs	35	67	8543	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.

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

GV - Guidance Value.

j - Estimated concentration; compound present below quantitation limit.

ND - Not detected at analytical reporting limit.

d - Compound identified in an analysis at a dilution factor.

DF - Dilution Factor

Note - Numbers in bold exceed cleanup standard

Table 3 (2 of 8)

GROUNDWATER DATA SUMMARY - June/July 2000

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS180	LMS180	LMS180	
LMS Sample ID	HEGP-21 (40')	HEGP-21 (65')	HEGP-21 (85')	
Lab Sample Number	20000630-081	20000630-082	20000630-083	
Sampling Date	06/30/2000	06/30/2000	06/30/2000	
Matrix	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	NYSDEC CLASS GA STANDARDS (a)
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	ND	ND	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	2	5
2-Butanone	ND	ND	ND	50 GV
Chloroform	ND	ND	1	7
Trichloroethylene	ND	ND	2	5
Tetrachloroethylene	ND	**15**	**81**	5
Toluene	3	2	2	5
Chlorobenzene	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs:	3	17	88	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.

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

GV - Guidance Value.

ND - Not detected at analytical reporting limit

Note - Numbers in bold exceed cleanup standard.

Table 3 (3 of 8)

GROUNDWATER DATA SUMMARY - June/July 2000

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS180	LMS180	LMS180	
LMS Sample ID	HEGP-22 (40')	HEGP-22 (65')	HEGP-22 (85')*	
Lab Sample Number	20000707-002	20000707-003	20000707-004	NYSDEC
Sampling Date	07/05/2000	07/05/2000	07/05/2000	CLASS GA
Matrix	WATER	WATER	WATER	STANDARDS (a)
Units	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	ND	ND	1j	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	5
2-Butanone	ND	ND	ND	50 GV
Chloroform	3	3	ND	7
Trichloroethylene	ND	ND	ND	5
Tetrachloroethylene	1	2	ND	5
Toluene	3	2	2	5
Chlorobenzene	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs.	7	7	3	100'

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.

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

GV - Guidance Value.

j - Estimated concentration; compound present below quantitation limit

ND - Not detected at analytical reporting limit.

* - Denotes QA/QC sample

Table 3 (4 of 8)

GROUNDWATER DATA SUMMARY - June/July 2000

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS180	LMS180	LMS180	
LMS Sample ID	HEGP-23 (30')	HEGP-23 (45')	HEGP-23 (65')	
Lab Sample Number	20000707-005	20000707-006	20000707-007	NYSDEC
Sampling Date	07/05/2000	07/05/2000	07/05/2000	CLASS GA
Matrix	WATER	WATER	WATER	STANDARDS (a)
Units	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	ND	ND	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	5
2-Butanone	ND	ND	ND	50 GV
Chloroform	ND	ND	1	7
Trichloroethylene	ND	ND	ND	5
Tetrachloroethylene	ND	ND	ND	5
Toluene	1	2	3	5
Chlorobenzene	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs	1	2	4	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.

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

GV - Guidance Value.

ND - Not detected at analytical reporting limit.

Table 3 (5 of 8)

GROUNDWATER DATA SUMMARY - June/July 2000

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS180	LMS180	LMS180	
LMS Sample ID	HEGP-24 (40')	HEGP-24 (65')	HEGP-24 (85')	
Lab Sample Number	20000707-008	20000707-009	20000707-010	
Sampling Date	07/05/2000	07/05/2000	07/05/2000	
Matrix	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	NYSDEC CLASS GA STANDARDS (a)
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	ND	ND	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	3	5
2-Butanone	ND	ND	ND	50 GV
Chloroform	ND	ND	ND	7
Trichloroethylene	ND	ND	ND	5
Tetrachloroethylene	2	13	58	5
Toluene	2	ND	1	5
Chlorobenzene	2	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs	6	13	62	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

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

GV - Guidance Value.

ND - Not detected at analytical reporting limit

Note - Numbers in bold exceed cleanup standard.

Table 3 (6 of 8)

GROUNDWATER DATA SUMMARY - June/July 2000

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS180	LMS180	LMS180	
LMS Sample ID	HEGP-25 (40')	HEGP-25 (65')	HEGP-25 (85')	
Lab Sample Number	20000707-011	20000707-012	20000707-013	NYSDEC
Sampling Date	07/06/2000	07/06/2000	07/06/2000	CLASS GA
Matrix	WATER	WATER	WATER	STANDARDS (a)
Units	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	ND	ND	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	5
2-Butanone	ND	ND	ND	50 GV
Chloroform	ND	ND	ND	7
Trichloroethylene	ND	ND	ND	5
Tetrachloroethylene	ND	ND	2	5
Toluene	2	3	3	5
Chlorobenzene	ND	ND	ND	5
Xylenes (total)	93	ND	ND	5
Total VOCs:	95	3	5	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

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

GV - Guidance Value.

j - Estimated concentration; compound present below quantitation limit.

ND - Not detected at analytical reporting limit.

Note - Numbers in bold exceed cleanup standard

Table 3 (7 of 8)

GROUNDWATER DATA SUMMARY - June/July 2000

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS180	LMS180	LMS180	
LMS Sample ID	HEGP-26 (40')	HEGP-26 (65')	HEGP-26 (85')	
Lab Sample Number	20000707-014	20000707-015	20000707-016	NYSDEC
Sampling Date	07/06/2000	07/06/2000	07/06/2000	CLASS GA
Matrix	WATER	WATER	WATER	STANDARDS (a)
Units	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)				
Benzene	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	5
Acetone	ND	ND	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	ND	5
2-Butanone	ND	ND	ND	50 GV
Chloroform	5	62	29	7
Trichloroethylene	ND	ND	ND	5
Tetrachloroethylene	ND	ND	ND	5
Toluene	ND	2	2	5
Chlorobenzene	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	5
Total VOCs.	5	64	31	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.

(a) - Division of Water Technical and Operational Guidance Series (1 1 1) June 1998.

GV - Guidance Value.

ND - Not detected at analytical reporting limit.

Note - Numbers in bold exceed cleanup standard.

Table 3 (8 of 8)

GROUNDWATER DATA SUMMARY - June/July 2000

HEMPSTEAD AREA DRY CLEANERS

SDG Number	LMS180	LMS180	LMS180	LMS180	LMS180	
LMS Sample ID	HEGP-27 (40')	HEGP-27 (75')	HEGP-27 (90')	HEFB-01*	TB-2 7/5/00*	NYSDEC
Lab Sample Number	20000707-017	20000707-018	20000707-019	20000707-020	20000707-021	CLASS GA
Sampling Date	07/06/2000	07/06/2000	07/06/2000	07/06/2000	07/06/2000	STANDARDS (a)
Matrix	WATER	WATER	WATER	WATER	WATER	
Units	ug/L	ug/L	ug/L	ug/L	ug/L	
Volatile Organic Compounds (ug/L)						
Benzene	ND	ND	ND	ND	ND	1
Methylene Chloride	ND	ND	ND	ND	ND	5
Acetone	ND	ND	ND	ND	ND	50 GV
1,2-Dichloroethylene (total)	ND	ND	3	ND	ND	5
2-Butanone	ND	ND	ND	ND	ND	50 GV
Chloroform	ND	ND	ND	ND	ND	7
Trichloroethylene	ND	2	3	ND	ND	5
Tetrachloroethylene	2	27	140	ND	ND	5
Toluene	2	1	4	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	5
Xylenes (total)	ND	ND	ND	ND	ND	5
Total VOCs:	4	30	150	0	0	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.

* - Denotes QA/QC sample.

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

GV - Guidance Value.

ND - Not detected at analytical reporting limit.

Note - Numbers in bold exceed cleanup standard

POSSIBLE THREAT TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES (permits - local, state, and federal)

1. POSSIBLE THREATS TO THE PUBLIC HEALTH AND WELFARE

The soil sampling data that were generated from the October 1999 field activities revealed that concentrations of all VOCs analyzed for were well below the recommended soil cleanup objectives. PCE was detected at elevated concentrations in the groundwater at the site during the first phase of PSA activities (October 1999) at probe locations HEGP-1 and HEGP-3, along Cooper Street to the south (i.e., downgradient) of Top-Notch Cleaners. During the second phase of PSA work (June - July 2000), PCE was also detected at elevated levels in groundwater at probe locations HEGP-20, HEGP-21, HEGP-24,and HEGP-27, all downgradient of the Hempstead Area Dry Cleaners site.

The nearest public water supply well is located about 0.5 miles to the north (upgradient) of the Hempstead Area Dry Cleaners site. There is also a public supply well located approximately one mile to the south (downgradient) of the site. Both wells are owned by and serve the Village of Hempstead. Apparently, groundwater from the depth intervals investigated for the PSA are not used as a potable water supply to the Village of Hempstead. **Ref: 6, 11.**

2. POSSIBLE THREATS TO THE ENVIRONMENT

As stated above, groundwater in one area of the Hempstead Area Dry Cleaners site - and also at locations downgradient of the site - is contaminated with PCE. No potential impacts to Hempstead Reservoir (surface water located approximately one mile from the site) were identified during the PSA, and no sampling of surface waters was conducted as part of the PSA.

PERMITS - LOCAL, STATE, AND FEDERAL

Both June Dry Cleaners and Hempstead Top-Notch Cleaners are listed as small quantity generators in the RCRIS (RCRA Information System) database. The RCRIS database identifies hazardous waste permits for generators, receivers, and transporters of hazardous waste. A Toxic or Hazardous Materials Storage Permit was issued for Danny's Cleaners (former occupant of 391 Fulton Avenue) on August 1, 1988 by NCDOH (see Reference No. 4). No records of other permits were found for either facility during file searches. **Ref: 4.**

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

As no elevated levels of PCE or other VOCs were detected in on-site soils, the source of contamination does not appear to be active. However, as the deepest groundwater sample collected at probe location HEGP-3 (55 ft bgs) during the October 1999 sampling phase exhibited a PCE

concentration of 270 ug/l, and since concentrations as high as 8100 ug/l were detected in deep groundwater south of the site (HEGP-20 [85']), PCE contamination exists in deeper groundwater.

ENFORCEMENT HISTORY OF THE SITE

1. Is there an organization taking appropriate, timely action?

LMS conducted the PSA under contract to NYSDEC in October 1999 and June - July 2000. After a 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

1a. **Site Name/Alias** Hempstead Area Dry Cleaners

Street Address 378 Fulton Avenue (Top-Notch Cleaners) and 391 Fulton Avenue (June Dry Cleaners)

City Hempstead **State** New York **Zip Code** 11550

2. **County** Nassau **County Code*** 30 **Cong. Dist** 4

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

4. **Tax Map Section No.** 34 **Block No.** 342 (Top-Notch Cleaners) and 344 (June Dry Cleaners) **Lot No.** 270 (Top-Notch Cleaners) and 072 (June Dry Cleaners)

5. **Latitude** 40° 42' 31" **Longitude** 73° 37' 14"

USGS Quad: Freeport, New York

6. **Approximate size of site:** For purposes of this PSA report, the site area is assumed to be bounded by Fulton Avenue to the north; Washington Street to the west; Robson Place to the east; and Cooper Street to the south.

7a. **Top-Notch Cleaners: Owner** Paula and Ziev Jacobs **Telephone Number** (718) 591-4299

Street P.O. Box 53

City Forest Hills **State:** New York **Zip Code** 11375

7b. **June Dry Cleaners: Owner** Hempstead Development Corporation **Telephone Number** (212) 777-0240

Street 95 Delancy Street, Suite 206

City New York **State:** New York **Zip Code** 10002

8a. **Top-Notch Cleaners: Operator** Mr. Soung Hwan Choi **Telephone Number** (516) 485-3313

Street 378 Fulton Avenue

City Hempstead **Zip Code** 11550

8b. **June Dry Cleaners: Operator** Mr. Seung Doo Yang **Telephone Number** (516) 538-4810

Street 391 Fulton Avenue

City Hempstead **Zip Code** 11550

9. **Type of Ownership**

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

10. Owner/Operator Notification on File: Both active dry cleaners are identified in the RCRIS database as small quantity generators.

RCRA 3001 Date _____

Other *(Specify, Date)* **Unknown**

11. Permit Information

Permit N/A (see below comment) **Date Issued** **Expiration Date**

Comments: Both active dry cleaners are identified in the RCRIS database as small quantity generators.

12. Site Status **Active (X)** **Unknown**

13. Years of Operation

A dry cleaner named Danny's Cleaners existed at the present location of June Dry Cleaners (391 Fulton Avenue) since at least 1988, as indicated by information obtained from file reviews. M&B Cleaners apparently occupied the building before Danny's Cleaners for an undetermined period. No further information on the history of June Dry Cleaners was obtained. No detailed information on the history of Top-Notch Cleaners was found; however, it was discovered during reviews of historic maps and conversations with the Village of Hempstead tax assessor that the building has existed only since about 1968, and dry cleaning equipment was registered in 1969. **Ref: 2, 4.**

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** N/A.

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

PCE disposal activities were never confirmed to have occurred at the site; however, a release of PCE is suspected (see Section I, Item No. 4).

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 no previous investigations of the Hempstead Area Dry Cleaners site other than groundwater samples that were collected for the Franklin Cleaners site RI in 1997. The site has been listed as a "P" site (potential site for the NYS Registry of Inactive Hazardous Waste sites; Site No. 1-30-096).

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

No.

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?**

The facilities investigated at the site do not produce or store pesticides.

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

The dry cleaning facilities are listed as small quantity generators in the RCRIS (RCRA Information System) database. The RCRIS database identifies hazardous waste permits for generators, receivers, and transporters of hazardous waste. A Toxic or Hazardous Materials Storage Permit was issued for 391 Fulton Avenue in 1988 by NCDOH. No records of other permits were found for either facility during file searches. PCE is a listed "F002" hazardous waste (spent halogenated solvent) under 40 CFR 261.31. Therefore, it is assumed that the PCE detected in the groundwater (along with dry cleaning chemicals/wastes that may be stored at the site) could be subject to RCRA Subtitle C. **Ref: 4.**

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 Number:** (518) 457-0639

Preparer: Michael Musso
Laura Robinson
John Thornburg

Agency/Company:
Lawler, Matusky & Skelly Engineers LLP

Date: August 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

Description:

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

   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 - The horizontal and vertical limits of the plume were not fully defined during the PSA. Thus, the quantity of groundwater contamination could not be determined.

Hazardous Substances/Physical State - The hazardous substance of PCE (and common PCE breakdown products) was found 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 if the data cannot be used for HRS purposes. Any problems should receive the immediate attention of the work assignment manager. Identify 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 the historic sampling event (i.e., Franklin Cleaners RI/FS, CA Rich UIC Closure Report for Top-Notch Cleaners); however, no suspected problems with the data were readily noted.

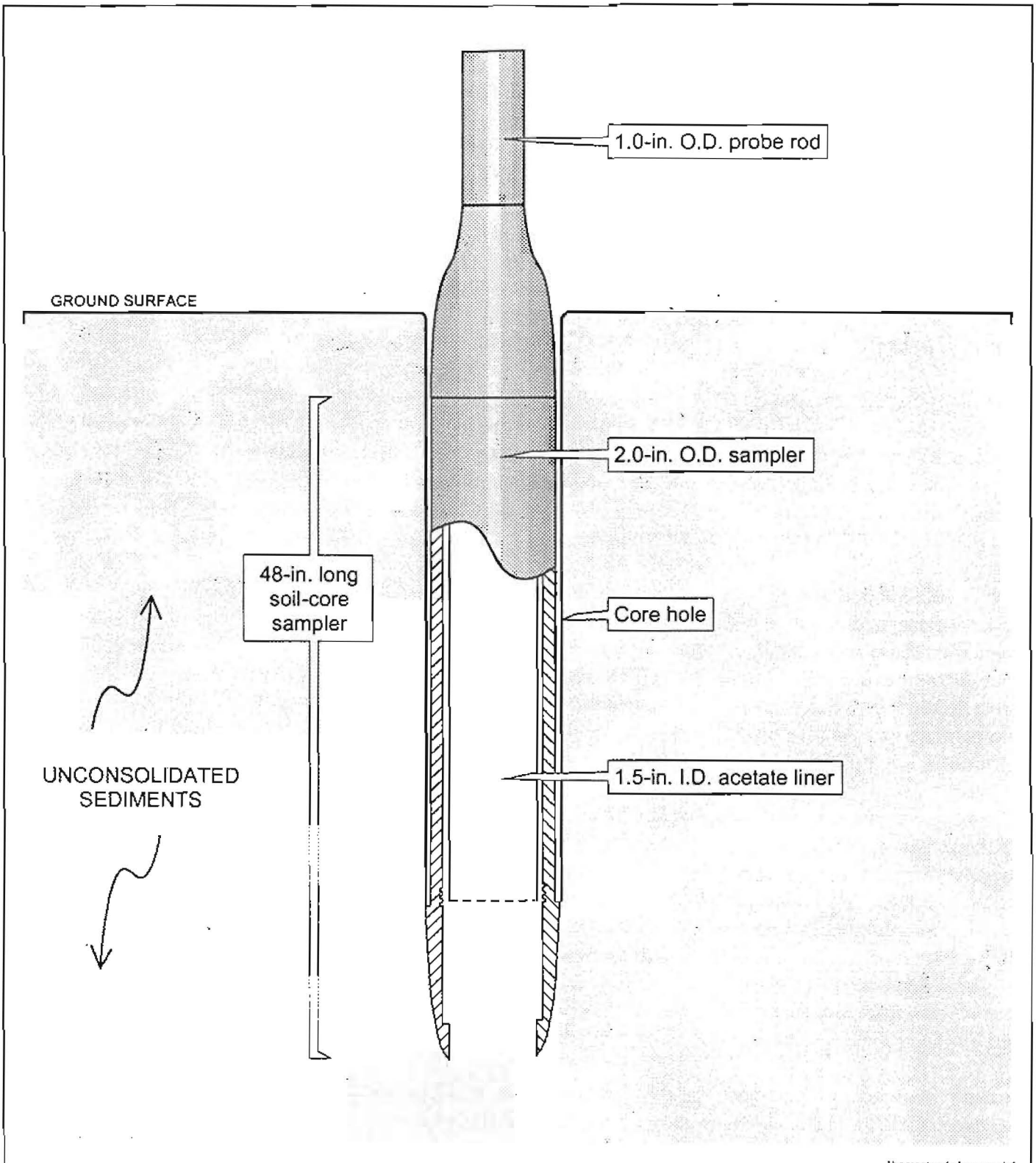
SITE INSPECTION RESULTS

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

In October 1999, a total of 18 groundwater probe points were installed using LMS's AMS rig. A total of fifty-four groundwater samples plus eleven QA/QC samples were collected. No groundwater samples were collected from location HEGP-16 (north of Fulton Avenue, along the west side of Clinton Street) since the sample rods sheared off below the ground surface. Soil samples were collected at four of the groundwater probe locations (HEGP-2, -7, -10, and -13). Four soil samples were collected at each of the four soil probes (16 total). All samples were analyzed by H2M for VOCs using NYSDEC Analytical Services Protocol (ASP) Method 95-1. All samples were validated by Nancy Potak Data Validation; there are no suspected problems with the data. Appendix A contains the analytical laboratory data summary sheets, and Appendix B contains the data validation and usability report.

Soil samples were collected using the AMS probe rig and a dual tube sampling technique. Samples were collected in dedicated disposable acetate liners at four foot intervals (see Figure 7). The soil sampling depths and analytical results are summarized in Table 1. None of the soil samples collected for the PSA exhibited VOCs in excess of NYSDEC recommended soil clean-up objectives.

Groundwater samples were collected at three intervals at each probe location. A groundwater screen sampler was advanced to the depth of the lower sampling interval with the AMS probe unit. After reaching the desired depth,



\hempstead cleaners.dsf

NOT TO SCALE

Figure 7

Soil Core Sampler Cross-Section

MULTI-SITE PSA
Hempstead Area Dry Cleaners
NYSDEC I.D. No. 130096

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

the probe rods and screen sheath were raised approximately four ft to expose the screen and to allow groundwater to infiltrate into the rods. A dedicated piece of polyethylene tubing that was fitted with a check valve was inserted through the probe rods until it reached the screen. The probe was manually surged to draw water to the ground surface. The tubing was surged until at least three times the volume of water in the probe rods was purged, to ensure that the groundwater sample was obtained from the correct interval. The sample was then collected by transferring it directly into a sample container. Once the sample was obtained, the entire assembly was raised to the depth of the next sampling interval or moved to the next groundwater probe location. The shallow sample intervals ranged from 24 to 30 ft bgs, intermediate samples were collected at depths ranging from 35 to 40 ft bgs, and the deep intervals were at 55 ft bgs, except for the deep sample at HEGP-14 which was collected at 51 ft bgs. The groundwater sampling depths from the October 1999 field activities are summarized in Table 2.

The groundwater sample data from the Hempstead Area Dry Cleaners site are summarized in Table 2 and presented graphically on Figure 3. HEGP-1 and HEGP-3 are the only probe locations conducted for the PSA that exhibited concentrations of PCE above the Class GA groundwater standard of 5 ug/l. The deep sample (55 ft bgs) at HEGP-3 contained PCE at a concentration of 270 ug/l, and the intermediate sample (40 ft bgs) contained PCE at 20 ug/l. The only other probe location where PCE was detected above the Class GA standard was the intermediate sample (35 ft bgs) at HEGP-1 (PCE concentration of 7 ug/l).

In June - July 2000, a total of eight 8 groundwater probe points were performed by LMS's subcontractor, Zebra. The purpose of the additional groundwater sampling was to further investigate the extent of groundwater contaminant (i.e., PCE) plumes at the Hempstead Area Dry Cleaners site. In particular, the additional groundwater probes focused on the possibility that deep PCE contamination might be pooling on top of a clay layer believed to exist in the sampling area at an estimated depth between 75 and 85-ft below grade. In order to collect groundwater samples immediately above the clay layer (i.e., where the contamination may be pooling), three conductivity probes were performed to identify the depth of the clay layer.

Soil conductivity logging was conducted using a Geoprobe® SC400 Direct Image Soil Conductivity System. The SC400 probe was advanced using a Geoprobe® Model 540B probe machine mounted on a Case® skid loader. Conductivity probes were performed at HEGP-27 (23 Harriman Street), HEGP-20 (Main St/Peninsula Blvd), and HEGP-25 (Fulton Ave. by Denton Green). An attempt was made at performing a conductivity probe at HEGP-23; however, two attempts encountered refusal at a depth of about 6-ft. The conductivity probe was performed at the HEGP-20 location as an alternative since moving the HEGP-23 probe location into the street required a possible delay of several days for a subsurface utility markout. The conductivity probes at HEGP-20, -25, and -27 encountered refusal at depths of 71.5, 87.5, and 84 ft bgs, respectively. The expected clay layer was not encountered in any of the probe holes during conductivity logging.

Since the conductivity logging encountered refusal without encountering the expected clay layer, two soil samples were collected at the HEGP-20 to visually classify the soil. Samples were collected at a depth of 86 to 88 ft bgs and 88 to 90 ft bgs using a large-bore soil sampler. The large bore sampler was driven to the desired sample depth using the direct push probing method. Chase rods were then inserted down the center of the probe rods to remove the piston stop pin, allowing a discrete sample to be collected. The soil recovered consisted of sandy soil as described below:

- HEGP-20 (86-88') Brown fine to medium SAND, little silt, little fine gravel, wet

- HEGP-20 (88-90') Brown fine SAND, little silt, trace clay, trace 0.05-ft clay seams, wet

The soil at approximately 87 ft bgs was very dense, and it was difficult to advance the large-bore sampler. Initially, no sample was to be collected from 88 to 90 ft bgs; however, during the first attempt to collect soil at 90 to 92 ft bgs, refusal was encountered at 89 ft. An attempt was then made to collect a sample from 89 to 91 ft bgs, but the piston stop-pin was not removed completely and no sample could be recovered. During the second attempt to reach 90 ft, the soil became very dense at 87 ft bgs. The sampler was forced down to a depth of 88 ft, and a sample was collected from 88 to 90 ft bgs. Sampling was stopped at 90 ft due to the dense soil encountered, and since advancing deeper was beyond the capability of the probe rig.

A total of twenty-four groundwater samples plus five QA/QC samples were collected. Groundwater samples were collected at three intervals at each probe location. A groundwater screen sampler was advanced to the depth of the lower sampling interval with the probe rig. After reaching the desired depth, the probe rods and screen sheath were raised approximately four feet 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 tubing was manually surged to draw water to the ground surface. The tubing was surged until at least three times the volume of water in the probe rods was purged to ensure that the groundwater sample was obtained from the correct interval. The groundwater sample was then obtained directly from the tubing into a sample container. Once the sample was obtained, the entire assembly was raised to the depth of the next sampling interval or moved to the next groundwater probe location.

The shallow sample intervals ranged from 30 to 40-ft bgs, intermediate samples were collected at depths ranging from 45 to 75 ft bgs, and the deep intervals ranged from 65 to 90-ft bgs. The groundwater sampling depths for the second phase of PSA work (June - July 2000) are summarized in Table 3. The probe location immediately down gradient of Jimmy's Dry Cleaners was sampled at shallower depths since it was adjacent to a potential source area. The sampling on Harriman Street was slightly deeper since this location was the farthest south (i.e., downgradient). All samples were analyzed by H2M for VOCs using NYSDEC Analytical Services Protocol (ASP) Method 95-1. All samples were validated by Nancy Potak Data Validation; there are no suspected problems with the data. Appendix A contains the analytical laboratory data summary sheets, and Appendix B contains the data validation and usability report. A copy of all PSA field notes is included in Appendix C.

The June 2000 groundwater sample data from the Hempstead Area Dry Cleaners site are summarized in Table 3 and presented graphically on Figure 3. HEGP-20, -21,- 24 and -27 exhibited concentrations of PCE above the Class GA groundwater standard of 5 ug/l. PCE was detected in sample HEGP-20 (85') at a concentration of 8100 ug/l, which is an order of magnitude above any other detected concentrations. The intermediate sample from HEGP-20 (65-ft bgs) contained PCE at a concentration of 46 ug/l suggesting that the contamination is deep and possibly pooling above a clay confining layer beneath the contaminant plume. HEGP-20 also contained 1,2-DCE above the Class GA groundwater standard of 5 ug/l at a concentration of 340 5 ug/l (85 ft bgs) and TCE at all three sample depth intervals at concentrations ranging from 8 ug/l (at 40 ft bgs) to 100 ug/l (at 85 ft bgs).

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 downgradient of Top-Notch Cleaners at the Hempstead Area Dry Cleaners site.

During the first phase of PSA work (October 1999), the deep groundwater probe sample at HEGP-3 (55 ft bgs, collected to the south of Top-Notch Cleaners) had the highest concentrations of PCE and total VOCs. The concentration of PCE at this location was 270 ug/l, above the NYSDEC Class GA Standard of 5 ug/l. The intermediate groundwater sample collected at this location (40 ft bgs) also had concentrations of PCE that exceeded the groundwater standard (20 ug/l). Of the 18 groundwater probes that were sampled, the only other one that had any VOC contamination was the intermediate sample at location HEGP-1 (35 ft bgs), which had a PCE concentration of 7 ug/l, just above the NYS standard. HEGP-1 is also located downgradient of Top-Notch Cleaners. All of the other groundwater probes sampled during the initial phase of the PSA had no elevated levels of VOCs. Figure 3 provides a graphical summary of the October 1999 PSA groundwater data.

The second phase of PSA work, conducted in June - July 2000, consisted of the installation of additional groundwater probes at eight locations to further evaluate the horizontal and vertical extent of PCE groundwater contamination at the Hempstead Area Dry Cleaners site and at locations south of the site. Twelve of the 24 groundwater samples collected during the second phase of the PSA had elevated concentrations of VOCs, as shown in Table 3 and Figure 6. PCE was detected in fourteen of the groundwater samples, and nine of the samples had elevated levels of PCE (maximum concentration of 8100 ug/l) that were above the NYS standard. No levels of PCE were detected in the groundwater samples collected at probe point HEGP-23, which was located just south of Jimmy's Dry Cleaners.

When the PSA data and the Franklin Cleaners upgradient data are combined, it appears that Top-Notch Cleaners may be one of the upgradient sources of PCE contamination found in the upgradient locations. However, if a Top-Notch Cleaners plume does exist, it appears to be deep, starting at 50 to 55 ft bgs and continuing to at least 80 ft bgs. As noted, PCE contamination may also likely be pooling above a clay layer that may exist at variable locations/depths across the site area. PSA data also indicate that Jimmy's Dry Cleaners and June Dry Cleaners are not likely contaminant sources.

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.**

The Upper Glacial Aquifer (UGA) is located beneath glacial outwash surficial deposits, which consist of medium- to coarse-grained sand and some gravel deposited by glacial melt water. The UGA is a porous and permeable unit that transmits water readily and provides a near-surface, high yielding water supply source. The surface of this aquifer is the groundwater table, which is located approximately 24 to 30 ft bgs at the site. Below the surficial deposits is the Magothy formation, which is composed of gray or tan fine to medium grained sand, in contrast to the generally brown coarse-textured sand of the surficial deposits. The clay found in the Magothy layer is typically white, light and dark gray, yellow, tan or black, while the clay in the surficial deposits is commonly grayish green in color and contains marine fossils. Despite less than half of the Magothy formation having good water-yielding characteristics, large quantities of water are pumped from wells that are located in the upper, middle, and lower permeable parts of this formation. Groundwater flow at the site is to the south. **Ref: 1, 6, 11, 12.**

Identification of a clay layer, thought to exist at the site area at depths between 75 and 85 ft bgs, was attempted during the second phase of PSA field work (June - July 2000). Equipment and procedures (i.e., conductivity logging) used in clay layer identification are described in Part III above. Since probe refusal was experienced during the conductivity logging efforts (generally at depths shallower than the expected clay layer), two soil samples were collected at HEGP-20 to visually classify the soil. Samples were collected at a depth of 86 to 88 ft bgs and 88 to 90 ft bgs using a large-bore soil sampler. The large bore sampler was driven to the desired sample depth using the direct push probing method. The soil recovered consisted of sandy soil as described below:

- HEGP-20 (86-88') Brown fine to medium SAND, little silt, little fine gravel, wet
- HEGP-20 (88-90') Brown fine SAND, little silt, trace clay, trace 0.05-ft clay seams, wet

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 October 1999 during the PSA activities; however, there were no precise water level elevation data collected at that time. Water level elevations were taken at the Franklin Cleaner site during investigation in March and June of 1997. The Franklin site is located approximately 3500 ft south of the site. The results of the water elevations are shown in Table 3-1 of the Franklin Cleaner Report (Dvirka and Bartilucci, 1997; Reference No. 6). Generally, the water level in this area is between 25 and 35 ft bgs. The deepest contamination encountered south of the Top-Notch Cleaners facility (October 1999) was found at about 55 ft bgs during the PSA. The deepest groundwater contamination encountered during the second phase of the PSA (i.e., at locations south of the site) was at 85 ft bgs. **Ref: 6.**

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 for a well-sorted sands and glacial outwash is 1 to 10^2 darcys. **Ref: 13.**

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

The average precipitation for nearby Mineola, New York was 43.55 inches in 1997. Mineola is in Region 4 for the National Climatic Data Center in New York State. The total evaporation for Region 4 in July, August, September, and October of 1997 was 21.28 inches. There were no values recorded for the other months. Because of this lack of data, all the months without data were assumed to have zero evaporation. Therefore, the total net precipitation at the site was estimated to be approximately 22.27 inches. **Ref: 14.**

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

About 0.5 miles north of the Hempstead Area Dry Cleaners site is a cluster of six public supply wells (only five are shown on the reference figure) owned by and serving the Village of Hempstead. These wells were installed in the late 1920's to the mid 1930's and are identified as N78, N79, N80, N81, N82, and N83. Well N82 does not have any known specific information. Four of the five wells (N78, N79, N80, and N81) are relatively shallow (381, 492, 489, and 425 ft, respectively), the fifth well (N83) is much deeper and reaches to 1003 ft. The screen intervals for the wells are 336 to 375, 338 to 418, 429 to 480, and 360 to 420, respectively. The screen setting for N83 is at 406 ft. **Ref: 11, 15.**

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.**

The nearest public water supply well is located about 0.5 miles to the north (upgradient) of the Hempstead Area Dry Cleaners site. There is a public supply well located approximately one mile to the south (downgradient) of the site. This downgradient well is owned by and serves the Village of Hempstead. The well was installed in 1953, has a depth of 505 ft, and is screened from 449 to 499 ft. There are four other public supply wells (only two are shown on the reference figure) that are located approximately 1.5 miles from the Hempstead Dry Cleaners site (N-72, N-2239, N-3704, and N-4118). All of these wells are owned by the West Hempstead-Hempstead Gardens Water District and serve the Village of West Hempstead. The depths of the wells are 616, 178, 200, and 212 ft, respectively. The screen setting for these wells are 544 to 604, 108 to 148, 107 to 160, and 146 to 204 ft, respectively. **Ref: 11, 15.**

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

Distance	Population of Aquifer
0 - 1/4 mi	2,397
>1/4 - ½ mi	7,192
>½ - 1 mi	28,766
>1 - 2 mi	96,734
>2 - 3 mi	169,726

>3 - 4 mi	203,541

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

The groundwater is not blended with surface water prior to distribution. **Ref: 15.**

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

Every public supply well in Long Island has a well head protection area associated with it. According to EPA, there is typically a 50 ft radius of ownership by Nassau County, followed by a 50 ft radius of control by Nassau County (total of 100 ft of well head protection area for each supply well). The groundwater beneath Long Island is a sole source aquifer, and special care is taken to protect the groundwater that nearly all of it is protected. There are two special groundwater protection areas in Nassau County; one is located north of the site and the other is located northwest of the site (both are upgradient of the Hempstead Area Dry Cleaners site). **Ref: 16, 17.**

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?

Although the source of this contaminated groundwater has not been specifically identified, the on-site groundwater contamination itself is not located within one of the designated well head protection areas for Long Island. Therefore, the waste source is not located within a well head protection area, either. **Ref: 16, 17.**

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).**

As referenced in the DB RI/FS, several private wells are located within the vicinity of the Franklin Cleaners site, which is located approximately 3500 ft south of the Hempstead Area Dry Cleaners site. **Ref: 6.**

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 to the Hempstead Reservoir or the Great South Bay (water mass including Reynolds Channel, Middle Bay, East Bay, and South Oyster Bay) via groundwater or via runoff to an open portion of a Nassau County Department of Public Works (NCDPW) stormwater channel. These surface water bodies are located downgradient 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 Hempstead Reservoir, which is located just over a mile southwest of the site (open channel sections of a NCDPW stormwater culvert also exist within one mile of the site). **Ref: 1.**

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

The distance to Hempstead Reservoir from the site is just over one mile. However, runoff to this surface water body is not likely because stormwater runoff is collected by the storm drains. **Ref: 1.**

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

After possibly entering the Hempstead Reservoir, the surface water may remain in this reservoir until the natural flow of water continued to recycle the surface water back to groundwater. Any groundwater exiting the Hempstead Reservoir in the form of groundwater would likely flow into the Great South Bay. If the contamination flows directly to the south (from the site) until reaching the Great South Bay, the possible POE would likely be in Middle Bay, part of the Great South Bay. The path described below is most likely to occur. **Ref: 1.**

Name	Water Body Type	Flow	Saline, Fresh, or Brackish Water	Distance from the site
Middle Bay	Bay	Not Available	Saline	POE - 5 miles
Atlantic Ocean	Ocean	Not Available	Saline	5 - 15+ miles

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

The 2-yr, 24-hr rainfall for Hempstead, New York is approximately 3.2 inches. **Ref: 18.**

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

Not applicable because the vast majority of the ground surface is developed (i.e., covered with asphalt, buildings) and most, if not all, of the runoff in the area flows into a system of storm drains, drywells, and retention basins.

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

The Hempstead Area Dry Cleaners site is located in an urbanized area with very deep, well drained soils that are classified by United States Department of Agriculture, Soil Conservation Service as UrA - Urban land-Riverhead complex, 0 to 3 percent slopes. This classification consists of approximately 65 percent urbanized areas, 20 percent Riverhead soils, and 15 percent other soils. The urbanized areas and the Riverhead soils are so intermingled that it is difficult to map them separately. The areas that are identified as urban include areas with buildings, roads, driveways, parking lots, and other man-made structures. The first five ft of the Riverhead soils are mainly composed

of different layers of sands; mostly medium to course sand with traces of clay and gravel. A nearby classification is the Urban land-Hempstead complex (Uh). The soil in this area is very similar to the to the UrA soil; it is located in an urbanized area and has very deep, well drained soils. The land surface is extremely flat; having slopes of zero to three percent. The Uh classification is composed of 75 percent urbanized areas, 20 percent Hempstead soils, and 5 percent other soils. The urbanized areas and the Hempstead soils are so intermingled that it is very difficult to map them separately. The main difference is that the Hempstead soils contain more silt (at shallow depths) and more gravel (at deeper depths) than the Riverhead soils. **Ref: 19.**

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

The site is in an area of minimal flooding (i.e., the site is located outside of the 500-year floodplain). **Ref: 20.**

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.**

There are no surface water bodies downgradient of the site that serve as drinking water supplies. **Ref: 15.**

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

Commercial fisheries exist in some of the downgradient surface water bodies. Non-commercial (recreational) fishing also is reported to be popular at these locations. **Ref: 21, 22, 23, 24, 25.**

	Fishery	WB Type	Distance From POE	Flow (cfs)	Saline/Fresh/ Brackish
1.	Hempstead Lake State Park	Lake	Possible POE	NA	Fresh
2.	South Shore Estuary	Bay	Possible POE	NA	Saline
3.	Cow Meadow Park	Bay	2 miles*	NA	Saline
4.	Jones Beach State Park	Bay	4 miles*	NA	Saline

* Distance from POE assumes that the POE is located in the South Shore Estuary.

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

The surface water sensitive environments that exist 15 miles from the point of surface water entry are the same as the fisheries that were listed in Question 19. **Ref: 22, 23, 24, 25.**

	Environment	WB Type	Distance from POE	Flow (cfs)	Wetland Frontage (miles)
1.	State Park	Lake	Possible POE	NA	NA
2.	State Park	Bay	Possible POE	NA	NA
3.	Nassau County Park	Bay	2 miles*	NA	NA

4.	State Park	Bay	4 miles*	NA	NA

* Distance from POE assumes that the POE is located in the South Shore Estuary.

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 any surface water bodies, therefore no sensitive areas are known to be contaminated as a result of the Hempstead Area Dry 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?

All of the above identified surface water bodies are used for recreation. Hempstead Lake State Park is used for picnicking, horseback riding, and various sporting opportunities. The South Shore Estuary provides boating, swimming, fishing, crabbing, birding, and sight seeing. Cow Meadow Park and Preserve offers a playground, jogging track, various sporting opportunities, and a nature preserve. Jones Beach State Park is best known for its swimming, fishing, and golfing. **Ref: 21, 22, 23, 24, 25.**

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 soil contamination was identified at the site (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 soil contamination was identified at the site (Table 1).

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

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

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 soil contamination was identified at the site (Table 1).

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.**

Not applicable, no air releases have been identified at the site.

28. **Determine populations that reside within 4 miles of the site. Ref: 26, 27.**

Distance	Population
0 (on-site)	0
0 - 1/4 mi	2,397
>1/4 - ½ mi	7,192
>½ - 1 mi	28,766
0 - 1 mi	53,546
>1 - 2 mi	96,734
>2 - 3 mi	169,726
>3 - 4 mi	203,541

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

Please refer to Questions 19, 20, and 22 for information on Hempstead Lake State Park, the South Shore Estuary, Cow Meadow Park and Preserve, and Jones Beach State Park.

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.**

Not applicable, no air releases have been identified at the site.

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, no air releases have been identified at the site.