

THE SEAR-BROWN GROUP
FULL-SERVICE DESIGN PROFESSIONALS

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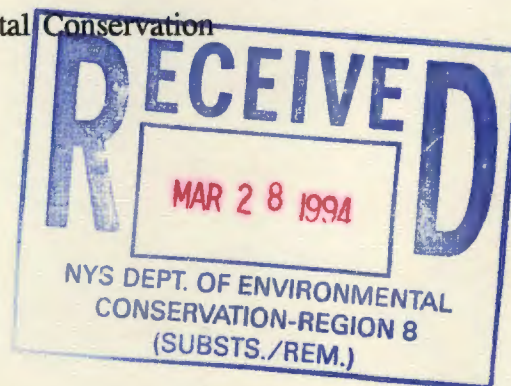
MAR 28 1994

NYS DEPT. OF ENVIRONMENTAL
CONSERVATION-REGION 8
SWITCHBOARD

March 25, 1994

Mr. Todd M. Caffoe
New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
6274 East Avon-Lima Road
Avon, New York 14414-9519

RE: Speedy Cleaners, Inc.
190 Court Street
Rochester, N. Y.



13132

Dear Mr. Caffoe:

Please find enclosed the results of an environmental investigation conducted by Sear-Brown on the Speedy Cleaners, Inc. property on behalf of the property owner, Mr. Dan Demosthenes. The purpose of the program was threefold:

- to depict the areal and vertical extent of the contamination which might require remediation;
- to characterize the nature of the contamination on site; and
- to develop recommendations to minimize soil disposal costs during construction of the Washington Square Municipal Garage.

1.0 Subsurface Investigation Overview

Sear-Brown conducted a vapor investigation and soil sampling program on January 5, 1994 through January 7, 1994. This program involved the collection of soil core samples for field head-space analysis of volatile organic vapors and the collection of soil samples for laboratory analysis at 12 locations inside the building footprint.

Approximately one-half of the Speedy's building has a basement. The remainder of the building has soil or fill below the first floor slab. Six of the sample locations were collected through the first floor slab, and the remaining six samples were collected through the basement floor. A sample of the Stoddard Solvent currently used by Speedy's was collected and submitted for laboratory analysis to be used as an analytical standard. The soil sampling locations are shown on Figure 1, Soil Sample Location Sketch.

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Speedy Cleaners is a dry cleaner and laundry. The dry cleaning has been Stoddard Solvent based. Speedy Cleaners opened in the early 1940s. Perchloroethylene (PCE) is not used as a primary cleaning solvent at Speedy Cleaner. However, PCE is present in two detergents which are used sparingly as additives to the Stoddard Solvent. The total concentrations of PCE in the Stoddard Solvent due to these additives should be less than one percent.

For a brief period of two to three years in the early 1950s, one dry cleaning machine which used PCE as the primary solvent was in service at Speedy Cleaners on 190 Court Street. However, this machine was a self-contained unit and Stoddard Solvent was the primary solvent in the main plant dry cleaning operations. The single PCE machine was removed from Speedy Cleaners approximately 40 years ago.

The first floor has an elevation of approximately 530 ft. The space designated by the letter "A" on Figure 1 is on the first floor. Space A contains dry cleaning equipment which utilizes Stoddard Solvent. Space B on the first floor does not contain equipment using Stoddard Solvent.

The basement has spaces at three separate elevations. Sample location #6 was in the tank vault, Space C, where the floor has an elevation of approximately 522.5 ft. A tank formerly containing Stoddard Solvent is located in the tank vault. Sample locations #4 and #5 were in raised portions of the basement, Space D, where the floor has approximate elevations of 522.5 ft. and 523 ft., respectively. No Stoddard Solvent is used in Space D. Sample locations #1, #2 and #3 were located in the main portion of the basement floor, Space E, which has an elevation of approximately 519 ft. Stoddard Solvent is used in Space E.

In addition to the soil sampling, two perched water samples were collected from sampling locations #1 and #2 and submitted for laboratory analysis. These samples were obtained from the open boreholes created during the soil sampling program. Water was encountered at locations #1, #2, and #4.

2.0 Site Geology

Typical native soil encountered during the investigation appeared to be a dense glacial till. Fill soils were encountered from the samples obtained within the first floor at locations #8, #9, #11 and #12 in Space A. This fill was loose and contained ash with some brick fragments.

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The native soil was encountered approximately seven ft. to eight ft. below the surface of the first floor in Space A, and approximately one ft. below the surface of the floors in Spaces B, C, D and E. The concrete floor slabs are approximately four to six in. thick. Between the concrete floors and the native till is approximately six to eight inches of gravel.

The native till is extremely dense and was not penetrable with the rotary hammer and JMC soil probe at depths greater than five ft. BGS. Similarly dense native soils were encountered in soil borings drilled off-site in the vicinity of Speedy Cleaners by LaBella Associates, on behalf of the City of Rochester. The boring logs and figure showing the boring locations are presented in Appendix A. The soils were generally described as very dense by LaBella and refusal was encountered in many of the borings during split spooning between a depth of 11 ft. and bedrock.

According to the LaBella reports, groundwater flow in the area is to the northeast. The LaBella groundwater contour map is also presented in Appendix A.

3.0 Soil Vapor Investigation

The soil samples were recovered using a JMC® environmentalist's three ft. stainless steel subsurface soil probe (1 in. I.D.), lined with Kodar PETG Copolyester 6763 tubing and driven into the ground using a rotary hammer drill. The soil probe was decontaminated prior to and between sampling events using analconox bath and a tap water rinse.

Each of the soil vapor sampling points were installed to a depth of core refusal. This depth ranged from 3.8 ft. below ground surface (BGS) to 7.5 ft. BGS. All points were initiated through the concrete floor in the building.

Locations #1 - #3 were initiated by coring the slab with a 2 in. O.D. diamond core drill. These holes were subsequently cased with 1.5 in. I.D. galvanized piping 12 in. to 20 in. BGS to prevent water within the sub-grade gravel from flowing into the sampling core hole. Once the sampling location was cased, standing water was removed from the sampling locations by use of a peristaltic groundwater pump.

The remaining holes were initiated using the rotary hammer drill to drill a 1.5 in. diameter hole in the concrete slab. The probe was then driven into the soil in three foot increments until refusal depth was encountered.

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After the soil core was extracted, two inches of soil were collected from each end of the cores and placed into sealed containers. After allowing the soil to equilibrate to ambient temperature (approximately 55 degrees Fahrenheit), the headspaces in the containers were screened for volatile organic vapors.

A calibrated Hnu DL101-4 photoionization detector (PID) was used to screen the container headspaces for the presence of volatile organic vapors. The PID was calibrated to 57 parts per million (ppm) isobutylene (benzene equivalent units) from a flexible Tedlar bag. The bag was filled and evacuated via a calibration gas humidifier hose.

The findings of the soil vapor screening are presented in Section 6.0.

4.0 Soil Sampling and Analysis

Two soil samples were collected from each soil coring location, with the exception of sampling locations #1, #8 and #11. Poor sample recovery from these locations prevented a second sample from being collected and submitted. The samples were labelled such that the number prior to the backslash in the sample name is the location from which the soil sample was obtained. The number after the backslash is the depth in ft. below grade surface (BGS) from which the sample was obtained. For example, soil sample S-1/1.2-2.8 was collected at sample location #-1 and soil was recovered at depths from 1.2 ft. to 2.8 ft. BGS.

Each soil sample was submitted for laboratory analysis for Volatile Organics by EPA Method 8021 including Tentatively Identified Compounds (TICs), and Total Petroleum Hydrocarbons (TPH) using Department of Health (DOH) Method 310.13. The laboratory analytical results are discussed in Section 6.2.

5.0 Water Sampling and Analysis

Water was sampled directly from the cased coring holes of at locations #1 and #2 using high density polyethylene tubing and a peristaltic pump. These samples were labelled H₂O-1 and H₂O-2, respectively. The depth to water prior to sampling was 0.52 ft. BGS and 1.84 ft. BGS, respectively. The water samples were submitted for laboratory analysis for Volatile Organics by EPA Method 8021 including TICs. The laboratory analytical reports are attached, and the results are discussed in Section 6.3.

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First Floor

As can be seen in Table 1, no significantly elevated PID readings were obtained from sample locations #7, #9, #10 or #12 from the first floor. The western portion of Space A, and Space B appear to be free of VOCs in the soil to seven ft. BGS.

Slightly elevated vapor levels were obtained from the fill in the first three ft. BGS in locations #8 and #11. Significantly elevated PID levels were obtained six ft. BGS in sample locations #8 and #11, at the interface between the fill and native till.

The PID reading at the top of the native till at location #11, 318 ppm, is much greater than the reading at location #8. Based on the PID readings, it appears that the contamination is present at the top of the native till and has migrated towards location #8 from location #11.

The migration of the contaminants to Space B from location #11 appears to have been prevented by a wall believed to be present below grade between Space A and Space B.

Basement

In Space D in the basement, only trace PID readings were obtained in location #5 and in the first three ft. BGS in location #4. An elevated reading, 8.9 ppm, was obtained seven ft. BGS at location #4.

Significantly elevated readings were found in the first four ft. BGS in locations #1, #2 and #3 in Space E. These samples were collected from the top three ft. of the native till located just under the gravel layer beneath the basement floor. It is significant to note that the PID readings decreased from elevation 516 to elevation 515. At an elevation of 514 ft. at locations 3, a reading of only 1.1 ppm was found.

In Space E, it appears that the contamination levels are highest at the top of the native till near the gravel layer which contains perched water. The contamination appears to migrate in the gravel interface between the till and the concrete slab. This migration is the likely source of the elevated reading at an elevation of 516 ft. at location 4. The low permeability of the dense native till appears to cause the contaminant levels to drop significantly 3 ft. to 4 ft. below the basement floor.

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Elevated PID readings were obtained in the three samples screened in the tank vault, Space C. As was the case in Space E, the PID levels dropped significantly in the deepest sample collected, from 298 ppm to 68 ppm.

6.2 *Soil Sampling Analytical Findings*

A total of 21 soil samples were collected and submitted for laboratory analysis for volatile organics by EPA Method 8021 and TICs by GCMS, and Petroleum Hydrocarbons by DOH 310-13. A Stoddard Solvent sample was collected and forwarded to the laboratory for use as a standard.

The samples were collected from the soil cores extracted with the JMC soil probe during the soil vapor screening program. The soil samples were collected from soil remaining in the core after the ends of the cores were removed for headspace screening. Where recovery allowed, two samples from different cores were collected at each location. The laboratory results above detection limits for the soil analyses are summarized in Table B-1 and B-2 in Appendix B. The complete laboratory analytical reports for the soil are presented in Appendix C.

The laboratory results for volatile organics indicate that the contamination on the subject site is comprised of petroleum hydrocarbons. The TICs identified appeared to be predominantly constituents of Stoddard Solvent and gasoline. The source of the gasoline is most likely a service station formerly located immediately upgradient of Speedy Cleaners. In a September 1992 Phase II Site Characterization Report, LaBella Associates determined that gasoline was present in a monitoring well immediately upgradient of Speedy Cleaners (GW-2 in Figure 4 in Appendix A).

No chlorinated solvents were detected in any of the soil samples.

The total of the 8021 volatiles and the TICs in each soil sample, and the elevation range from which the soil sample was collected, are presented in Table 2, Total Volatiles.

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Table 2
Speedy Cleaners
Total Volatiles
Soil Sample Analysis
EPA 8021 + TICs by GCMS
January 1994

Elevation (ft. above MSL)	Sample Location Number											
	1	2	3	4	5	6	7	8	9	10	11	12
526-530							ND		0.28	ND		1.5
522-526							0.03	276	0.16	0.07	2470	0.04
519-522				0.04	ND	1514						
517-519	854	3951	20	155	ND	1488						
515-517		5	0.24									

All units are in mg/kg, or parts per million (ppm)
ND = None Detected

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Stoddard solvent was quantified above the detection limit in the DOH 310-13 total petroleum hydrocarbon (TPH) analysis in eight of the 21 soils samples. The only other petroleum hydrocarbon found to be present, lube oil, was in sample location 9 and was not quantified in the TPH analysis. The Stoddard Solvent results are presented in the following table.

Table 3
Speedy Cleaners
Stoddard Solvent
Soil Sample Analysis
DOH 310-13
January 1994

Elevation (ft. above MSL)	Sample Location Number											
	1	2	3	4	5	6	7	8	9	10	11	12
526-530							ND		ND	ND		ND
522-526							ND	200	ND	ND	8500	ND
519-522				ND	ND	3900						
517-519	9400	8500	650	ND	ND	2700						
515-517		92	ND									

All units are in ul/kg, or parts per million (ppm)

The locations and depths where elevated levels of contamination were found in the soil sample analyses match those areas found in the soil vapor screening. The total volatiles concentrations at the various elevations are displayed graphically in Figures 2-6.

On the first floor, Space B is once again relatively free of contamination. The most significantly elevated levels in Space A are at the top of the native till, from four to six ft. BGS, at locations #8 and #11.

In the basement, Space D is relatively free of contamination except for the deep sample at location #4. In locations #2 and #3, the contaminant levels again decrease with increasing depth. The contaminant levels also decrease with increasing depth at location #6.

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6.3 Water Sampling Analytical Results

Two water samples, H₂O-1 and H₂O-2, were collected from the perched water in the gravel layer at sample locations #1 and #2, respectively. These were submitted for laboratory analysis for volatile organics by EPA Method 8021 and TICs by GCMS, and Petroleum Hydrocarbons by DOH 310-13.

The laboratory results above detection limit are presented in Table B-3 and B-4 in Appendix B. The complete laboratory analytical reports for the water samples are presented in Appendix C.

Once again, the laboratory results for volatile organics indicate that the contamination on the subject site is comprised of petroleum hydrocarbons. The TICs identified appeared to be predominantly constituents of Stoddard Solvent and gasoline. Again, no chlorinated solvents were detected in the water samples.

The total of the 8021 volatiles and the TICs, and the Stoddard Solvent concentrations in the water samples are presented below in Table 4.

Table 4
Total Volatiles
Water Sample Analysis
EPA 8021 + TICs by GCMS
Speedy Cleaners
January 1994

Elevation (ft. above MSL)	Sample H ₂ O-1	Sample H ₂ O-2
Total Volatiles + TICs	28.3	109.47
Stoddard Solvent	55	69

Note: All units are in mg/kg, or parts per million (ppm)

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7.0 Conclusions

Areal and Vertical Extent of Contamination

Space B and Space D

The eastern portion of the property, Spaces B and D, appear to be relatively free of contamination. Only one soil sample, the deep sample from location #4, had total volatile organics exceeding 70 ppb. No Stoddard Solvent was detected in any of the eight soil samples from these two spaces.

Space A

Relatively low total volatile organic levels (1.5 ppm maximum) appear to be present at all depths in the western half of Space A, and in the top four ft. of fill in the eastern half of Space A. However, significant contamination is present at locations #8 and #11 in the eastern half of Space A at the top of the till at four to six ft. BGS.

Space C and Space E

The contamination appears to be concentrated in the gravel layer under the basement floor, and in the top several ft. of the native till. The dense native till appears to be retarding the downward vertical migration of the contamination in the soil below the floor in Space C and Space E.

When the Speedy Cleaners property is excavated for the Washington Square Parking Garage, it is likely that a band of soil several feet thick with significant petroleum contamination will be found at the top of the till in Spaces A, C and E.

Contamination Characterization

The predominant petroleum contamination on the subject site appears to be Stoddard Solvent. However, the analysis also indicates that weathered gasoline is present in the soil and groundwater. No perchloroethylene or any other chlorinated solvent was detected in any of the soil or water samples analyzed.

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Based on the laboratory analysis conducted, the soil does not appear to be a hazardous waste. According to DEC STARS Memo #1, Petroleum Contaminated Soil Guidance Policy, soils contaminated with virgin petroleum products do not exhibit the ignitability, corrosivity or reactivity characteristic. The soil does not meet the definition of an ignitable waste because it does not appear capable of causing fire through friction, absorption of moisture or spontaneous chemical charges. The soil was not tested for the ignitability characteristic because the analytical methods for ignitability apply to liquids. None of the toxicity characteristic constituents were detected at hazardous waste levels in the soil.

A trace level of PCE, 23 ug/kg, was found in one sample from the soil under Space A by Monroe Monitoring & Analysis during August 1993. This PCE concentration is well below the Toxicity Characteristic limit for hazardous wastes. In our opinion, the PCE was most likely introduced into the soil through the release of Stoddard Solvent containing less than one percent PCE, and not through a release of pure PCE. Since the Stoddard Solvent contains less than one percent PCE, the soil should not be deemed hazardous by the "contact rule."

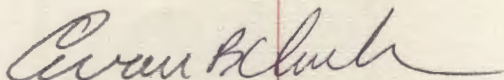
Recommendations

It appears that much of the soil on the Speedy's site is either free of contamination or contains relatively low levels. Where possible, it is recommended that the Beneficial Use Determination in 6 NYCRR 360-1.15(b)(8) of the Solid Waste Regulations be utilized to minimize the off-site disposal of non-hazardous contaminated soil.

As noted earlier, a band of soil several feet thick may be encountered at the top of the till in Spaces A, C and E. Due to the high concentrations present, this band of soil may require off-site disposal as a non-hazardous waste.

Should you have any questions, please feel free to call.

Very truly yours,



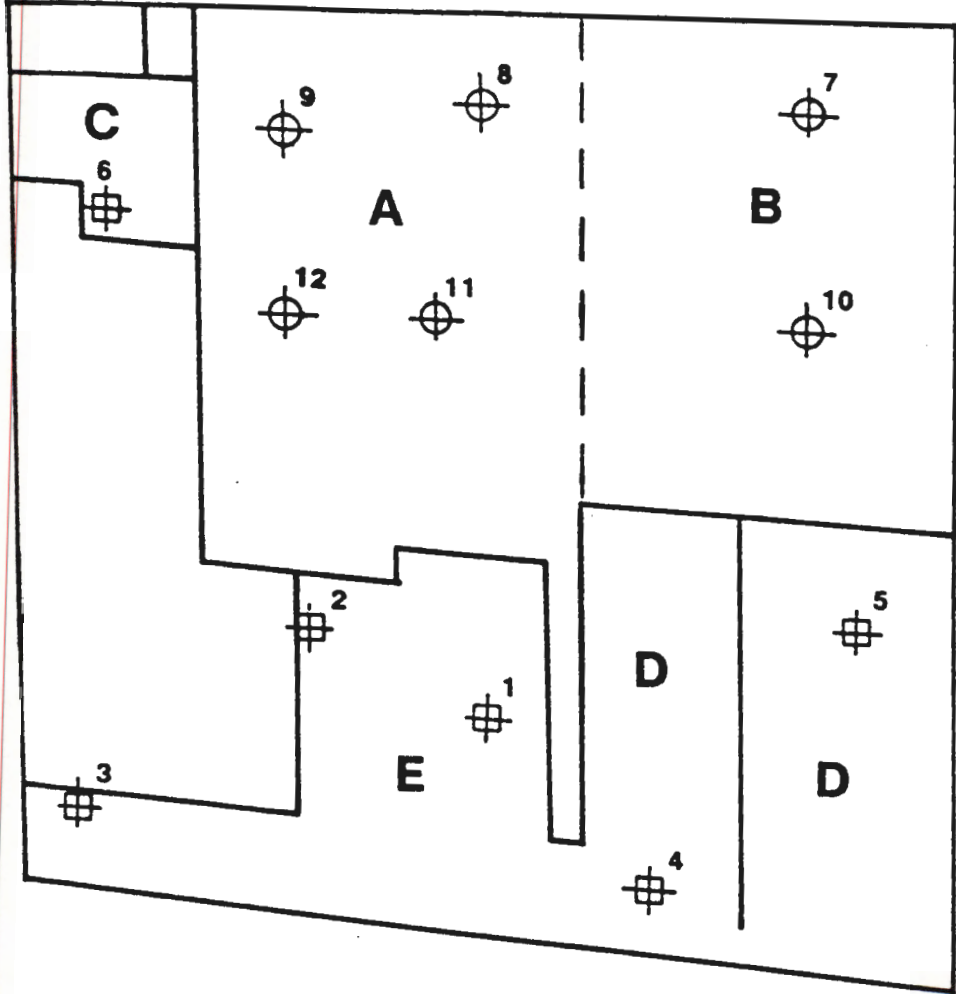
Evan B. Clark, P.E.

Environmental Engineering Manager

EBC:cet:13132.11

cc: Mitchell Williams

Figures



⊕ - FIRST FLOOR SAMPLE LOCATION
⊞ - SECOND FLOOR SAMPLE LOCATION



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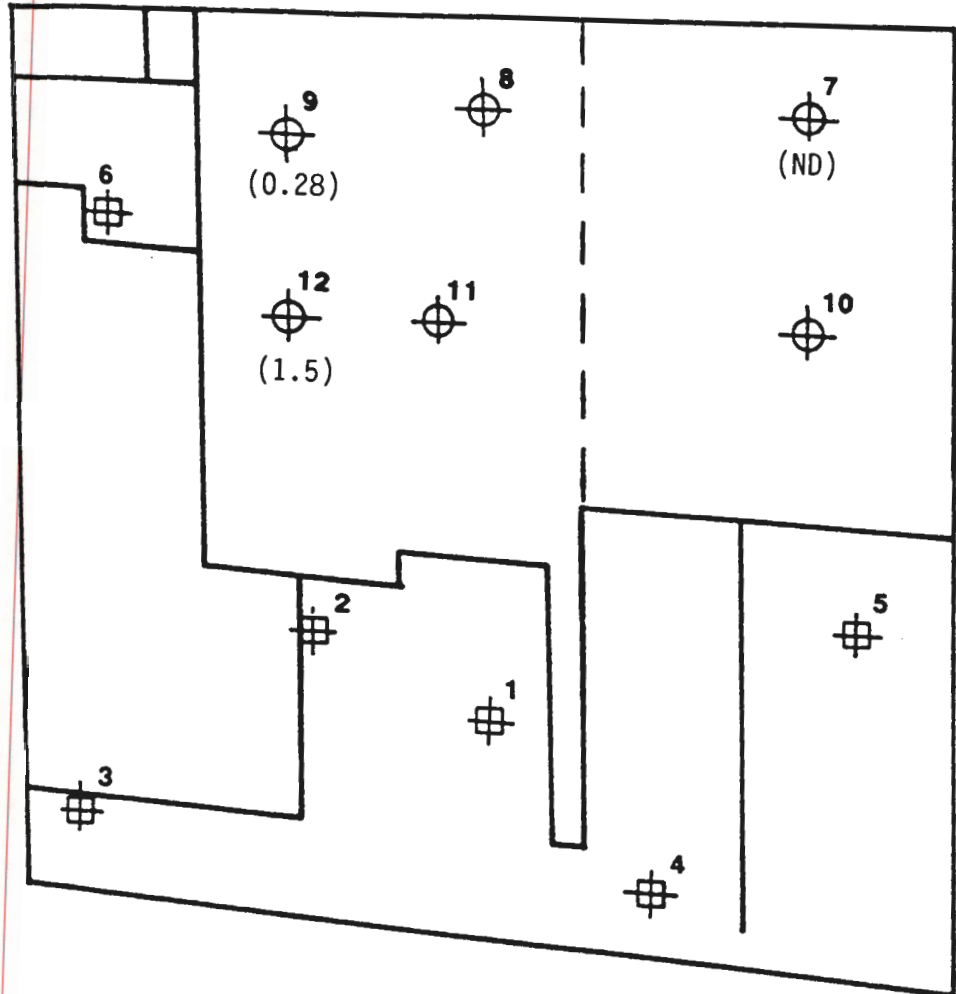
SOIL SAMPLE LOCATIONS

FIGURE 1



SOIL SAMPLE ELEVATIONS 526 FT. - 530 FT. ABOVE MSL

* ELEVATION OF FIRST FLOOR ASSUMED TO BE 530 FT. ABOVE MSL



- ND - NONE DETECTED
- () - TOTAL VOLATILES CONCENTRATION (MG/KG) EPA 8021 BY GCMS
- ⊕ - FIRST FLOOR SAMPLE LOCATION
- ⊞ - SECOND FLOOR SAMPLE LOCATION



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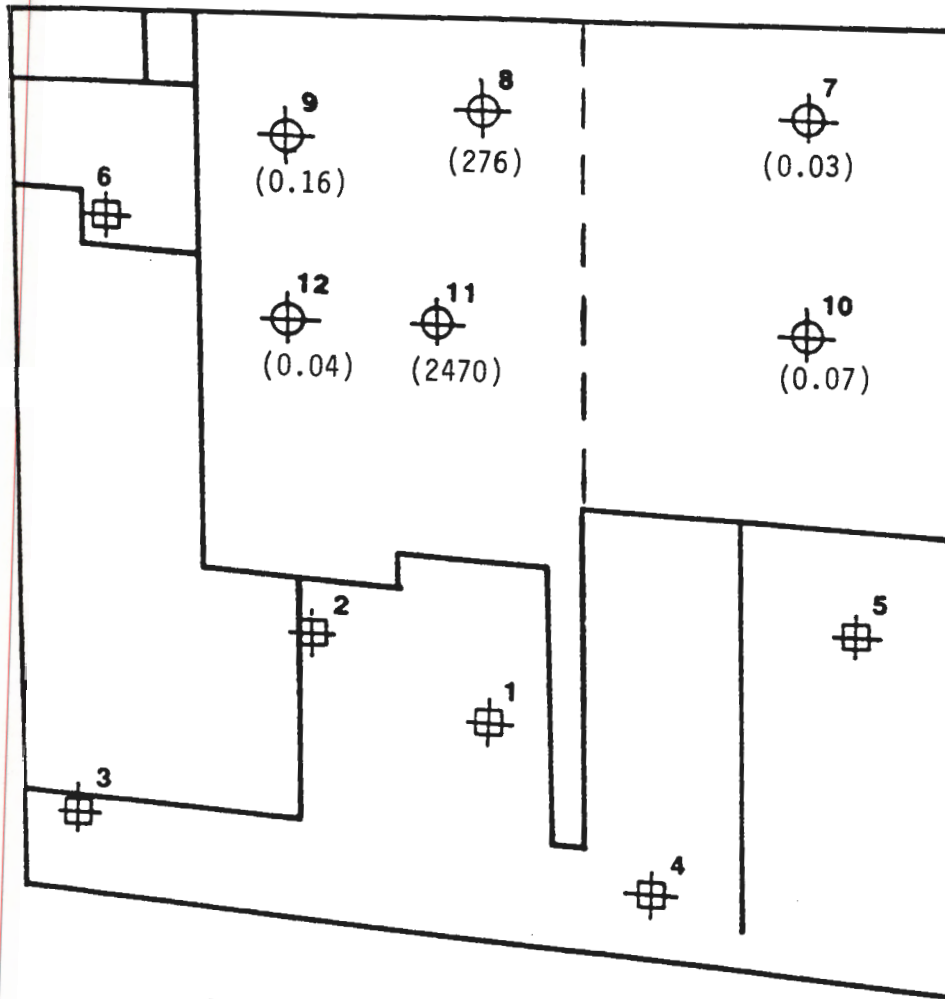
SPEEDY CLEANERS INC
190 COURT STREET
ROCHESTER, NY
TOTAL VOLATILES

FIGURE 2



SOIL SAMPLE ELEVATIONS 522 FT. - 526 FT. ABOVE MSL

* ELEVATION OF FIRST FLOOR ASSUMED TO BE 530 FT. ABOVE MSL



ND - NONE DETECTED

() - TOTAL VOLATILES CONCENTRATION (MG/KG) EPA 8021 BY GCMS

⊕ - FIRST FLOOR SAMPLE LOCATION

⊕ - SECOND FLOOR SAMPLE LOCATION



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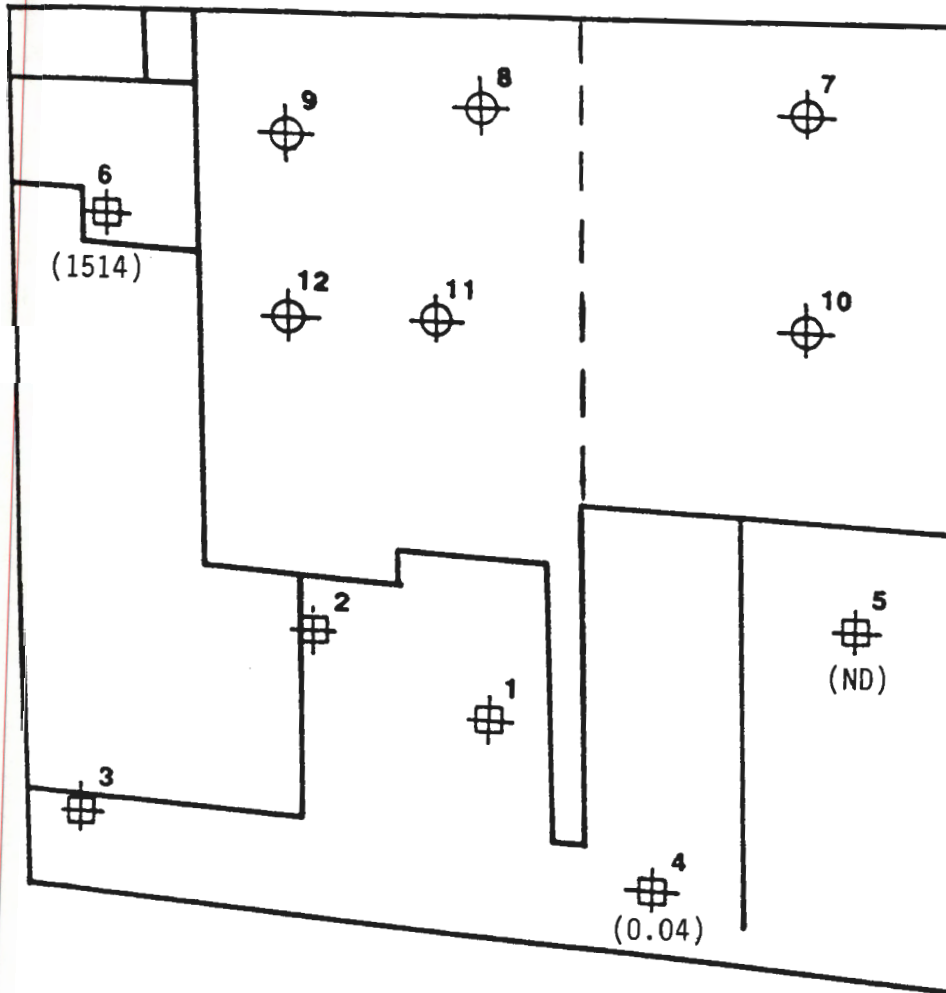
TOTAL VOLATILES

FIGURE 3



SOIL SAMPLE ELEVATIONS 519 FT. - 522 FT. ABOVE MSL

* ELEVATION OF FIRST FLOOR ASSUMED TO BE 530 FT. ABOVE MSL



ND - NONE DETECTED

() - TOTAL VOLATILES CONCENTRATION (MG/KG) EPA 8021 BY GCMS

⊗ - FIRST FLOOR SAMPLE LOCATION

⊠ - SECOND FLOOR SAMPLE LOCATION



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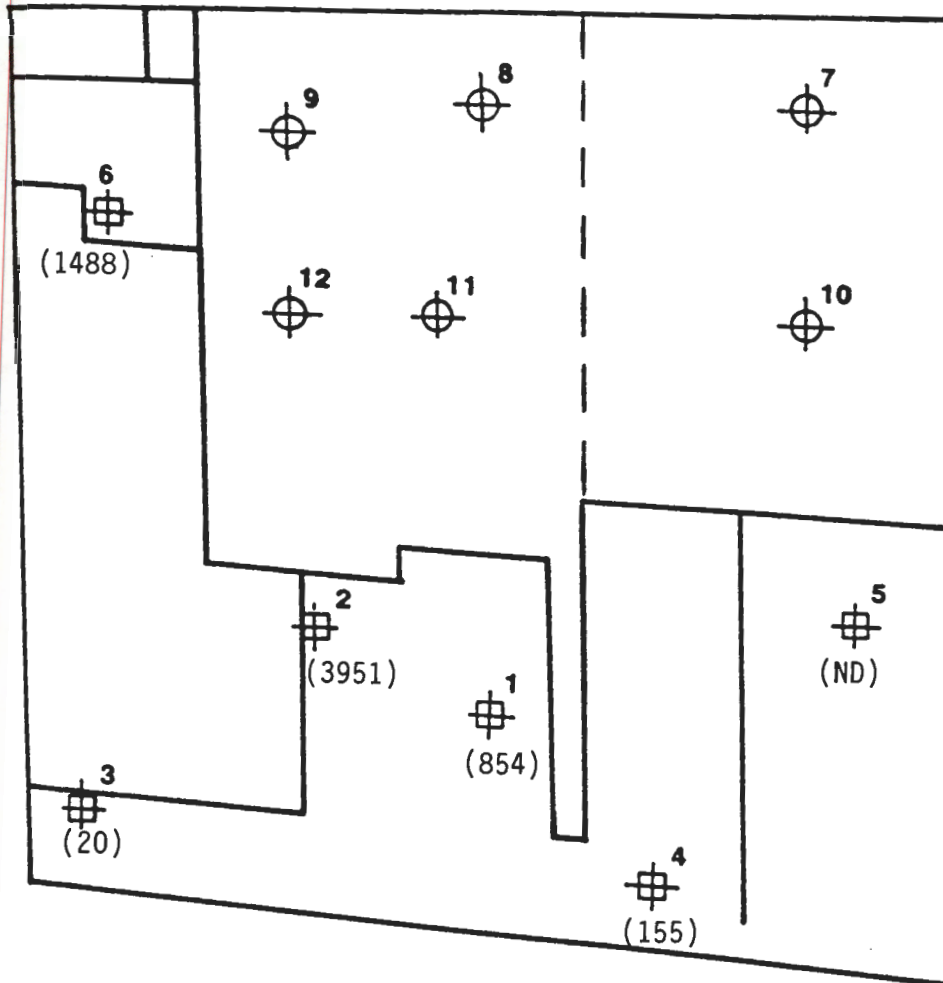
TOTAL VOLATILES

FIGURE 4



SOIL SAMPLE ELEVATIONS 517 FT. - 519 FT. ABOVE MSL

* ELEVATION OF FIRST FLOOR ASSUMED TO BE 530 FT. ABOVE MSL



ND - NONE DETECTED

() - TOTAL VOLATILES CONCENTRATION (MG/KG) EPA 8021 BY GCMS

⊕ - FIRST FLOOR SAMPLE LOCATION

⊞ - SECOND FLOOR SAMPLE LOCATION



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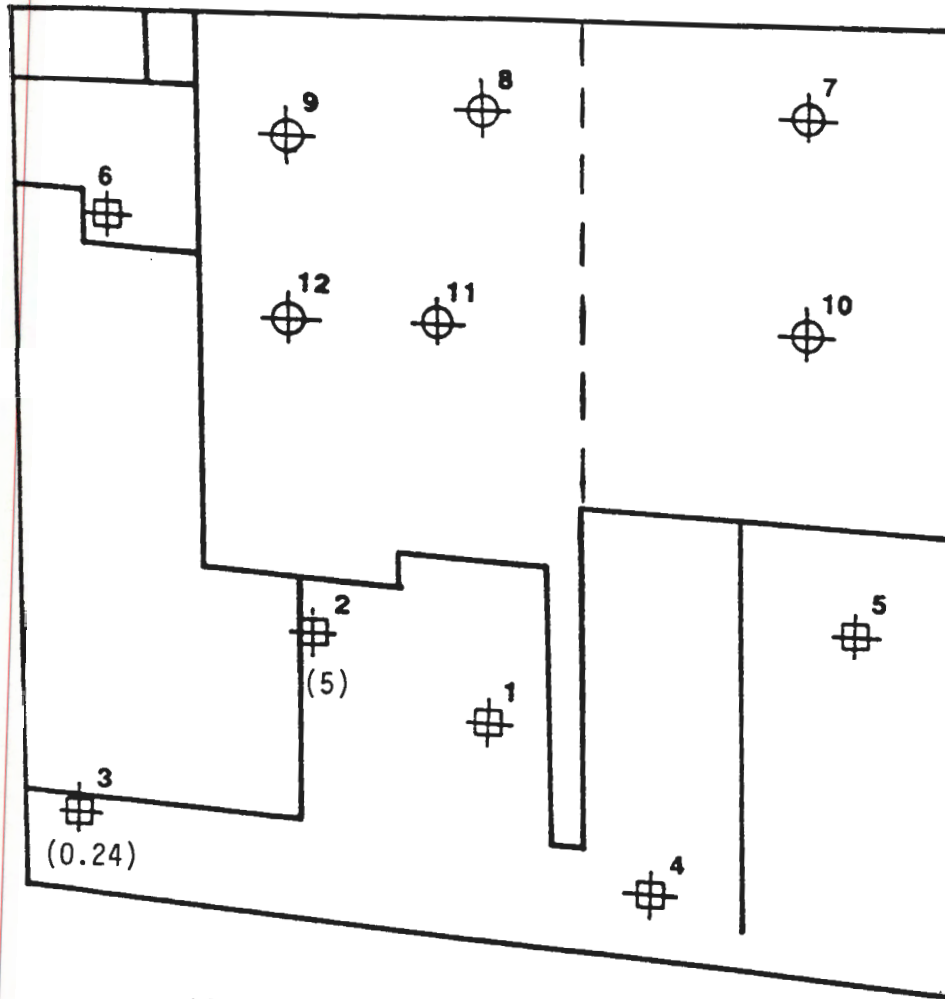
TOTAL VOLATILES

FIGURE 5



SOIL SAMPLE ELEVATIONS 515 FT. - 517 FT. ABOVE MSL

* ELEVATION OF FIRST FLOOR ASSUMED TO BE 530 FT. ABOVE MSL



ND - NONE DETECTED

() - TOTAL VOLATILES CONCENTRATION (MG/KG) EPA 8021 BY GCMS

⊕ - FIRST FLOOR SAMPLE LOCATION

⊞ - SECOND FLOOR SAMPLE LOCATION



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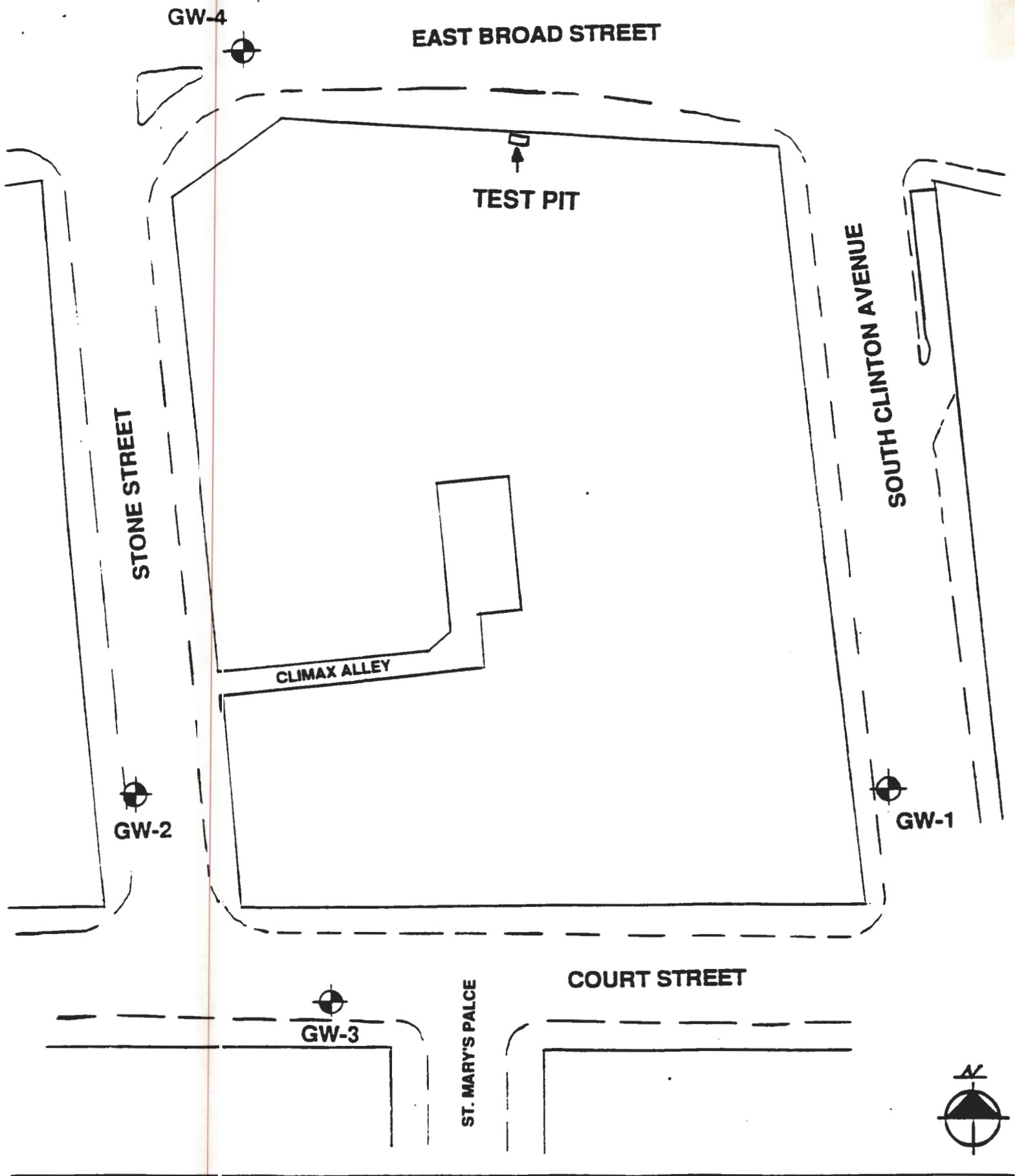
SPEEDY CLEANERS INC

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TOTAL VOLATILES

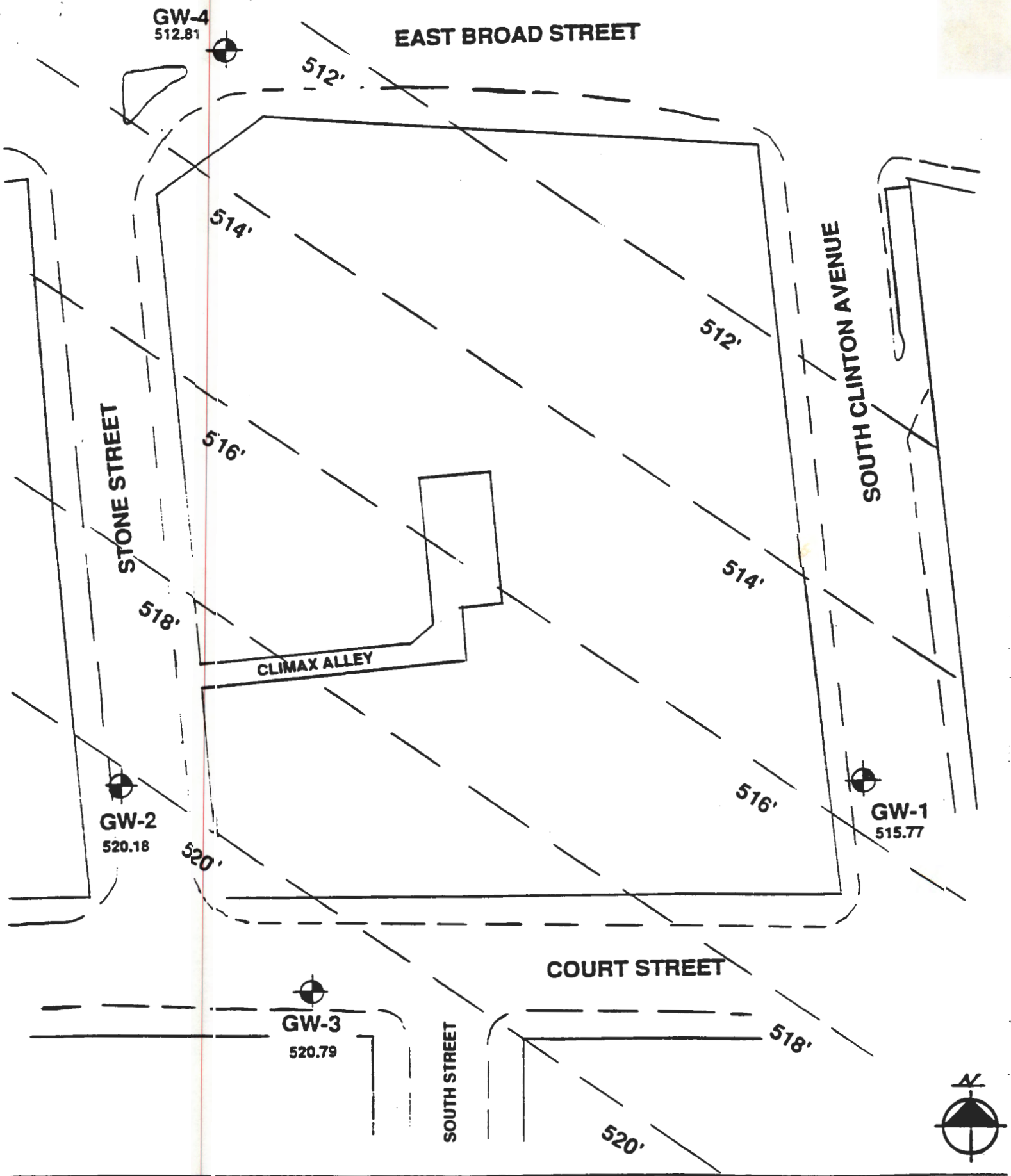
FIGURE 6

Appendix A



APPROXIMATE SCALE 1" = 60'

FIGURE 3
MONITORING WELL AND TEST PIT LOCATIONS



APPROXIMATE SCALE 1" = 60'

FIGURE 4
GROUNDWATER ELEVATION MAP
 APRIL 7, 1992

CONTRACTOR	NOTHNAGLE DRILLING INC.	BORING LOCATION	Clinton Avenue
DRILLER	Neil Short	GROUND SURFACE ELEVATION	DATUM
LABELLA REPRESENTATIVE	Larry Teta	START DATE	2/1/92
		END DATE	2/2/92

TYPE OF DRILL RIG	CME-55
AUGER SIZE AND TYPE	4 - 1/4 inch I.D. HSA
OVERBURDEN SAMPLING METHOD	1-3/8 inch I.D. Split spoon
ROCK DRILLING METHOD	NA

WATER LEVEL DATA				
DATE	TIME	WATER	CASING	REMARKS

D E P T H	SAMPLE					SAMPLE DESCRIPTION	EQUIPMENT			N O T E S
	BLOW NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (INCHES)	INSTALLATION					
					LOG		MOISTURE	HNU		
1					Asphalt					
2										
3										
4										
5										
6	10	S-1	5-7	31	18	Dense, Brown-yellow fine SAND, trace Silt		dry	BG	
7	16									
8	15									
9	30									
10										
11	14	S-2	10-12	100/6	20	Very dense brown fine SAND, trace Silt, trace Gravel		moist	BG	
12	33									
13	100/6									
14										
15										
16	32	S-3	15-17	100/5	11	Very dense gray SAND, some Silt, trace Gravel		moist	BG	
17	100/5									

LEGEND S - SPLIT SPOON SOIL SAMPLE U - UNDISTURBED SOIL SAMPLE C - ROCK CORE SAMPLE	NOTES:
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GENERAL NOTES:

- STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL
- WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

LABELLA ASSOCIATES, P.C.
300 STATE STREET ROCHESTER, NEW YORK

PROJECT
CITY OF ROCHESTER
STONE/COURT/CLINTON/BROAD

BORING # GW-1
SHEET 2 of 2
JOB # 92128
CHKD. BY

ENVIRONMENTAL ENGINEERING CONSULTANTS

DEPTH	SAMPLE					SAMPLE DESCRIPTION	EQUIPMENT	INSTALLATION	NOTES
	BLOW NO.	DEPTH	N-VALUE	RECOVERY					
	/6"	(FT.)	/ROD(%)	(INCHES)	LOG				
17								moisture	HNU
18									
19									
20									
21	27	S-4	20-22	100/4	10	Very dense gray SAND, some Silt, trace Gravel		moist to wet	BG
22	100/4							2 inch I.D. No. 10 slot PVC screen (11.1 - 31.1 feet)	
23									
24								No. 3 OROK Sand pack (8.0 - 31.1 feet)	
25	100/5	S-5	25-27	100/5	5			moist	BG
26									
27									
28									
29									
30									
31	37	S-6	30-32	100/3	5			moist	BG
32	100/3					Bedrock at 30' 6" (Lockport Dolomite)			
33									
34									
35									
36									

LEGEND

S - SPLIT SPOON SOIL SAMPLE
U - UNDISTURBED SOIL SAMPLE
C - ROCK CORE SAMPLE

NOTES:

GENERAL NOTES:

- 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL
- 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

LABELLA ASSOCIATES, P.C. 300 STATE STREET, ROCHESTER, NEW YORK	PROJECT CITY OF ROCHESTER STONE/COURT/CLINTON/BROAD	BORING # GW-2 SHEET 1 OF 2 JOB # 92128 CHKD. BY DP
ENVIRONMENTAL ENGINEERING CONSULTANTS		

CONTRACTOR DRILLER LABELLA REPRESENTATIVE	NOTHNAGLE DRILLING INC. Neil Short Larry Teta	BORING LOCATION Stone Street GROUND SURFACE ELEVATION DATUM START DATE 2/1/92 END DATE 2/1/92	
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TYPE OF DRILL RIG CME-55 AUGER SIZE AND TYPE 4-1/4 inch I.D. HSA OVERBURDEN SAMPLING METHOD 1-3/8 inch I.D. Split spoon ROCK DRILLING METHOD NA	WATER LEVEL DATA <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>DATE</th> <th>TIME</th> <th>WATER</th> <th>CASING</th> <th>REMARKS</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	DATE	TIME	WATER	CASING	REMARKS															
DATE	TIME	WATER	CASING	REMARKS																	

D E P T H	SAMPLE				SAMPLE DESCRIPTION	EQUIPMENT			N O T E S
	BLOW NO. / 6"	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (INCHES)		INSTALLATION			
						LOG	MOISTURE	HNU	
1					Asphalt				
2									
3									
4									
5									
6	2	S-1	5-7	4	4	Very loose Brown SAND, little Gravel Bricks (FILL)	dry		BG
7	2								
8	4								
9									
10									
11	40								
11	100/2	S-2	10-12	100/2	16	Very dense brown SAND, trace Gravel	dry		15 ppm 1
12									
13									
14									
15									
15	26	S-3	15-17	100/4	20	Very dense gray SAND and SILT	dry		3 ppm
16	100/4								

LEGEND S - SPLIT SPOON SOIL SAMPLE U - UNDISTURBED SOIL SAMPLE C - ROCK CORE SAMPLE	NOTES: 1. Soil sample taken for laboratory analysis
---	---

GENERAL NOTES:

- STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL
- WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

LABELLA ASSOCIATES, P.C.
 300 STATE STREET ROCHESTER, NEW YORK

PROJECT
 CITY OF ROCHESTER
 STONE/COURT/CLINTON/BROAD

BORING # GW-2
 SHEET 2 OF 2
 JOB # 92128
 CHKD. BY

ENVIRONMENTAL ENGINEERING CONSULTANTS

DEPTH	SAMPLE					SAMPLE DESCRIPTION	EQUIPMENT		NOTES
	BLOW NO. / 6"	DEPTH (FT.)	N-VALUE /FIQD(%)	RECOVERY (INCHES)	INSTALLATION				
					LOG		moisture	pH	
17									
18									
19									
20									
21	36	S-4	20-22	100/2	5	... trace Gravel		moist	BG
22									
23									
24									
25									
26	61	S-5	25-27	100/4	7			wet	BG
27						Bedrock at 26.4 feet Lockport Dolomite			
28									
29									
30									
31									
32									
33									
34									
35									
36									

LEGEND
 S - SPLIT SPOON SOIL SAMPLE
 U - UNDISTURBED SOIL SAMPLE
 C - ROCK CORE SAMPLE

NOTES:

GENERAL NOTES:

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LABELLA ASSOCIATES, P.C.
 300 STATE STREET, ROCHESTER, NEW YORK
 ENVIRONMENTAL ENGINEERING CONSULTANTS

PROJECT
 CITY OF ROCHESTER
 STONE/COURT/CLINTON/BROAD

BORING # GW-3
 SHEET 1 OF 2
 JOB # 92128
 CHKD. BY DP

CONTRACTOR NOTHNAGLE DRILLING INC. BORING LOCATION Court Street
 DRILLER Steve Laranty GROUND SURFACE ELEVATION DATUM
 LABELLA REPRESENTATIVE Dennis Peck START DATE 3/28/92 END DATE 3/28/92

TYPE OF DRILL RIG		CME-75		WATER LEVEL DATA				
AUGER SIZE AND TYPE		4 - 1/4 inch I.D. HSA		DATE	TIME	WATER	CASING	REMARKS
OVERBURDEN SAMPLING METHOD		1-3/8 inch I.D. Split spoon						
ROCK DRILLING METHOD		NA						

DEPTH FEET	SAMPLE					SAMPLE DESCRIPTION	EQUIPMENT INSTALLATION LOG	HNU	NOTES
	BLOW NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (INCHES)					
	H / 6"								
1						Asphalt			
	31	S-1	1-3	27	21	Gray SAND and GRAVEL (road base)			8 inch I.D. protective steel casing (flush mount)
2	17								
	10					Medium dense brown SAND, trace Gravel			2 inch I.D. schedule 10 PVC riser (0.0 - 9.0 feet)
3	7					trace Silt, dry			
	6	S-2	3-5	9	14	Loose Brown SAND, homogeneous, dry			BG
4	5								
	5								Native soil fill (1.0 - 6.0 feet)
5	4								
	2	S-3	5-7	2	20	... Very loose			BG
6	1								
	1								Bentonite Pellet Seal (5.0 - 7.0 feet)
7	2								
	7	S-4	7-9	34	20	... Medium Dense, wet at 8 feet			BG
8	16								
	18								
9	18								
	14	S-5	9-11	30	22				
10	13								BG
	17								
11	22								
	10	S-6	11-13	70	24				BG
12	20								
	50					Very dense gray fine SAND, trace Silt moist			2 inch I.D. No. 10 slot PVC screen (9.0 - 29.0 feet)
13	80								
	10	S-7	13-15	96	24	... trace fine Gravel			BG
14	40								
	56								No. 3 QROK Sand pack (7.0 - 29.0 feet)
15	72								
	12	S-8	15-17	98	24	... some Gravel, stratified			BG
16	42								
	56								
17	66								

LEGEND
 S - SPLIT SPOON SOIL SAMPLE
 U - UNDISTURBED SOIL SAMPLE
 C - ROCK CORE SAMPLE

NOTES:

GENERAL NOTES:
 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

LABELLA ASSOCIATES, P.C.
300 STATE STREET ROCHESTER, NEW YORK

PROJECT
CITY OF ROCHESTER
STONE/COURT/CLINTON/BROAD

BORING # GW-3
SHEET 2 of 2
JOB # 92128
CHKD. BY

ENVIRONMENTAL ENGINEERING CONSULTANTS

D E P T H	SAMPLE					SAMPLE DESCRIPTION	EQUIPMENT		N O T E S	
	BLOW NO.	DEPTH (FT.)	N-VALUE /ROD(%)	RECOVERY (INCHES)	INSTALLATION		LOG	moisture		HNU
18						Very dense gray fine SAND, trace Silt trace Gravel, moist				
19										
20										
20	20	S-9	20-22	112	22	... wet			BG	
21	50									
21	62					Gray SILT and SAND, dry				
22	88					Gray medium to coarse SAND some Gravel, wet				
23										
24										
25										
25	25	S-10	25-27	100/4	12	Gray fine SAND, little Gravel, moist			BG	
26	92									
26	100/4									
27										
28										
29										
30						Bedrock at 28'11" (Lockport Dolomite)				
31										
32										
33										
34										
35										
36										
37										

LEGEND
S - SPLIT SPOON SOIL SAMPLE
U - UNDISTURBED SOIL SAMPLE
C - ROCK CORE SAMPLE

NOTES:

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LABELLA ASSOCIATES, P.C.
300 STATE STREET, ROCHESTER, NEW YORK

PROJECT
CITY OF ROCHESTER
STONE/COURT/CLINTON/BROAD

BORING # GW-4
SHEET 1 OF 2
JOB # 92128
CHKD. BY DP

ENVIRONMENTAL ENGINEERING CONSULTANTS

CONTRACTOR NOTHNAGLE DRILLING INC. BORING LOCATION Broad Street
DRILLER Steve Laranty GROUND SURFACE ELEVATION DATUM
LABELLA REPRESENTATIVE Dennis Peck START DATE 3/28/92 END DATE 3/28/92

		WATER LEVEL DATA				
TYPE OF DRILL RIG	CME-75	DATE	TIME	WATER	CASING	REMARKS
AUGER SIZE AND TYPE	4 - 1/4 inch I.D. HSA					
OVERBURDEN SAMPLING METHOD	1-3/8 inch I.D. Split spoon					
ROCK DRILLING METHOD	NA					

DEPTH H	SAMPLE					SAMPLE DESCRIPTION	EQUIPMENT INSTALLATION LOG	REMARKS	HNU	NOTES	
	BLOW NO.	DEPTH (FT.)	N-VALUE /ROD(%)	RECOVERY (INCHES)							
	/ 6"										
1						Asphalt, road base					
2	10	S-1	1-3	30	14	Medium dense, Brown-Gray SAND and coarse GRAVEL, (fill?) dry	8 inch I.D. protective steel casing (flush mount)				
3	18										
4	10					... loose	2 inch I.D. schedule 10 PVC riser (0.0 - 17.0 feet)				
5											
6	2	S-2	5-7	6	12						
7	3					Native soil fill (1.0 - 17.0 feet)					
8	3										
9	2										
10	5	S-3	9-11	6	20						
11	3										
12	3										
13	3										
14											
15	10	S-4	14-16	58	24	Very dense Gray-brown fine-medium SAND trace Gravel, wet at 14.5'	Bentonite Pellet Seal (13.0 - 15.0 feet)				
16	20										
17	38						No. 3 OROK Sand pack (15.0 - 27.0 feet)				
18	55										

LEGEND
S - SPLIT SPOON SOIL SAMPLE
U - UNDISTURBED SOIL SAMPLE
C - ROCK CORE SAMPLE

NOTES:

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LABELLA ASSOCIATES, P.C.
300 STATE STREET ROCHESTER, NEW YORK

PROJECT
CITY OF ROCHESTER
STONE/COURT/CLINTON/BROAD

BORING # GW-4
SHEET 2 of 2
JOB # 92128
CHKD. BY

ENVIRONMENTAL ENGINEERING CONSULTANTS

DEPTH	SAMPLE					SAMPLE DESCRIPTION	EQUIPMENT INSTALLATION LOG	HNU	NOTES
	BLOW NO. / 6"	DEPTH (FT.)	IN-VALUE /RQD(%)	RECOVERY (INCHES)					
18						Very dense Gray-brown fine-medium SAND trace Gravel, wet			
19									
20	15	S-5	20-22	77	22				BG
21	35								
	42								
22	48								2 inch I.D. No. 10 slot PVC screen (17.0 - 27.0 feet)
23									
24									
	22	S-6	24-26	107	20	moist			No. 3 OROK Sand pack (15.0 - 27.0 feet) BG
25	52								
	55								
26	100/5								
27									
28						Bedrock at 27 feet (Lockport Dolomite)			
29									
30									
31									
32									
33									
34									
35									
36									
37									

LEGEND

S - SPLIT SPOON SOIL SAMPLE
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Appendix B

Table B-1
 Speedy Cleaners Inc.
 Soil Sample Analysis
 Volatile Organics
 EPA 8021 by GCMS
 January 1994

EPA 8021 Volatiles and MTBE																					
Soil Boring	S-1	S-2	S-2	S-3	S-3	S-4	S-4	S-5	S-5	S-6	S-6	S-7	S-7	S-8	S-9	S-9	S-10	S-10	S-11	S-12	S-12
Depth (ft.) BFG	1.2-2.8	0.9-2.8	0.3-3.6	1.6-2.8	3.0-3.9	0.7-2.8	4.8-5.8	0.7-2.8	3.0-4.1	1.0-2.8	3.5-4.8	0.9-2.8	3.0-4.3	3.0-5.8	2.0-4.0	4.0-5.8	0.7-2.8	4.5-5.8	4.5-5.8	2.0-4.0	6.0-7.2
EthylBenzene		12																			
Toluene		<5													0.0066						
Bromochloromethane															<0.005						
n-Butylbenzene	31	56	0.067																	34	
sec-Butylbenzene	<5	<5	0.038																	<5	
tert-Butylbenzene			<0.005																	26	
Cumene(Isopropylbenzene)	7.8	19	0.012								5.8									9.0	
Cymene(4-Isopropyltoluene)	22	44	0.076							9.5	12									30	
Naphthalene	8.0	6.9	0.046							<5	<5									5.4	
n-Propylbenzene	25	55	0.041							12	17									21	
Styrene	<5	<5	<0.005							<5	<5									<5	
1,2,4-Trimethylbenzene	270	500	0.62	15		0.017				120	140									220	
1,3,5-Trimethylbenzene	82	150	0.16	<5		<0.005				43	45									100	
o-Xylene	16	40	0.026							5.3	11									16	
m-Xylene	21*	49*	0.025*							5.4*	12*									20*	
p-Xylene	*	*	*							*	*									*	

All concentrations are in mg/kg, or parts per million
 BFG = Below Floor Grade
 * = m-Xylene and p-Xylene coelute

Table B-2
 Speedy Cleaners Inc.
 Soil Sample Analysis
 Tentatively Identified Volatile Organic Compounds by GCMS
 January 1994

Soil Boring	S-1	S-2	S-2	S-3	S-3	S-4	S-4	S-5	S-5	S-6	S-6	S-7	S-7	S-8	S-9	S-9	S-10	S-10	S-11	S-12	S-12
Depth (ft.) BFG	1.2-2.8	0.9-2.8	3.0-3.6	1.6-2.8	3.0-3.9	0.7-2.8	4.8-5.8	0.7-2.8	3.0-4.1	1.0-2.8	3.5-4.8	0.9-2.8	3.0-4.3	3.0-5.8	2.0-4.0	4.0-5.8	0.7-2.8	4.5-5.8	4.5-5.8	2.0-4.0	6.0-7.2
Nonane	50	510	0.49	1.1	0.012	0.019	-	-	-	250	260	-	-	-	-	-	-	-	190	-	-
Unknown Cyclohexane Isomer	15	110	0.13	0.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3,6-Dimethyloctane	25	120	-	-	0.011	-	-	-	-	110	-	-	-	-	-	-	-	-	-	-	-
2,3-Dimethylcyclohexanone	43	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	170	-	-
Decane	17	-	-	-	0.11	-	-	-	-	-	-	-	27	-	-	-	-	.043	-	-	-
3-Methylnonane	37	290	0.53	-	-	-	-	-	-	75	220	-	-	-	-	-	-	-	-	-	-
1-Ethyl-2-methylbenzene	16	230	0.43	0.37	-	-	-	-	-	130	70	-	-	-	-	-	-	-	110	-	-
4-Methyloctane	24	170	0.10	-	0.025	-	26.0	-	-	-	81	-	-	-	-	-	-	-	120	-	-
1-Methyl-2-propylbenzene	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butylcyclohexane	21	-	-	-	-	-	25.0	-	-	99	94	-	-	-	-	-	-	-	-	-	-
1,2,3-Trimethylbenzene	21	160	0.59	-	-	-	-	-	-	120	110	-	-	-	-	-	-	-	-	-	-
3-Methyldecane	8.2	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Methyl-3-propylbenzene	12	96	0.28	0.33	-	-	-	-	-	41	39	-	-	-	-	-	-	-	-	-	-
1-Ethyl-2,4-dimethylbenzene	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Undecane	36	270	0.25	0.78	0.029	-	-	-	-	87	98	-	-	-	-	-	-	.015	190	-	-
1-Methyl-3-(1-methylethyl)benzene	9.9	-	-	-	-	-	-	-	-	22	30	-	-	-	-	-	-	-	-	-	-
1,2,4,5-Tetramethylbenzene	5.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methyloctane	-	50	-	0.16	-	-	-	-	-	-	26	-	-	-	-	-	-	-	45	-	-
2,6-Dimethyloctane	-	210	-	0.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140	-	-
1-Ethyl-2-methylbenzene Isomer	-	130	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown	-	65	-	-	0.011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(2-Methylpropyl)cyclohexane	-	110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-2 (Cont'd)
 Speedy Cleaners Inc.
 Soil Sample Analysis
 Tentatively Identified Volatile Organic Compounds by GCMS
 January 1994

Soil Boring	S-1	S-2	S-2	S-3	S-3	S-4	S-4	S-5	S-5	S-6	S-6	S-7	S-7	S-8	S-9	S-9	S-10	S-10	S-11	S-12	S-12
Depth (ft.) BFG	1.2-2.8	0.9-2.8	3.0-3.6	1.6-2.8	3.0-3.9	0.7-2.8	4.8-5.8	0.7-2.8	3.0-4.1	1.0-2.8	3.5-4.8	0.9-2.8	3.0-4.3	3.0-5.8	2.0-4.0	4.0-5.8	0.7-2.8	4.5-5.8	4.5-5.8	2.0-4.0	6.0-7.2
1-Methyl-4-(1-methylethyl)benzene	-	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown Cyclohexanone Isomer	-	-	0.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Methyl-2-(1-methylethyl)benzene	-	-	0.25	0.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	540	-	-
2-Ethyl-1,3-dimethylbenzene	-	-	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3,4-Tetramethylbenzene	-	-	0.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Propylcyclopentane	-	-	-	0.02	-	-	15.0	-	-	170	-	-	-	-	-	-	-	-	-	-	-
3-Methyloctane	-	-	-	0.10	-	-	9.3	-	-	25	25	-	-	-	-	-	-	-	25	-	-
4-Ethyl-1,2-dimethylbenzene	-	-	-	0.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Ethyl-1,2-dimethylbenzene	-	-	-	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(2-Methyl-1-propenyl)-Benzene	-	-	-	0.053	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3,5-Tetramethylbenzene	-	-	-	0.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Ethyl-1,4-dimethylbenzene	-	-	-	0.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3,4-Tetrahydronaphthalene	-	-	-	0.036	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown Alkane	-	-	-	-	0.041	-	30.3	-	-	88	-	-	-	-	-	-	-	-	21	-	-
1,2,4-Trimethylbenzene	-	-	-	-	-	.0017	-	-	-	120	140	-	-	-	-	-	-	-	220	-	-
1,1-Dimethylcyclohexane	-	-	-	-	-	-	5.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,5-Dimethyloctane	-	-	-	-	-	-	5.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Ethyl-octane	-	-	-	-	-	-	8.9	-	-	58	-	-	-	-	-	-	-	-	-	-	-
2-Ethyl-1-decanol	-	-	-	-	-	-	8.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Tert-butyl-3-(1-methyl)-2-aziridinone	-	-	-	-	-	-	5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6-Methyl-4-decene	-	-	-	-	-	-	5.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-2 (Cont'd)
 Speedy Cleaners Inc.
 Soil Sample Analysis
 Tentatively Identified Volatile Organic Compounds by GCMS
 January 1994

Soil Boring	S-1	S-2	S-2	S-3	S-3	S-4	S-4	S-5	S-5	S-6	S-6	S-7	S-7	S-8	S-9	S-9	S-10	S-10	S-11	S-12	S-12
Depth (ft.) BFG	1.2-2.8	0.9-2.8	3.0-3.6	1.6-2.8	3.0-3.9	0.7-2.8	4.8-5.8	0.7-2.8	3.0-4.1	1.0-2.8	3.5-4.8	0.9-2.8	3.0-4.3	3.0-5.8	2.0-4.0	4.0-5.8	0.7-2.8	4.5-5.8	4.5-5.8	2.0-4.0	6.0-7.2
2,6-Dimethyl-2-octene	-	-	-	-	-	-	9.8	-	-	-	-	-	-	-	-	-	-	-	96	-	-
2,4-Dimethylheptane	-	-	-	-	-	-	-	-	-	44	-	-	-	-	-	-	-	-	-	-	-
Cymene(4-Isopropyltoluene)	-	-	-	-	-	-	-	-	-	9.5	12	-	-	-	-	-	-	-	30	-	-
N-propylbenzene	-	-	-	-	-	-	-	-	-	12	17	-	-	-	-	-	-	-	21	-	-
1,3,5-Trimethylbenzene	-	-	-	-	-	-	-	-	-	43	45	-	-	-	-	-	-	-	100	-	-
O-xylene	-	-	-	-	-	-	-	-	-	5.3	11	-	-	-	-	-	-	-	16	-	-
M-xylene	-	-	-	-	-	-	-	-	-	5.4	12*	-	-	-	-	-	-	-	-	-	-
1-Ethyl-4-methylcyclohexane	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-	150	-	-
Propylcyclohexane	-	-	-	-	-	-	-	-	-	-	140	-	-	-	-	-	-	-	-	-	-
Cumene(Isopropylbenzene)	-	-	-	-	-	-	-	-	-	-	5.8	-	-	-	-	-	-	-	9.0	-	-
Toluene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.006	-	-	-	-	-	-
Acetone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.027	.016	-	-	-	-	-
2-Ethyl-3-methyl-1-butane	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.001	-	-	-
2-Ethyl-1-hexanol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	.37
Cyclo Octane	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-
Ethylcyclohexane	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-
(1-Methylpropyl)benzene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	-	-
1-Ethyl-3,5-dimethylbenzene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	-	-
Naphthalene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4	-	-

Notes:
 BFG = Below Floor Grade
 All concentrations are in mg/kg, or parts per million.

Table B-1
 Speedy Cleaners Inc.
 Soil Sample Analysis
 Volatile Organics
 EPA 8021 by GCMS
 January 1994

EPA 8021 Volatiles and MTBE																					
Soil Boring	S-1	S-2	S-2	S-3	S-3	S-4	S-4	S-5	S-5	S-6	S-6	S-7	S-7	S-8	S-9	S-9	S-10	S-10	S-11	S-12	S-12
Depth (ft.) BFG	1.2-2.8	0.9-2.8	0.3-3.6	1.6-2.8	3.0-3.9	0.7-2.8	4.8-5.8	0.7-2.8	3.0-4.1	1.0-2.8	3.5-4.8	0.9-2.8	3.0-4.3	3.0-5.8	2.0-4.0	4.0-5.8	0.7-2.8	4.5-5.8	4.5-5.8	2.0-4.0	6.0-7.2
EthylBenzene		12																			
Toluene		<5													0.0066						
Bromochloromethane															<0.005						
n-Butylbenzene	31	56	0.067																34		
sec-Butylbenzene	<5	<5	0.038																<5		
tert-Butylbenzene			<0.005																26		
Cumene(Isopropylbenzene)	7.8	19	0.012								5.8								9.0		
Cymene(4-Isopropyltoluene)	22	44	0.076							9.5	12								30		
Naphthalene	8.0	6.9	0.046							<5	<5								5.4		
n-Propylbenzene	25	55	0.041							12	17								21		
Styrene	<5	<5	<0.005							<5	<5								<5		
1,2,4-Trimethylbenzene	270	500	0.62	15		0.017				120	140								220		
1,3,5-Trimethylbenzene	82	150	0.16	<5		<0.005				43	45								100		
o-Xylene	16	40	0.026							5.3	11								16		
m-Xylene	21*	49*	0.025*							5.4*	12*								20*		
p-Xylene	*	*	*							*	*								*		

All concentrations are in mg/kg, or parts per million
 BFG = Below Floor Grade
 * = m-Xylene and p-Xylene coelute

Table B-2
Speedy Cleaners Inc.
Soil Sample Analysis
Tentatively Identified Volatile Organic Compounds by GCMS
January 1994

Soil Boring	S-1	S-2	S-2	S-3	S-3	S-4	S-4	S-5	S-5	S-6	S-6	S-7	S-7	S-8	S-9	S-9	S-10	S-10	S-11	S-12	S-12
Depth (ft.) BFG	1.2-2.8	0.9-2.8	3.0-3.6	1.6-2.8	3.0-3.9	0.7-2.8	4.8-5.8	0.7-2.8	3.0-4.1	1.0-2.8	3.5-4.8	0.9-2.8	3.0-4.3	3.0-5.8	2.0-4.0	4.0-5.8	0.7-2.8	4.5-5.8	4.5-5.8	2.0-4.0	6.0-7.2
Nonane	50	510	0.49	1.1	0.012	0.019	-	-	-	250	260	-	-	-	-	-	-	-	190	-	-
Unknown Cyclohexane Isomer	15	110	0.13	0.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3,6-Dimethyloctane	25	120	-	-	0.011	-	-	-	-	110	-	-	-	-	-	-	-	-	-	-	-
2,3-Dimethylcyclohexanone	43	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	170	-	-
Decane	17	-	-	-	0.11	-	-	-	-	-	-	-	27	-	-	-	-	.043	-	-	-
3-Methylnonane	37	290	0.53	-	-	-	-	-	-	75	220	-	-	-	-	-	-	-	-	-	-
1-Ethyl-2-methylbenzene	16	230	0.43	0.37	-	-	-	-	-	130	70	-	-	-	-	-	-	-	110	-	-
4-Methyloctane	24	170	0.10	-	0.025	-	26.0	-	-	-	81	-	-	-	-	-	-	-	120	-	-
1-Methyl-2-propylbenzene	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butylcyclohexane	21	-	-	-	-	-	25.0	-	-	99	94	-	-	-	-	-	-	-	-	-	-
1,2,3-Trimethylbenzene	21	160	0.59	-	-	-	-	-	-	120	110	-	-	-	-	-	-	-	-	-	-
3-Methyldecane	8.2	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Methyl-3-propylbenzene	12	96	0.28	0.33	-	-	-	-	-	41	39	-	-	-	-	-	-	-	-	-	-
1-Ethyl-2,4-dimethylbenzene	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Undecane	36	270	0.25	0.78	0.029	-	-	-	-	87	98	-	-	-	-	-	-	.015	190	-	-
1-Methyl-3-(1-methylethyl)benzene	9.9	-	-	-	-	-	-	-	-	22	30	-	-	-	-	-	-	-	-	-	-
1,2,4,5-Tetramethylbenzene	5.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methyloctane	-	50	-	0.16	-	-	-	-	-	-	26	-	-	-	-	-	-	-	45	-	-
2,6-Dimethyloctane	-	210	-	0.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140	-	-
1-Ethyl-2-methylbenzene Isomer	-	130	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown	-	65	-	-	0.011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(2-Methylpropyl)cyclohexane	-	110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-2 (Cont'd)
 Speedy Cleaners Inc.
 Soil Sample Analysis
 Tentatively Identified Volatile Organic Compounds by GCMS
 January 1994

Soil Boring	S-1	S-2	S-2	S-3	S-3	S-4	S-4	S-5	S-5	S-6	S-6	S-7	S-7	S-8	S-9	S-9	S-10	S-10	S-11	S-12	S-12
Depth (ft.) BFG	1.2-2.8	0.9-2.8	3.0-3.6	1.6-2.8	3.0-3.9	0.7-2.8	4.8-5.8	0.7-2.8	3.0-4.1	1.0-2.8	3.5-4.8	0.9-2.8	3.0-4.3	3.0-5.8	2.0-4.0	4.0-5.8	0.7-2.8	4.5-5.8	4.5-5.8	2.0-4.0	6.0-7.2
1-Methyl-4-(1-methylethyl)benzene	-	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown Cyclohexanone Isomer	-	-	0.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Methyl-2-(1-methylethyl)benzene	-	-	0.25	0.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	540	-	-
2-Ethyl-1,3-dimethylbenzene	-	-	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3,4-Tetramethylbenzene	-	-	0.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Propylcyclopentane	-	-	-	0.02	-	-	15.0	-	-	170	-	-	-	-	-	-	-	-	-	-	-
3-Methyloctane	-	-	-	0.10	-	-	9.3	-	-	25	25	-	-	-	-	-	-	-	25	-	-
4-Ethyl-1,2-dimethylbenzene	-	-	-	0.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Ethyl-1,2-dimethylbenzene	-	-	-	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(2-Methyl-1-propenyl)-Benzene	-	-	-	0.053	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3,5-Tetramethylbenzene	-	-	-	0.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Ethyl-1,4-dimethylbenzene	-	-	-	0.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3,4-Tetrahydronaphthalene	-	-	-	0.036	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown Alkane	-	-	-	-	0.041	-	30.3	-	-	88	-	-	-	-	-	-	-	-	21	-	-
1,2,4-Trimethylbenzene	-	-	-	-	-	.0017	-	-	-	120	140	-	-	-	-	-	-	-	220	-	-
1,1-Dimethylcyclohexane	-	-	-	-	-	-	5.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,5-Dimethyloctane	-	-	-	-	-	-	5.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Ethyl-octane	-	-	-	-	-	-	8.9	-	-	58	-	-	-	-	-	-	-	-	-	-	-
2-Ethyl-1-decanol	-	-	-	-	-	-	8.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Tert-butyl-3-(1-methyl)-2-aziridinone	-	-	-	-	-	-	5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6-Methyl-4-decene	-	-	-	-	-	-	5.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B-2 (Cont'd)
 Speedy Cleaners Inc.
 Soil Sample Analysis
 Tentatively Identified Volatile Organic Compounds by GCMS
 January 1994

Soil Boring	S-1	S-2	S-2	S-3	S-3	S-4	S-4	S-5	S-5	S-6	S-6	S-7	S-7	S-8	S-9	S-9	S-10	S-10	S-11	S-12	S-12
Depth (ft.) BFG	1.2-2.8	0.9-2.8	3.0-3.6	1.6-2.8	3.0-3.9	0.7-2.8	4.8-5.8	0.7-2.8	3.0-4.1	1.0-2.8	3.5-4.8	0.9-2.8	3.0-4.3	3.0-5.8	2.0-4.0	4.0-5.8	0.7-2.8	4.5-5.8	4.5-5.8	2.0-4.0	6.0-7.2
2,6-Dimethyl-2-octene	-	-	-	-	-	-	9.8	-	-	-	-	-	-	-	-	-	-	-	96	-	-
2,4-Dimethylheptane	-	-	-	-	-	-	-	-	-	44	-	-	-	-	-	-	-	-	-	-	-
Cymene(4-Isopropyltoluene)	-	-	-	-	-	-	-	-	-	9.5	12	-	-	-	-	-	-	-	30	-	-
N-propylbenzene	-	-	-	-	-	-	-	-	-	12	17	-	-	-	-	-	-	-	21	-	-
1,3,5-Trimethylbenzene	-	-	-	-	-	-	-	-	-	43	45	-	-	-	-	-	-	-	100	-	-
O-xylene	-	-	-	-	-	-	-	-	-	5.3	11	-	-	-	-	-	-	-	16	-	-
M-xylene	-	-	-	-	-	-	-	-	-	5.4	12*	-	-	-	-	-	-	-	-	-	-
1-Ethyl-4-methylcyclohexane	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-	150	-	-
Propylcyclohexane	-	-	-	-	-	-	-	-	-	-	140	-	-	-	-	-	-	-	-	-	-
Cumene(Isopropylbenzene)	-	-	-	-	-	-	-	-	-	-	5.8	-	-	-	-	-	-	-	9.0	-	-
Toluene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.006	-	-	-	-	-	-
Acetone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.027	.016	-	-	-	-	-
2-Ethyl-3-methyl-1-butane	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.001	-	-	-
2-Ethyl-1-hexanol	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	.37
Cyclo Octane	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-
Ethylcyclohexane	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-
(1-Methylpropyl)benzene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	-	-
1-Ethyl-3,5-dimethylbenzene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	-	-
Naphthalene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4	-	-

Notes:
 BFG = Below Floor Grade
 All concentrations are in mg/kg, or parts per million.

Table B-3
Speedy Cleaners Inc.
Water Sample Analysis
Volatile Organics by 8021
January 1994

Sample	H ₂ O-1	H ₂ O-2
1,2,4-Trimethylbenzene	4.0	3.4
1,3,5-Trimethylbenzene	1.1	0.87
o-Xylene	0.81	5.9
m-Xylene	0.92*	6.6*
p-Xylene	*	*

All units are in mg/kg, or parts per million

* = m-Xylene and p-Xylene coelute

Table B-4
 Speedy Cleaners Inc.
 Water Sample Analysis
 Tentatively Identified Compounds by GCMS
 January 1994

Sample	H ₂ O-1	H ₂ O-2
Unknown	1.4	ND
1-Ethyl-4-Methylbenzene	3.1	ND
(1-Methylethyl)-Benzene	2.0	ND
2,6-Dimethylnonane	2.3	ND
2,2,3-Trimethylbutane	0.99	ND
(1-Methylpropyl)Cyclohexane	1.5	ND
2,4-Dimethylhexane	1.1	ND
1,2,3-Trimethylbenzene	3.9	ND
(1-Methylpropyl)Benzene	0.87	ND
Undecane	3.4	17
1-Ethyl-2,3-Dimethylbenzene	0.91	ND
Heptane	ND	5.7
Octane	ND	11
2,6-Dimethyloctane	ND	6.0
Unknown	ND	8.2
3-Methylnonane	ND	11
Unknown	ND	5.8
3,3,5-Trimethylheptane	ND	15
2-Heptanal	ND	6.2
Unknown	ND	6.8

All units are mg/kg, or parts per million

Appendix C