VOLUNTARY CLEANUP PROGRAM
REMEDIAL DESIGN WORK PLAN

for

SITE NO. V-00150-7

VOLUNTARY CLEANUP
AGREEMENT NO. A7-0466-0702

Prepared by:

PLUMLEY ENGINEERING

8232 Loop Road
Baldwinsville, New York 13027
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Project No. 2003074

February 2005

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1.0 INTRODUCTION

This report summarizes the implementation of the remedial excavation work and additional work proposed to address the contamination remaining on the property. The scope of the remedial excavation work was outlined in a letter report dated September 9, 2004, approved by the New York State Department of Environmental Conservation (DEC) on December 8, 2004. The Remedial Work Plan, dated February 2004, outlined the proposed investigation and remedial work for the project

In Summer 2004, the former dry cleaner building was demolished, its foundation removed, and the former disposal sump removed. A program of subsurface soil and groundwater investigation was begun by excavating 11 test pits and drilling 16 soil borings and was completed with the installation of six groundwater monitoring wells. Soil and groundwater samples were collected for analysis during this investigation. Results of the investigation were presented to the DEC in the September 9, 2004 letter report which also proposed a remedial excavation of soils directly beneath the former sump and set forth the post excavation activities required for the Site.

2.0 REMEDIAL EXCAVATION

The remedial excavation work was completed starting on January 10, 2004. On Day 1, Soils from beneath the former dry cleaner sump were excavated in accordance with the September 9, 2004 work plan. The former sump was marked in the field during the building demolition. In preparation for the soil excavation, a 40' by 40' area centered over the former sump was staked and an internal 30' by 30' area was staked. Soils from grade to four feet deep within a square area extending from the 30' by 30' area at 4' deep extending out to the 40' by 40' area at the surface were excavated and stockpiled to the south of the excavation on polyethylene sheeting. Each bucket of soil was screened with a photo-ionization detector (PID) and also for visual or olfactory signs of contamination. No field indicators of contamination were detected during this portion of the excavation

activities. As water initially flowed into the excavation from the northwest corner during this activity, the excavation was completed last in this corner. Three grab and one composite soil samples were collected form the clean soil pile prior to conclusion of site work on Day 1.

On Day 2, water that had collected overnight in the excavation was pumped into a temporary frac tank. The excavation of the interior 30' by 30' area was then completed. Soils excavated on Day 2 were placed on polyethylene sheeting in area south of the excavation. During this excavation strong solvent odors were evident once the interior excavation area had penetrated approximately three to four feet below grade. At the four to five foot depth dark soil staining was evident. A portion of the excavated soils from directly beneath the former sump were heavily stained, had a potent odor and PID readings, in one instance, that exceeded the instrument upper limit of 10,000 parts per million (ppm). PID readings in the soil removed generally ranged from 10 to 350 ppm. The work plan called for an excavation 30' by 30' at the surface to taper to 15' by 15' at a depth below grade of 15 feet. The excavation was continued until these approximate dimensions were achieved, but was continued until all visual soil staining was removed and olfactory odors declined. The final excavation was measured with dimensions of 19 feet by 16.5 feet to a depth of 15 feet below grade.

The backhoe bucket was used to collect post-excavation soil samples from each sidewall and from the excavation bottom. Samples were screened with the PID and all readings were zero ppm. Prior to collection of each post excavation soil sample, the excavation bucket was washed over the polyethylene sheeting containing the contaminated soil pile with a solution of Alconox soap and water to remove all visual soils and to clean the bucket surface. Once the excavator brought soil to an accessible location on the side of the excavation, the soil inside was separated to expose a fresh surface and a sample collected into a clean, labeled 6-ounce glass jar and sealed. All samples were placed into a cooler for transport to the analytical laboratory, accompanied by chain of custody documentation.

The excavation bottom was backfilled with eight buckets of clean No. 2 stone and a 6-inch diameter schedule 40 PVC remediation well installed in the hole. This well has 10 feet of slotted screen and a five-foot riser. A friction fit cap was placed on the well. The remainder of the excavation was backfilled with clean No. 2 stone from the bottom to approximately 5 feet below grade.

At the conclusion of each day's site excavation work, the excavation perimeter was secured with orange plastic fencing to prevent accidental entry to the excavation.

The clean soil pile samples and the post excavation soil samples were submitted to Severn Trent Analytical Laboratory for analysis of TCL and Stars volatile organic compounds (VOCs) by USEPA Method 8260. Severn Trent is a New York state certified analytical laboratory for the analyses performed. The results are attached in Appendix After consultation with the DEC, these soils were cleared for backfilling into the excavation.

On January 17, 2005 the excavation backfill was brought to grade. The backhoe operator first spread the No. 2 clean stone evenly through the excavation. The contractor then laid a geo-textile fabric over the stone and backfilled the remainder of the excavation to grade with the native soil. At the time of backfill, the native soil could not be adequately compacted due to water in the excavation. It was decided to allow the soil to naturally settle over time.

At a later date, one foot of clean crusher run gravel will be placed over the soil and compacted. The remediation well installed in the excavation will be cut to just below grade and a flush-mount curb box will be placed over the casing top.

2.1 Post Excavation Soil Sample Results

The results of sampling from the excavation sidewalls and bottom are presented in *Table 1* and *Appendix A*, and *Figure 1* shows the location of each sample. Prior to this

excavation, soil boring SB-7, located in the center of the former sump, contained 164 ppm of PCE. Post excavation soil sampling quantified PCE in the east and south excavation walls at 0.1 and 0.01 ppm, respectively. The north and west walls contained PCE at 4.0 and 4.4 ppm, respectively. The excavation bottom contained 21 ppm of PCE. The PCE degradation products of trichloroethylene, 1,2-Dichloroethylene, and vinyl chloride were also present at significantly lower concentration in these samples.

3.0 POST EXCAVATION WORK SCOPE

As required by DEC in its November 29, 2004 correspondence and as previously agreed in the Remedial Work Plan, this section sets forth the additional work proposed to address the contamination remaining on the property.

3.1 Site Hydrogeology

The results of site investigation completed by Plumley Engineering are summarized below.

The groundwater flow direction of the water table aquifer is northerly. The depth to groundwater in an area including the former dry cleaner building and extending toward the northern site boundary ranges from approximately 3 to 6 feet below ground surface (bgs).

The soil profile as indicated by the deep stratigraphic boring B-1 is generally as follows:

- 0 to 11.5 feet: Silts and fine sands
- 11.5 to 16.5 feet: Red/brown clay
- 16.5 to 19 feet Silt
- 19 to 41 Fine to medium sand
- 41 to 52+ Silt

Soil borings indicate that a thick clay unit was continuous across the investigation area at about 10 to 12 feet bgs. This formation would be expected to have very low vertical permeability and hydraulic conductivity, with the vertical values distinctly less than the horizontal.

The overburden sequence at the site is concluded to have confining bed characteristics (soil units with very low permeability) that would serve to decrease the potential for vertical contaminant migration. Based on this conclusion no deep groundwater monitoring wells below the surficial water table are proposed.

3.2 Site Activity

The completion of site work to remove the source area below the former dry cleaner sump allows for implementation of the following post excavation activities.

- Implement the soil vapor investigation by collecting soil vapor samples at five locations shown on Figure 2 to evaluate the concentration of solvent vapors near the ground surface. Soil vapor probes will be installed to just above the water generally or at 5 feet below ground surface (bgs), whichever is shallower. These samples will be collected into Summa Canisters on an 8-hour time weighted average basis and will be analyzed by USEPA Method 8260 for TCL and STARS VOCs. One-liter canisters will be used and the flow controller set at a flow rate of 0.125 liters per hour. These samples will be collected in accordance with the standard operating procedure for soil vapor sampling using Summa Canisters (See Appendix B).

- Collect 5 surface soil samples from locations shown on Figure 2. A sample depth of 0 to 2 inches below the vegetative cover will be used for assessing public health exposures These samples will be analyzed by USEPA Method 8260 for TCL and STARS VOCs.

- Sample all groundwater monitoring wells, the remediation well in the former sump area and the deep piezometer for TCL and STARS VOCs per USEPA Method 8260 and collect field measurements of groundwater depth, temperature, pH, dissolved oxygen, and conductivity in each well.

3.3 Report

At the conclusion of the field activities described in the preceding section, a report of site activities completed will be prepared and submitted to the DEC. This report shall also summarize all site activities completed to date by Plumley Engineering. It will include raw and summaries of analytical data, a qualitative public health exposure assessment, a discussion of the nature and extent of site contamination, and will include an Operation, Monitoring, and Maintenance Plan for the site.

Site No. V-00150-7
VCA No. A7-0466-0702
Town of Cicero, Onondaga County, New York

TABLE 1 - SOIL CONFIRMATION SAMPLES - VOLATILE ORGANIC COMPOUNDS
EPA METHOD 8260 TCL AND STARS VOCS

Date Sampled: 1/11/2005 **Matrix**: Soil

Compound	Recommended Soil Cleanup Level (mg/kg)	Soil Samples (mg/kg)							
		E-1 North Wall	E-1 DL North Wall	E-2 East Wall	E-3 South Wall	E-4 West Wall	E-4 DL North Wall	E-5 Bottom	E-5 DL Bottom
Chloromethane	---								
Bromomethane	---								
Vinyl Chloride	0.2	0.004				0.061		0.03	
Chloroethane	1.9								
Methylene Chloride	0.1								
Acetone (2-Propanone)	0.2								
Carbon Disulfide	2.7								
1,1-Dichloroethene	0.4					0.004 J		0.003 J	
1,1-Dichloroethane	0.2								
trans-1,2-Dichloroethene	0.3								
cis-1,2-Dichloroethene	---	0.049		0.006		1.000 E	0.64 DJ	0.47 E	0.34 DJ
Chloroform (Trichloromethane)	0.3								
1,2-Dichloroethane	0.1								
MEK(2-Butanone)	0.3								
1,1,1-Trichloroethane	0.8								
Carbon Tetrachloride	0.6								
Bromodichloromethane	---								
1,2-Dichloropropane	---								
cis-1,3-Dichloropropene	---								
Trichloroethene (TCE)	0.7	0.17		0.009	0.003	***0.76*** E	0.46 DJ	0.48 E	0.29 J
Dibromochloromethane	NA								
1,1,2-Trichloroethane	---								
Benzene	0.06								
trans-1,3-Dichloropropene	---								
Bromoform	---								
MIBK (4-Methyl-2-pentanone)	1								
2-Hexanone	---								
Tetrachloroethene (PCE)	1.4	***3.4***	4	0.097	0.008	***4.40*** E	***4.5*** D	***9.6*** E	***21.0*** D
1,1,2,2-Tetrachloroethane	0.6								
Isopropylbenzene	5							0.002 J	
n-Propylbenzene	14							3 J	
1,3,5-Trimethylbenzene	3.3							5 J	
1,2,4-Trimethylbenzene	13							0.01	
Toluene	1.5								
Chlorobenzene	1.7								
Ethylbenzene	5.5							0.004 J	
Styrene	---								
Total Xylenes	1.2							0.02	
TOTAL VOCs	10	3.62	4.00	0.11	0.01	6.16	5.60	***18.59***	***21.63***

Notes:

[1] Ref: NYSDEC Technical Administration Guidance Memorandum (TAGM) No. 4046 - Determination of Soil Cleanup Objectives and Cleanup Levels; January 24, 1994
--- No Recommended Cleanup Level
mg/kg - milligrams per kilogram (parts per million, ppm)
Blank cells indicate ND < Not detected less than method detection limit
Compounds that exceeded Recommended Soil Cleanup Levels are denoted in ***BOLD***

Analytical Notes:

D Diluted
J Estimated value
E Exceeds calibration range
DL Diluted and re-analyzed

SEVERN TRENT STL

STL Buffalo
10 Hazelwood Drive, Suite 106
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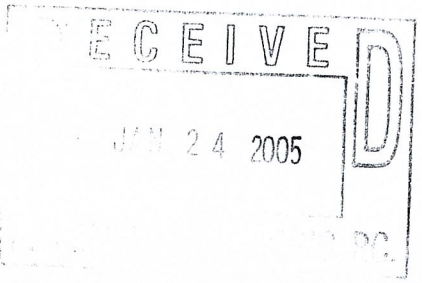
ANALYTICAL REPORT

Job#: A05-0261

STL Project#: NY4A9386
Site Name: Plumley Engineering P.C.
Task: TCL / STARS VOLATILES



Dale Volmer
8232 Loop Road
Baldwinsville, NY 13027

STL Buffalo

Mark A. Nemec
Project Manager

01/17/2005

STL Buffalo
Current Certifications

STATE	Program	Cert # / Lab ID
Arkansas	SDWA, CWA, RCRA, SOIL	03-054-D/88-0686
California	NELAP SDWA, CWA, RCRA	01169CA
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida	NELAP RCRA	E87672
Georgia	SDWA	956
Illinois	NELAP SDWA, CWA, RCRA	200003
Iowa	SW/CS	374
Kansas	NELAP SDWA, CWA, RCRA	E-10187
Kentucky	SDWA	90029
Kentucky UST	UST	30
Louisiana	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NY044
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NY044
Michigan	SDWA	9937
Minnesota	CWA, RCRA	036-999-337
New Hampshire	NELAP SDWA, CWA	233701
New Jersey	SDWA, CWA, RCRA, CLP	NY455
New York	NELAP, AIR, SDWA, CWA, RCRA	10026
North Carolina	CWA	411
North Dakota	SDWA, CWA, RCRA	R-176
Oklahoma	CWA, RCRA	9421
Pennsylvania	Env. Lab Reg.	68-281
South Carolina	RCRA	91013
USDA	FOREIGN SOIL PERMIT	S-41579
Virginia	SDWA	278
Washington	CWA	C254
West Virginia	CWA	252
Wisconsin	CWA	998310390

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A5026101	CSP-1	01/11/2005	07:36	01/12/2005	10:45
A5026102	CSP-2	01/11/2005	07:39	01/12/2005	10:45
A5026103	CSP-3	01/11/2005	07:42	01/12/2005	10:45
A5026104	CSP-4	01/11/2005	07:46	01/12/2005	10:45

METHODS SUMMARY

Job#: A05-0261

STL Project#: NY4A9386
Site Name: Plumley Engineering P.C.

PARAMETER	ANALYTICAL METHOD
METHOD 8260 - TCL & STARS VOLATILE ORGANICS	SW8463 8260

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A05-0261

STL Project#: NY4A9386
Site Name: Plumley Engineering P.C.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A05-0261
Sample Cooler(s) were received at the following temperature(s); 3.0 °C
All samples were received in good condition.

GC/MS Volatile Data

The Relative Percent Difference (RPD) between the Matrix Spike and the Matrix Spike duplicate of sample CSP-1 exceeded quality control limits for the analyte 1,1-Dichloroethene. The Matrix Spike Blank recoveries were compliant, so no corrective action is required.

****

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected at or above the reporting limit.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
[1]	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected at or above the reporting limit.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

Sample Data Package

Client ID		CSP-1		CSP-2		CSP-3		CSP-4	
Job No	Lab ID	A05-0261	A5026101	A05-0261	A5026102	A05-0261	A5026103	A05-0261	A5026104
Sample Date		01/11/2005		01/11/2005		01/11/2005		01/11/2005	

Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/KG	ND	28	ND	27	ND	28	ND	28
Benzene	UG/KG	ND	6	ND	5	ND	6	ND	6
Bromodichloromethane	UG/KG	ND	6	ND	5	ND	6	ND	6
Bromoform	UG/KG	ND	6	ND	5	ND	6	ND	6
Bromomethane	UG/KG	ND	6	ND	5	ND	6	ND	6
2-Butanone	UG/KG	ND	28	ND	27	ND	28	ND	28
Carbon Disulfide	UG/KG	ND	6	ND	5	ND	6	ND	6
Carbon Tetrachloride	UG/KG	ND	6	ND	5	ND	6	ND	6
Chlorobenzene	UG/KG	ND	6	ND	5	ND	6	ND	6
Chloroethane	UG/KG	ND	6	ND	5	ND	6	ND	6
Chloroform	UG/KG	ND	6	ND	5	ND	6	ND	6
Chloromethane	UG/KG	ND	6	ND	5	ND	6	ND	6
Cyclohexane	UG/KG	ND	6	ND	5	ND	6	ND	6
1,2-Dibromoethane	UG/KG	ND	6	ND	5	ND	6	ND	6
Dibromochloromethane	UG/KG	ND	6	ND	5	ND	6	ND	6
1,2-Dibromo-3-chloropropane	UG/KG	ND	6	ND	5	ND	6	ND	6
1,2-Dichlorobenzene	UG/KG	ND	6	ND	5	ND	6	ND	6
1,3-Dichlorobenzene	UG/KG	ND	6	ND	5	ND	6	ND	6
1,4-Dichlorobenzene	UG/KG	ND	6	ND	5	ND	6	ND	6
Dichlorodifluoromethane	UG/KG	ND	6	ND	5	ND	6	ND	6
1,1-Dichloroethane	UG/KG	ND	6	ND	5	ND	6	ND	6
1,2-Dichloroethane	UG/KG	ND	6	ND	5	ND	6	ND	6
1,1-Dichloroethene	UG/KG	ND	6	ND	5	ND	6	ND	6
cis-1,2-Dichloroethene	UG/KG	ND	6	ND	5	ND	6	ND	6
trans-1,2-Dichloroethene	UG/KG	ND	6	ND	5	ND	6	ND	6
1,2-Dichloropropane	UG/KG	ND	6	ND	5	ND	6	ND	6
cis-1,3-Dichloropropene	UG/KG	ND	6	ND	5	ND	6	ND	6
trans-1,3-Dichloropropene	UG/KG	ND	6	ND	5	ND	6	ND	6
Ethylbenzene	UG/KG	ND	6	ND	5	ND	6	ND	6
2-Hexanone	UG/KG	ND	28	ND	27	ND	28	ND	28
Isopropylbenzene	UG/KG	ND	6	ND	5	ND	6	ND	6
Methyl acetate	UG/KG	ND	6	ND	5	ND	6	ND	6
Methylcyclohexane	UG/KG	ND	6	ND	5	ND	6	ND	6
Methylene chloride	UG/KG	ND	6	ND	5	ND	6	ND	6
4-Methyl-2-pentanone	UG/KG	ND	28	ND	27	7 J	28	ND	28
Methyl tert butyl ether	UG/KG	ND	6	ND	5	ND	6	ND	6
Styrene	UG/KG	ND	6	ND	5	ND	6	ND	6
1,1,2,2-Tetrachloroethane	UG/KG	ND	6	ND	5	ND	6	ND	6
Tetrachloroethene	UG/KG	2 J	6	3 J	5	2 J	6	2 J	6
Toluene	UG/KG	ND	6	ND	5	ND	6	ND	6
1,2,4-Trichlorobenzene	UG/KG	ND	6	ND	5	ND	6	ND	6
1,1,1-Trichloroethane	UG/KG	ND	6	ND	5	ND	6	ND	6
1,1,2-Trichloroethane	UG/KG	ND	6	ND	5	ND	6	ND	6

NA = Not Applicable ND = Not Detected

Client ID		CSP-1		CSP-2		CSP-3		CSP-4	
Job No	Lab ID	A05-0261	A5026101	A05-0261	A5026102	A05-0261	A5026103	A05-0261	A5026104
Sample Date		01/11/2005		01/11/2005		01/11/2005		01/11/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
1,1,2-Trichloro-1,2,2-trifluor	UG/KG	ND	6	ND	5	ND	6	ND	6
Trichlorofluoromethane	UG/KG	ND	6	ND	5	ND	6	ND	6
Trichloroethene	UG/KG	ND	6	ND	5	ND	6	ND	6
Vinyl acetate	UG/KG	ND	28	ND	27	ND	28	ND	28
Vinyl chloride	UG/KG	ND	11	ND	11	ND	11	ND	11
Total Xylenes	UG/KG	ND	17	ND	16	ND	16	ND	17
n-Butylbenzene	UG/KG	ND	6	ND	5	ND	6	ND	6
n-Propylbenzene	UG/KG	ND	6	ND	5	ND	6	ND	6
p-Cymene	UG/KG	ND	6	ND	5	ND	6	ND	6
sec-Butylbenzene	UG/KG	ND	6	ND	5	ND	6	ND	6
tert-Butylbenzene	UG/KG	ND	6	ND	5	ND	6	ND	6
1,3,5-Trimethylbenzene	UG/KG	ND	6	ND	5	ND	6	ND	6
1,2,4-Trimethylbenzene	UG/KG	ND	6	ND	5	ND	6	ND	6
o-Xylene	UG/KG	ND	6	ND	5	ND	6	ND	6
m/p-Xylenes	UG/KG	ND	11	ND	11	2 J	11	2 J	11
======IS/SURROGATE(S)=									
Chlorobenzene-D5	%	88	50-200	106	50-200	88	50-200	104	50-200
1,4-Difluorobenzene	%	89	50-200	111	50-200	87	50-200	112	50-200
1,4-Dichlorobenzene-D4	%	70	50-200	102	50-200	71	50-200	100	50-200
Toluene-D8	%	96	71-125	94	71-125	95	71-125	96	71-125
p-Bromofluorobenzene	%	84	68-124	87	68-124	83	68-124	88	68-124
1,2-Dichloroethane-D4	%	97	61-136	96	61-136	99	61-136	94	61-136

NA = Not Applicable ND = Not Detected

Chronology and QC Summary Package

Client ID		VBLK28		VBLK29					
Job No	Lab ID	A05-0261	A5B0057903	A05-0261	A5B0057904				
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/KG	ND	25	ND	25	NA		NA	
Benzene	UG/KG	ND	5	ND	5	NA		NA	
Bromodichloromethane	UG/KG	ND	5	ND	5	NA		NA	
Bromoform	UG/KG	ND	5	ND	5	NA		NA	
Bromomethane	UG/KG	ND	5	ND	5	NA		NA	
2-Butanone	UG/KG	ND	25	ND	25	NA		NA	
Carbon Disulfide	UG/KG	ND	5	ND	5	NA		NA	
Carbon Tetrachloride	UG/KG	ND	5	ND	5	NA		NA	
Chlorobenzene	UG/KG	ND	5	ND	5	NA		NA	
Chloroethane	UG/KG	ND	5	ND	5	NA		NA	
Chloroform	UG/KG	ND	5	ND	5	NA		NA	
Chloromethane	UG/KG	ND	5	ND	5	NA		NA	
Cyclohexane	UG/KG	ND	5	ND	5	NA		NA	
1,2-Dibromoethane	UG/KG	ND	5	ND	5	NA		NA	
Dibromochloromethane	UG/KG	ND	5	ND	5	NA		NA	
1,2-Dibromo-3-chloropropane	UG/KG	ND	5	ND	5	NA		NA	
1,2-Dichlorobenzene	UG/KG	ND	5	ND	5	NA		NA	
1,3-Dichlorobenzene	UG/KG	ND	5	ND	5	NA		NA	
1,4-Dichlorobenzene	UG/KG	ND	5	ND	5	NA		NA	
Dichlorodifluoromethane	UG/KG	ND	5	ND	5	NA		NA	
1,1-Dichloroethane	UG/KG	ND	5	ND	5	NA		NA	
1,2-Dichloroethane	UG/KG	ND	5	ND	5	NA		NA	
1,1-Dichloroethene	UG/KG	ND	5	ND	5	NA		NA	
cis-1,2-Dichloroethene	UG/KG	ND	5	ND	5	NA		NA	
trans-1,2-Dichloroethene	UG/KG	ND	5	ND	5	NA		NA	
1,2-Dichloropropane	UG/KG	ND	5	ND	5	NA		NA	
cis-1,3-Dichloropropene	UG/KG	ND	5	ND	5	NA		NA	
trans-1,3-Dichloropropene	UG/KG	ND	5	ND	5	NA		NA	
Ethylbenzene	UG/KG	ND	5	ND	5	NA		NA	
2-Hexanone	UG/KG	ND	25	ND	25	NA		NA	
Isopropylbenzene	UG/KG	ND	5	ND	5	NA		NA	
Methyl acetate	UG/KG	ND	5	ND	5	NA		NA	
Methylcyclohexane	UG/KG	ND	5	ND	5	NA		NA	
Methylene chloride	UG/KG	ND	5	ND	5	NA		NA	
4-Methyl-2-pentanone	UG/KG	ND	25	ND	25	NA		NA	
Methyl tert butyl ether	UG/KG	ND	5	ND	5	NA		NA	
Styrene	UG/KG	ND	5	ND	5	NA		NA	
1,1,2,2-Tetrachloroethane	UG/KG	ND	5	ND	5	NA		NA	
Tetrachloroethene	UG/KG	ND	5	ND	5	NA		NA	
Toluene	UG/KG	ND	5	ND	5	NA		NA	
1,2,4-Trichlorobenzene	UG/KG	ND	5	ND	5	NA		NA	
1,1,1-Trichloroethane	UG/KG	ND	5	ND	5	NA		NA	
1,1,2-Trichloroethane	UG/KG	ND	5	ND	5	NA		NA	

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NA = Not Applicable ND = Not Detected

Client ID		VBLK28		VBLK29					
Job No	Lab ID	A05-0261	A5B0057903	A05-0261	A5B0057904				
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
1,1,2-Trichloro-1,2,2-trifluor	UG/KG	ND	5	ND	5	NA		NA	
Trichlorofluoromethane	UG/KG	ND	5	ND	5	NA		NA	
Trichloroethene	UG/KG	ND	5	ND	5	NA		NA	
Vinyl acetate	UG/KG	ND	25	ND	25	NA		NA	
Vinyl chloride	UG/KG	ND	10	ND	10	NA		NA	
Total Xylenes	UG/KG	ND	15	ND	15	NA		NA	
n-Butylbenzene	UG/KG	ND	5	ND	5	NA		NA	
n-Propylbenzene	UG/KG	ND	5	ND	5	NA		NA	
p-Cymene	UG/KG	ND	5	ND	5	NA		NA	
sec-Butylbenzene	UG/KG	ND	5	ND	5	NA		NA	
tert-Butylbenzene	UG/KG	ND	5	ND	5	NA		NA	
1,3,5-Trimethylbenzene	UG/KG	ND	5	ND	5	NA		NA	
1,2,4-Trimethylbenzene	UG/KG	ND	5	ND	5	NA		NA	
o-Xylene	UG/KG	ND	5	ND	5	NA		NA	
m/p-Xylenes	UG/KG	ND	10	ND	10	NA		NA	
======IS/SURROGATE(S)==									
Chlorobenzene-D5	%	110	50-200	71	50-200	NA		NA	
1,4-Difluorobenzene	%	114	50-200	61	50-200	NA		NA	
1,4-Dichlorobenzene-D4	%	105	50-200	72	50-200	NA		NA	
Toluene-D8	%	94	71-125	89	71-125	NA		NA	
p-Bromofluorobenzene	%	86	68-124	93	68-124	NA		NA	
1,2-Dichloroethane-D4	%	90	61-136	91	61-136	NA		NA	

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NA = Not Applicable ND = Not Detected

Client Sample ID: CSP-1 CSP-1 CSP-1
Lab Sample ID: A5026101 A5026101MS A5026101SD

Analyte	Units of Measure	Concentration			Spike Amount		% Recovery			%	QC LIMITS	
		Sample	Matrix Spike	Spike Duplicate	MS	MSD	MS	MSD	Avg	RPD	RPD	REC.
METHOD 8260 - TCL & STARS VOLATILE ORGAN												
1,1-Dichloroethene	UG/KG	0	69.0	43.9	56.4	56.8	122	77	100	45 *	22.0	65-146
Trichloroethene	UG/KG	0	53.7	45.8	56.4	56.8	95	80	88	17	24.0	74-127
Benzene	UG/KG	0	52.9	45.2	56.4	56.8	94	79	87	17	25.0	74-128
Toluene	UG/KG	0	50.5	46.1	56.4	56.8	90	81	86	10	25.0	74-123
Chlorobenzene	UG/KG	0	48.9	44.2	56.4	56.8	87	78	83	11	25.0	76-124

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Client Sample ID: VBLK28 MSB28
Lab Sample ID: A5B0057903 A5B0057907

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL & STARS VOLATILE ORGAN					
1,1-Dichloroethene	UG/KG	41.3	50.0	83	65-146
Trichloroethene	UG/KG	42.9	50.0	86	74-127
Benzene	UG/KG	42.8	50.0	86	74-128
Toluene	UG/KG	43.9	50.0	88	74-123
Chlorobenzene	UG/KG	44.8	50.0	90	76-124

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Client Sample ID: VBLK29 MSB29
Lab Sample ID: A5B0057904 A5B0057908

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL & STARS VOLATILE ORGAN					
1,1-Dichloroethene	UG/KG	39.1	50.0	78	65-146
Trichloroethene	UG/KG	40.5	50.0	81	74-127
Benzene	UG/KG	41.0	50.0	82	74-128
Toluene	UG/KG	41.4	50.0	83	74-123
Chlorobenzene	UG/KG	43.7	50.0	87	76-124

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

METHOD 8260 - TCL & STARS VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	CSP-1 A05-0261 A5026101	CSP-2 A05-0261 A5026102	CSP-3 A05-0261 A5026103	CSP-4 A05-0261 A5026104	
Sample Date	01/11/2005 07:36	01/11/2005 07:39	01/11/2005 07:42	01/11/2005 07:46	
Received Date	01/12/2005 10:45	01/12/2005 10:45	01/12/2005 10:45	01/12/2005 10:45	
Extraction Date					
Analysis Date	01/13/2005 15:36	01/13/2005 15:54	01/13/2005 16:12	01/13/2005 16:30	
Extraction HT Met?	-	-	-	-	
Analytical HT Met?	YES	YES	YES	YES	
Sample Matrix	SOIL LOW	SOIL LOW	SOIL LOW	SOIL LOW	
Dilution Factor	1.0	1.0	1.0	1.0	
Sample wt/vol	5.1 GRAMS	5.14 GRAMS	5.14 GRAMS	5.06 GRAMS	
% Dry	87.89	88.79	88.41	88.77	

NA = Not Applicable

METHOD 8260 - TCL & STARS VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	VBLK28 A05-0261 A5B0057903	VBLK29 A05-0261 A5B0057904			
Sample Date					
Received Date					
Extraction Date					
Analysis Date	01/13/2005 14:29	01/13/2005 14:47			
Extraction HT Met?	-	-			
Analytical HT Met?	-	-			
Sample Matrix	SOIL LOW	SOIL LOW			
Dilution Factor	1.0	1.0			
Sample wt/vol	5.0 GRAMS	5.0 GRAMS			
% Dry	100.00	100.00			

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NA = Not Applicable

Chain of Custody

CHAIN OF CUSTODY RECORD

Page 1 of 1

Project No.: 2003074		Client: HANCOCK & ESTABROOK, LLP		# of Containers	Site: FORMER N. STAR DRY CLEANER, CICERO NY			Sampler's Signature:
Sample No.	Date	Time	Origin/Source		Comp.	Grab	Other	Analyses/Tests Requested
CSP-1	1/11/05	7:36AM	SOIL PILE GRAB	1		X		TCL VOC (STARS) +
CSP-2	1/11/05	7:39AM	SOIL PILE GRAB	1		X		" "
CSP-3	1/11/05	7:42AM	SOIL PILE GRAB	1		X		" "
CSP-4	1/11/05	7:46AM	SOIL PILE COMP.	1	X			" "

72 hr TAT

Relinquished by: Signature: C. GUARINO Print: C. GUARINO	Date/Time: 1/11/04 10:03 AM	Received by: Signature: Jesse Plumley Print: Jesse Plumley	Date/Time: 1-11-05 11:00	Relinquished by Signature Jesse Plumley Print Jesse Plumley	Date/Time: 1-11-05 11:00	3.0°C
Received by: Signature: Brenda Griffin Print: Brenda Griffin	Date/Time: 1/11/05 11:00am	Relinquished by Signature Brenda M. Griffin Print: Brenda M. Griffin	Date/Time: 5:00 1/11/05	Received by Signature FOR PHOTOS Print KENNETH P. IACOVELLI	Date/Time: 01/12/05 1045	

Remarks:

PLUMLEY ENGINEERING, P.C.

Civil and Environmental Engineering

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PLUMLEY ENGINEERING

SEVERN TRENT STL

STL Buffalo
10 Hazelwood Drive, Suite 106
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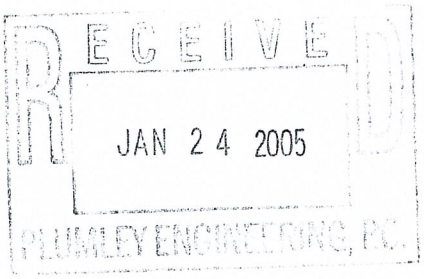
Tel: 716 691 2600 Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A05-0312

STL Project#: NY4A9386
Site Name: Plumley Engineering P.C.
Task: TCL / STARS VOLATILES



Dale Volmer
8232 Loop Road
Baldwinsville, NY 13027

STL Buffalo

Mark A. Nemec
Project Manager

01/20/2005

STL Buffalo
Current Certifications

STATE	Program	Cert # / Lab ID
Arkansas	SDWA, CWA, RCRA, SOIL	03-054-D/88-0686
California	NELAP SDWA, CWA, RCRA	01169CA
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida	NELAP RCRA	E87672
Georgia	SDWA	956
Illinois	NELAP SDWA, CWA, RCRA	200003
Iowa	SW/CS	374
Kansas	NELAP SDWA, CWA, RCRA	E-10187
Kentucky	SDWA	90029
Kentucky UST	UST	30
Louisiana	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NY044
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NY044
Michigan	SDWA	9937
Minnesota	CWA, RCRA	036-999-337
New Hampshire	NELAP SDWA, CWA	233701
New Jersey	SDWA, CWA, RCRA, CLP	NY455
New York	NELAP, AIR, SDWA, CWA, RCRA	10026
North Carolina	CWA	411
North Dakota	SDWA, CWA, RCRA	R-176
Oklahoma	CWA, RCRA	9421
Pennsylvania	Env. Lab Reg.	68-281
South Carolina	RCRA	91013
USDA	FOREIGN SOIL PERMIT	S-41579
Virginia	SDWA	278
Washington	CWA	C254
West Virginia	CWA	252
Wisconsin	CWA	998310390

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A5031201	E-1	01/11/2005	12:17	01/13/2005	11:00
A5031202	E-2	01/11/2005	12:28	01/13/2005	11:00
A5031203	E-3	01/11/2005	12:44	01/13/2005	11:00
A5031204	E-4	01/11/2005	12:36	01/13/2005	11:00
A5031205	E-5	01/11/2005	12:10	01/13/2005	11:00

METHODS SUMMARY

Job#: A05-0312

STL Project#: NY4A9386
Site Name: Plumley Engineering P.C.

PARAMETER	ANALYTICAL METHOD
METHOD 8260 - TCL & STARS VOLATILE ORGANICS	SW8463 8260

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A05-0312

STL Project#: NY4A9386
Site Name: Plumley Engineering P.C.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A05-0312
Sample Cooler(s) were received at the following temperature(s); 4.0 °C
All samples were received in good condition.

GC/MS Volatile Data

The dilutions of samples E-1, E-4 and E-5 were analyzed using medium level techniques due to high concentrations of target analytes.

****

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected at or above the reporting limit.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
[1]	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected at or above the reporting limit.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

Sample Data Package

Client ID	E-1		E-1		E-2		E-3	
Job No / Lab ID	A05-0312	A5031201	A05-0312	A5031201DL	A05-0312	A5031202	A05-0312	A5031203
Sample Date	01/11/2005		01/11/2005		01/11/2005		01/11/2005	

Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/KG	ND	31	ND	3900	ND	30	ND	33
Benzene	UG/KG	ND	6	ND	770	ND	6	ND	6
Bromodichloromethane	UG/KG	ND	6	ND	770	ND	6	ND	6
Bromoform	UG/KG	ND	6	ND	770	ND	6	ND	6
Bromomethane	UG/KG	ND	6	ND	770	ND	6	ND	6
2-Butanone	UG/KG	ND	31	ND	3900	ND	30	ND	33
Carbon Disulfide	UG/KG	ND	6	ND	770	ND	6	ND	6
Carbon Tetrachloride	UG/KG	ND	6	ND	770	ND	6	ND	6
Chlorobenzene	UG/KG	ND	6	ND	770	ND	6	ND	6
Chloroethane	UG/KG	ND	6	ND	770	ND	6	ND	6
Chloroform	UG/KG	ND	6	ND	770	ND	6	ND	6
Chloromethane	UG/KG	ND	6	ND	770	ND	6	ND	6
Cyclohexane	UG/KG	ND	6	ND	770	ND	6	ND	6
1,2-Dibromoethane	UG/KG	ND	6	ND	770	ND	6	ND	6
Dibromochloromethane	UG/KG	ND	6	ND	770	ND	6	ND	6
1,2-Dibromo-3-chloropropane	UG/KG	ND	6	ND	770	ND	6	ND	6
1,2-Dichlorobenzene	UG/KG	ND	6	ND	770	ND	6	ND	6
1,3-Dichlorobenzene	UG/KG	ND	6	ND	770	ND	6	ND	6
1,4-Dichlorobenzene	UG/KG	ND	6	ND	770	ND	6	ND	6
Dichlorodifluoromethane	UG/KG	ND	6	ND	770	ND	6	ND	6
1,1-Dichloroethane	UG/KG	ND	6	ND	770	ND	6	ND	6
1,2-Dichloroethane	UG/KG	ND	6	ND	770	ND	6	ND	6
1,1-Dichloroethene	UG/KG	ND	6	ND	770	ND	6	ND	6
cis-1,2-Dichloroethene	UG/KG	49	6	ND	770	6	6	ND	6
trans-1,2-Dichloroethene	UG/KG	ND	6	ND	770	ND	6	ND	6
1,2-Dichloropropane	UG/KG	ND	6	ND	770	ND	6	ND	6
cis-1,3-Dichloropropene	UG/KG	ND	6	ND	770	ND	6	ND	6
trans-1,3-Dichloropropene	UG/KG	ND	6	ND	770	ND	6	ND	6
Ethylbenzene	UG/KG	ND	6	ND	770	ND	6	ND	6
2-Hexanone	UG/KG	ND	31	ND	3900	ND	30	ND	33
Isopropylbenzene	UG/KG	ND	6	ND	770	ND	6	ND	6
Methyl acetate	UG/KG	ND	6	ND	770	ND	6	ND	6
Methylcyclohexane	UG/KG	ND	6	ND	770	ND	6	ND	6
Methylene chloride	UG/KG	ND	6	ND	770	ND	6	ND	6
4-Methyl-2-pentanone	UG/KG	ND	31	ND	3900	ND	30	ND	33
Methyl tert butyl ether	UG/KG	ND	6	ND	770	ND	6	ND	6
Styrene	UG/KG	ND	6	ND	770	ND	6	ND	6
1,1,2,2-Tetrachloroethane	UG/KG	ND	6	ND	770	ND	6	ND	6
Tetrachloroethene	UG/KG	3400 E	6	4000 D	770	97	6	8	6
Toluene	UG/KG	ND	6	ND	770	ND	6	ND	6
1,2,4-Trichlorobenzene	UG/KG	ND	6	ND	770	ND	6	ND	6
1,1,1-Trichloroethane	UG/KG	ND	6	ND	770	ND	6	ND	6
1,1,2-Trichloroethane	UG/KG	ND	6	ND	770	ND	6	ND	6

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NA = Not Applicable ND = Not Detected

Client ID		E-1		E-1		E-2		E-3	
Job No	Lab ID	A05-0312	A5031201	A05-0312	A5031201DL	A05-0312	A5031202	A05-0312	A5031203
Sample Date		01/11/2005		01/11/2005		01/11/2005		01/11/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
1,1,2-Trichloro-1,2,2-trifluor	UG/KG	ND	6	ND	770	ND	6	ND	6
Trichlorofluoromethane	UG/KG	ND	6	ND	770	ND	6	ND	6
Trichloroethene	UG/KG	170	6	ND	770	9	6	3 J	6
Vinyl acetate	UG/KG	ND	31	ND	3900	ND	30	ND	33
Vinyl chloride	UG/KG	4 J	12	ND	1500	ND	12	ND	13
Total Xylenes	UG/KG	ND	18	ND	2300	ND	18	ND	20
n-Butylbenzene	UG/KG	ND	6	ND	770	ND	6	ND	6
n-Propylbenzene	UG/KG	ND	6	ND	770	ND	6	ND	6
p-Cymene	UG/KG	ND	6	ND	770	ND	6	ND	6
sec-Butylbenzene	UG/KG	ND	6	ND	770	ND	6	ND	6
tert-Butylbenzene	UG/KG	ND	6	ND	770	ND	6	ND	6
1,3,5-Trimethylbenzene	UG/KG	ND	6	ND	770	ND	6	ND	6
1,2,4-Trimethylbenzene	UG/KG	ND	6	ND	770	ND	6	ND	6
o-Xylene	UG/KG	ND	6	ND	770	ND	6	ND	6
m/p-Xylenes	UG/KG	ND	12	ND	1500	ND	12	ND	13
==========IS/SURROGATE(S)==========									
Chlorobenzene-D5	%	91	50-200	106	50-200	72	50-200	85	50-200
1,4-Difluorobenzene	%	94	50-200	105	50-200	77	50-200	87	50-200
1,4-Dichlorobenzene-D4	%	87	50-200	96	50-200	53	50-200	79	50-200
Toluene-D8	%	97	71-125	94	71-125	97	71-125	92	71-125
p-Bromofluorobenzene	%	87	68-124	98	68-124	82	68-124	82	68-124
1,2-Dichloroethane-D4	%	97	61-136	92	61-136	101	61-136	98	61-136

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NA = Not Applicable ND = Not Detected

Client ID		E-4		E-4		E-5		E-5	
Job No	Lab ID	A05-0312	A5031204	A05-0312	A5031204DL	A05-0312	A5031205	A05-0312	A5031205DL
Sample Date		01/11/2005		01/11/2005		01/11/2005		01/11/2005	

Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/KG	ND	32	ND	4000	ND	29	ND	3800
Benzene	UG/KG	ND	6	ND	790	ND	6	ND	750
Bromodichloromethane	UG/KG	ND	6	ND	790	ND	6	ND	750
Bromoform	UG/KG	ND	6	ND	790	ND	6	ND	750
Bromomethane	UG/KG	ND	6	ND	790	ND	6	ND	750
2-Butanone	UG/KG	ND	32	ND	4000	ND	29	ND	3800
Carbon Disulfide	UG/KG	ND	6	ND	790	ND	6	ND	750
Carbon Tetrachloride	UG/KG	ND	6	ND	790	ND	6	ND	750
Chlorobenzene	UG/KG	ND	6	ND	790	ND	6	ND	750
Chloroethane	UG/KG	ND	6	ND	790	ND	6	ND	750
Chloroform	UG/KG	ND	6	ND	790	ND	6	ND	750
Chloromethane	UG/KG	ND	6	ND	790	ND	6	ND	750
Cyclohexane	UG/KG	ND	6	ND	790	ND	6	ND	750
1,2-Dibromoethane	UG/KG	ND	6	ND	790	ND	6	ND	750
Dibromochloromethane	UG/KG	ND	6	ND	790	ND	6	ND	750
1,2-Dibromo-3-chloropropane	UG/KG	ND	6	ND	790	ND	6	ND	750
1,2-Dichlorobenzene	UG/KG	ND	6	ND	790	ND	6	ND	750
1,3-Dichlorobenzene	UG/KG	ND	6	ND	790	ND	6	ND	750
1,4-Dichlorobenzene	UG/KG	ND	6	ND	790	ND	6	ND	750
Dichlorodifluoromethane	UG/KG	ND	6	ND	790	ND	6	ND	750
1,1-Dichloroethane	UG/KG	ND	6	ND	790	ND	6	ND	750
1,2-Dichloroethane	UG/KG	ND	6	ND	790	ND	6	ND	750
1,1-Dichloroethene	UG/KG	4 J	6	ND	790	3 J	6	ND	750
cis-1,2-Dichloroethene	UG/KG	1000 E	6	640 DJ	790	470 E	6	340 DJ	750
trans-1,2-Dichloroethene	UG/KG	ND	6	ND	790	ND	6	ND	750
1,2-Dichloropropane	UG/KG	ND	6	ND	790	ND	6	ND	750
cis-1,3-Dichloropropene	UG/KG	ND	6	ND	790	ND	6	ND	750
trans-1,3-Dichloropropene	UG/KG	ND	6	ND	790	ND	6	ND	750
Ethylbenzene	UG/KG	ND	6	ND	790	4 J	6	ND	750
2-Hexanone	UG/KG	ND	32	ND	4000	ND	29	ND	3800
Isopropylbenzene	UG/KG	ND	6	ND	790	2 J	6	ND	750
Methyl acetate	UG/KG	ND	6	ND	790	ND	6	ND	750
Methylcyclohexane	UG/KG	ND	6	ND	790	ND	6	ND	750
Methylene chloride	UG/KG	ND	6	ND	790	ND	6	ND	750
4-Methyl-2-pentanone	UG/KG	ND	32	ND	4000	ND	29	ND	3800
Methyl tert butyl ether	UG/KG	ND	6	ND	790	ND	6	ND	750
Styrene	UG/KG	ND	6	ND	790	ND	6	ND	750
1,1,2,2-Tetrachloroethane	UG/KG	ND	6	ND	790	ND	6	ND	750
Tetrachloroethene	UG/KG	4400 E	6	4500 D	790	9600 E	6	21000 D	750
Toluene	UG/KG	ND	6	ND	790	15	6	ND	750
1,2,4-Trichlorobenzene	UG/KG	ND	6	ND	790	ND	6	ND	750
1,1,1-Trichloroethane	UG/KG	ND	6	ND	790	ND	6	ND	750
1,1,2-Trichloroethane	UG/KG	ND	6	ND	790	ND	6	ND	750

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NA = Not Applicable ND = Not Detected

Client ID		E-4		E-4		E-5		E-5	
Job No	Lab ID	A05-0312	A5031204	A05-0312	A5031204DL	A05-0312	A5031205	A05-0312	A5031205DL
Sample Date		01/11/2005		01/11/2005		01/11/2005		01/11/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
1,1,2-Trichloro-1,2,2-trifluor	UG/KG	ND	6	ND	790	ND	6	ND	750
Trichlorofluoromethane	UG/KG	ND	6	ND	790	ND	6	ND	750
Trichloroethene	UG/KG	760 E	6	460 DJ	790	480 E	6	290 DJ	750
Vinyl acetate	UG/KG	ND	32	ND	4000	ND	29	ND	3800
Vinyl chloride	UG/KG	61	13	ND	1600	30	12	ND	1500
Total Xylenes	UG/KG	ND	19	ND	2400	20	18	ND	2200
n-Butylbenzene	UG/KG	ND	6	ND	790	ND	6	ND	750
n-Propylbenzene	UG/KG	ND	6	ND	790	3 J	6	ND	750
p-Cymene	UG/KG	ND	6	ND	790	ND	6	ND	750
sec-Butylbenzene	UG/KG	ND	6	ND	790	ND	6	ND	750
tert-Butylbenzene	UG/KG	ND	6	ND	790	ND	6	ND	750
1,3,5-Trimethylbenzene	UG/KG	ND	6	ND	790	5 J	6	ND	750
1,2,4-Trimethylbenzene	UG/KG	ND	6	ND	790	10	6	ND	750
o-Xylene	UG/KG	ND	6	ND	790	6	6	ND	750
m/p-Xylenes	UG/KG	ND	13	ND	1600	14	12	ND	1500
==========IS/SURROGATE(S)==========									
Chlorobenzene-D5	%	79	50-200	109	50-200	81	50-200	107	50-200
1,4-Difluorobenzene	%	83	50-200	109	50-200	92	50-200	107	50-200
1,4-Dichlorobenzene-D4	%	60	50-200	98	50-200	82	50-200	96	50-200
Toluene-D8	%	97	71-125	92	71-125	103	71-125	94	71-125
p-Bromofluorobenzene	%	82	68-124	95	68-124	91	68-124	98	68-124
1,2-Dichloroethane-D4	%	99	61-136	90	61-136	96	61-136	91	61-136

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NA = Not Applicable ND = Not Detected

Chronology and QC Summary Package

Client ID	METHANOL BLK 011405		VBLK28		VBLK29		VBLK93	
Job No / Lab ID	A05-0312	A5031206	A05-0312	A5B0057903	A05-0312	A5B0057904	A05-0312	A5B0061202
Sample Date								
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Acetone	UG/KG	ND	3100	ND	25	ND	25	ND	3100
Benzene	UG/KG	ND	620	ND	5	ND	5	ND	620
Bromodichloromethane	UG/KG	ND	620	ND	5	ND	5	ND	620
Bromoform	UG/KG	ND	620	ND	5	ND	5	ND	620
Bromomethane	UG/KG	ND	620	ND	5	ND	5	ND	620
2-Butanone	UG/KG	ND	3100	ND	25	ND	25	ND	3100
Carbon Disulfide	UG/KG	ND	620	ND	5	ND	5	ND	620
Carbon Tetrachloride	UG/KG	ND	620	ND	5	ND	5	ND	620
Chlorobenzene	UG/KG	ND	620	ND	5	ND	5	ND	620
Chloroethane	UG/KG	ND	620	ND	5	ND	5	ND	620
Chloroform	UG/KG	ND	620	ND	5	ND	5	ND	620
Chloromethane	UG/KG	ND	620	ND	5	ND	5	ND	620
Cyclohexane	UG/KG	ND	620	ND	5	ND	5	ND	620
1,2-Dibromoethane	UG/KG	ND	620	ND	5	ND	5	ND	620
Dibromochloromethane	UG/KG	ND	620	ND	5	ND	5	ND	620
1,2-Dibromo-3-chloropropane	UG/KG	ND	620	ND	5	ND	5	ND	620
1,2-Dichlorobenzene	UG/KG	ND	620	ND	5	ND	5	ND	620
1,3-Dichlorobenzene	UG/KG	ND	620	ND	5	ND	5	ND	620
1,4-Dichlorobenzene	UG/KG	ND	620	ND	5	ND	5	ND	620
Dichlorodifluoromethane	UG/KG	ND	620	ND	5	ND	5	ND	620
1,1-Dichloroethane	UG/KG	ND	620	ND	5	ND	5	ND	620
1,2-Dichloroethane	UG/KG	ND	620	ND	5	ND	5	ND	620
1,1-Dichloroethene	UG/KG	ND	620	ND	5	ND	5	ND	620
cis-1,2-Dichloroethene	UG/KG	ND	620	ND	5	ND	5	ND	620
trans-1,2-Dichloroethene	UG/KG	ND	620	ND	5	ND	5	ND	620
1,2-Dichloropropane	UG/KG	ND	620	ND	5	ND	5	ND	620
cis-1,3-Dichloropropene	UG/KG	ND	620	ND	5	ND	5	ND	620
trans-1,3-Dichloropropene	UG/KG	ND	620	ND	5	ND	5	ND	620
Ethylbenzene	UG/KG	ND	620	ND	5	ND	5	ND	620
2-Hexanone	UG/KG	ND	3100	ND	25	ND	25	ND	3100
Isopropylbenzene	UG/KG	ND	620	ND	5	ND	5	ND	620
Methyl acetate	UG/KG	ND	620	ND	5	ND	5	ND	620
Methylcyclohexane	UG/KG	ND	620	ND	5	ND	5	ND	620
Methylene chloride	UG/KG	ND	620	ND	5	ND	5	ND	620
4-Methyl-2-pentanone	UG/KG	ND	3100	ND	25	ND	25	ND	3100
Methyl tert butyl ether	UG/KG	ND	620	ND	5	ND	5	ND	620
Styrene	UG/KG	ND	620	ND	5	ND	5	ND	620
1,1,2,2-Tetrachloroethane	UG/KG	ND	620	ND	5	ND	5	ND	620
Tetrachloroethene	UG/KG	ND	620	ND	5	ND	5	ND	620
Toluene	UG/KG	ND	620	ND	5	ND	5	ND	620
1,2,4-Trichlorobenzene	UG/KG	ND	620	ND	5	ND	5	ND	620
1,1,1-Trichloroethane	UG/KG	ND	620	ND	5	ND	5	ND	620
1,1,2-Trichloroethane	UG/KG	ND	620	ND	5	ND	5	ND	620

NA = Not Applicable ND = Not Detected

Client ID		METHANOL BLK 011405		VBLK28		VBLK29		VBLK93	
Job No	Lab ID	A05-0312	A5031206	A05-0312	A5B0057903	A05-0312	A5B0057904	A05-0312	A5B0061202
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
1,1,2-Trichloro-1,2,2-trifluor	UG/KG	ND	620	ND	5	ND	5	ND	620
Trichlorofluoromethane	UG/KG	ND	620	ND	5	ND	5	ND	620
Trichloroethene	UG/KG	ND	620	ND	5	ND	5	ND	620
Vinyl acetate	UG/KG	ND	3100	ND	25	ND	25	ND	3100
Vinyl chloride	UG/KG	ND	1200	ND	10	ND	10	ND	1200
Total Xylenes	UG/KG	ND	1800	ND	15	ND	15	ND	1900
n-Butylbenzene	UG/KG	ND	620	ND	5	ND	5	ND	620
n-Propylbenzene	UG/KG	ND	620	ND	5	ND	5	ND	620
p-Cymene	UG/KG	ND	620	ND	5	ND	5	ND	620
sec-Butylbenzene	UG/KG	ND	620	ND	5	ND	5	ND	620
tert-Butylbenzene	UG/KG	ND	620	ND	5	ND	5	ND	620
1,3,5-Trimethylbenzene	UG/KG	ND	620	ND	5	ND	5	ND	620
1,2,4-Trimethylbenzene	UG/KG	ND	620	ND	5	ND	5	ND	620
o-Xylene	UG/KG	ND	620	ND	5	ND	5	ND	620
m/p-Xylenes	UG/KG	ND	1200	ND	10	ND	10	ND	1200
======IS/SURROGATE(S)=									
Chlorobenzene-D5	%	103	50-200	110	50-200	71	50-200	101	50-200
1,4-Difluorobenzene	%	104	50-200	114	50-200	61	50-200	101	50-200
1,4-Dichlorobenzene-D4	%	94	50-200	105	50-200	72	50-200	88	50-200
Toluene-D8	%	94	71-125	94	71-125	89	71-125	93	71-125
p-Bromofluorobenzene	%	98	68-124	86	68-124	93	68-124	96	68-124
1,2-Dichloroethane-D4	%	91	61-136	90	61-136	91	61-136	94	61-136

NA = Not Applicable ND = Not Detected

Client Sample ID: VBLK28 MSB28
Lab Sample ID: A5B0057903 A5B0057907

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL & STARS VOLATILE ORGAN					
1,1-Dichloroethene	UG/KG	41.3	50.0	83	65-146
Trichloroethene	UG/KG	42.9	50.0	86	74-127
Benzene	UG/KG	42.8	50.0	86	74-128
Toluene	UG/KG	43.9	50.0	88	74-123
Chlorobenzene	UG/KG	44.8	50.0	90	76-124

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Client Sample ID: VBLK29 MSB29
Lab Sample ID: A5B0057904 A5B0057908

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
METHOD 8260 - TCL & STARS VOLATILE ORGAN					
1,1-Dichloroethene	UG/KG	39.1	50.0	78	65-146
Trichloroethene	UG/KG	40.5	50.0	81	74-127
Benzene	UG/KG	41.0	50.0	82	74-128
Toluene	UG/KG	41.4	50.0	83	74-123
Chlorobenzene	UG/KG	43.7	50.0	87	76-124

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* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

METHOD 8260 - TCL & STARS VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	E-1 A05-0312 A5031201	E-1 A05-0312 A5031201DL	E-2 A05-0312 A5031202	E-3 A05-0312 A5031203	E-4 A05-0312 A5031204
Sample Date	01/11/2005 12:17	01/11/2005 12:17	01/11/2005 12:28	01/11/2005 12:44	01/11/2005 12:36
Received Date	01/13/2005 11:00	01/13/2005 11:00	01/13/2005 11:00	01/13/2005 11:00	01/13/2005 11:00
Extraction Date					
Analysis Date	01/13/2005 20:04	01/14/2005 13:12	01/13/2005 22:47	01/13/2005 23:05	01/13/2005 20:57
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	SOIL LOW	SOIL MED	SOIL LOW	SOIL LOW	SOIL LOW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	5.1 GRAMS	4.05 GRAMS	5.07 GRAMS	5.1 GRAMS	5.17 GRAMS
% Dry	79.91	79.91	81.56	74.94	76.61

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NA = Not Applicable

METHOD 8260 - TCL & STARS VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	E-4 A05-0312 A5031204DL	E-5 A05-0312 A5031205	E-5 A05-0312 A5031205DL		
Sample Date	01/11/2005 12:36	01/11/2005 12:10	01/11/2005 12:10		
Received Date	01/13/2005 11:00	01/13/2005 11:00	01/13/2005 11:00		
Extraction Date					
Analysis Date	01/14/2005 13:39	01/13/2005 21:15	01/14/2005 14:05		
Extraction HT Met?	-	-	-		
Analytical HT Met?	YES	YES	YES		
Sample Matrix	SOIL MED	SOIL LOW	SOIL MED		
Dilution Factor	1.0	1.0	1.0		
Sample wt/vol	4.11 GRAMS	5.2 GRAMS	4.08 GRAMS		
% Dry	76.61	81.63	81.63		

NA = Not Applicable

METHOD 8260 - TCL & STARS VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	METHANOL BLK 011405 A05-0312 A5031206	VBLK28 A05-0312 A5B0057903	VBLK29 A05-0312 A5B0057904	VBLK93 A05-0312 A5B0061202	
Sample Date					
Received Date					
Extraction Date					
Analysis Date	01/14/2005 12:45	01/13/2005 14:29	01/13/2005 14:47	01/14/2005 11:51	
Extraction HT Met?	-	-	-	-	
Analytical HT Met?	-	-	-	-	
Sample Matrix	SOIL MED	SOIL LOW	SOIL LOW	SOIL MED	
Dilution Factor	1.0	1.0	1.0	1.0	
Sample wt/vol	4.05 GRAMS	5.0 GRAMS	5.0 GRAMS	4.0 GRAMS	
% Dry	100.00	100.00	100.00	100.00	

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NA = Not Applicable

Chain of Custody

CHAIN OF CUSTODY RECORD

Page 1 of 1

Project No.: 2003074		Client: HANCOCK & ESTABROOK, LLP		# of	Site: FORMER N. STAR DRY CLEANER CICERO NY			Sampler's Signature:
Sample No.	Date	Time	Origin/Source	Containers	Comp.	Grab	Other	Analyses/Tests Requested
E-1	1/11/05	12:17 PM	NORTH WALL 15'+/-	1		X		TCL VOC's (STARS)+
E-2	1/11/05	12:28PM	EAST WALL 15'+/-	1		X		TCL VOC's (STARS)+
E-3	1/11/05	12:44PM	SOUTH WALL 15'+/-	1		X		TCL VOC's (STARS)+
E-4	1/11/05	12:36PM	WEST WALL 15'+/-	1		X		TCL VOC's (STARS)+
E-5	1/11/05	12:10PM	BOTTOM OF EXCAVATION 15'+/-	1		X		TCL VOC's (STARS)+

Relinquished by: Signature: Print: C. GUARINO	Date/Time: 1-12-05 1010hrs	Received by: RENGLISH, STL Signature: Print: RENGLISH	Date/Time: 1-12-05 1010HRS	Relinquished by Signature Print R. English STL	Date/Time: 1-12-05 17:30 hrs	4.0°C	
Received by: Signature: Print: 01/13/05 1100	Date/Time:	Relinquished by Signature Print:	Date/Time:	Received by Signature Print	Date/Time:		

Remarks:

PLUMLEY ENGINEERING, P.C.

Civil and Environmental Engineering

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(315) 638-8587 Fax: (315) 638-9740 E-mail: Pros@PlumleyEng.com

PLUMLEY ENGINEERING

PLUMLEY ENGINEERING, P.C.
STANDARD OPERATING PROCEDURES

SOIL VAPOR SAMPLING PROCEDURE USING SUMMA CANISTERS

This standard operating procedure pertains the installation of soil vapor monitoring points and the collection of soil vapor samples using SUMMA canisters for which the information will be used to assist in characterizing environmental site conditions.

Sample depths should be chosen to minimize the effects of changes in barometric pressure, temperature, or breakthrough of ambient air from the surface; and to ensure that representative samples are collected. The depth of sampling shall be specified in the project work plan for each site, but generally soil vapor probes should be installed to just above the water generally or at 5 feet below ground surface (bgs), whichever is shallower.

OUTDOOR SAMPLE POINT INSTALLATION

1. A ⅜-inch diameter hole is driven into the ground to a depth of 4 to 5 feet using a commercially available slam bar. Soil vapor can also be sampled at other depths by the use of a longer bar or bar attachments. A ¼-inch O.D. stainless steel tube is inserted into the hole. The hole is then sealed around the top of the tubing using soil, modeling clay, or rubber stopper, depending upon the area being sampled.

2. Power driven sampling probes may be utilized when soil conditions make sampling by hand unfeasible (i.e., frozen ground, very dense clays, pavement, etc.). Commercially available soil vapor sampling probes (hollow, ½-inch O.D. steel probes) can be driven to the desired depth using a power hammer (e.g., Bosch Demolition Hammer or Geoprobe™). Samples can be drawn through the probe itself, or through inert tubing inserted through the probe and attached to the probe point.

SUBSTRUCTURE SAMPLE POINT INSTALLATION

1. A 1-inch diameter hole will be drilled through the concrete floor using a hammer drill. If the drill bit meets refusal before reaching the underlying soil the sampling location will either be offset or a core saw will be used to make a 1½-inch hole in the same location.

2. A ½-inch diameter steel rod will be driven approximately 6 inches into the soil beneath the concrete floor to form the sampling well. Inert tubing (¼-inch) will be installed in a laboratory grade tapered rubber stopper with a ¼-inch hole. The stopper will be placed in the hole with the tubing extending 8 inches below the surface of the concrete. This will locate the end of the tubing approximately at the soil-concrete interface. An airtight seal (i.e., wax) will be placed around the tubing and the stopper, and around the stopper and the floor, in order to form a seal that will prevent room air from entering the "mini-well."

SOIL VAPOR SAMPLING

1. The vapor contained in the interstitial spaces of the soil is sampled by pulling the sample through the subsurface probe into the vacuum canister.

2. The capacity of the SUMMA canister and sampling flow rate shall be as specified in the project work plan.

3. For preparation of the SUMMA canister and collection of the sample, the following procedure is to be followed:

    a. Place SUMMA canister adjacent to subsurface probe.

    b. Record SUMMA canister serial number on the chain of custody (COC).

c. Assign sample identification on canister I.D. tag and record on COC.

d. Remove brass plug from canister fitting.

e. Install pressure gauge/metering valve on canister valve fitting.

f. Open and close canister valve.

g. Record gauge pressure. Gauge pressure must read > 25" of Hg.

h. Remove brass plug from gauge and install particulate filter onto metering valve input.

i. Connect subsurface probe/inert tubing (polyethylene) to the end of in-line particulate filter.

j. Open canister valve to initiate sample collection.

k. Take photograph of canister setup and surrounding area.

l. Record local time on COC.

4. Procedure for termination of sample collection:

a. At end of the designated sample collection period, record gauge pressure.

b. Record local time on COC.

c. Close canister valve.

d. Disconnect polyethylene tubing and remove particulate filter and pressure gauge from canister.

e. Install brass plug on canister.

f. Remove temporary subsurface probe and properly seal hole.

5. For samples collected from a crawl space or basement without an apparent vapor barrier, the canister will be placed at breathing zone height, or in a crawl space, about one foot above the floor. In general, areas near windows or other potential sources of air currents (drafts), and air supply vents should be avoided. All other sample procedures must be performed as described above for sub-slab sampling.

IMMEDIATELY AFTER SAMPLING:

After the air sample is collected, the canister valve is closed, an identification tag is attached to the canister, and the canister is transported to a laboratory for analysis. Upon receipt at the laboratory, the canister tag data is recorded. Sample holding times and expiration should be determined prior to initiating field activities.

Place the custody seals on the containers or coolers if the scope of work calls for them. Fill out the chain of custody form. Check the soil vapor field log is complete. Field notes are critical to inform the client and laboratory personnel about sampling conditions and other observations (i.e., weather, strange odors, or groundwater). These notes may help in running the samples as well as interpreting the analytical results.

Collect the used expendables (i.e., gloves, rope etc.) in a plastic bag and properly dispose of them. Deliver the samples to the laboratory within all appropriate holding times for the parameters to be analyzed. Clean all the used sampling equipment per Standard Procedures for Decontamination, as applicable.

PLUMLEY ENGINEERING, P.C.
STANDARD OPERATING PROCEDURES

SURFACE SOIL SAMPLING PROCEDURE

For surficial soils, a sample depth of 0 to 2 inches below the vegetative cover is required for assessing public health exposures. For ecological and garden soil assessments, a depth of 0 to 6 inches is required for exposure assessment purposes. This procedure ensures that a surface soil sample collected is representative of the site. Materials required include sample containers, hand trowels, hand auger, stainless steel spoon and pan, and personal protective equipment as specified in the Health and Safety Plan.

INSTRUCTIONS:

1. Read over the scope of work to become familiar with the specifics of the project, especially the required surface soil sample depth (2 or 6 inches).

2. Obtain appropriate sample containers from the laboratory.

3. Collection of a representative sample:

    a. Take each sample from a discrete location. Final sample locations will be coordinated on-site with representatives of Plumley Engineering and the DEC.

    b. Avoid sampling recently disturbed areas such as footprints or tire tracks, etc.

4. Sample collection methods:

    NOTE: The sample collection method must be consistent for each sampling event. Record the method in the field log.

    a. Sample containers held by hand are filled directly.

b. With clean hand trowel, scrape away grass or forest debris (leaves, sticks, vegetation) in a 1 foot square area.

c. With hand auger or trowel, excavate small area to required depth (2 or 6 inches). A composite sample of the soil shall be collected and place in the stainless steel pan.

d. Thoroughly mix the composite sample in the pan with the spoon. Remove any sticks, rocks or other debris, re-mix and place sample in jar.

5. Immediately after sampling:

a. Store all collected samples in a cooler maintained at 4 degrees centigrade.

b. Place the custody seals on the containers or coolers if the scope of work calls for them.

c. Fill out the chain of custody form.

d. Complete the Sampling Record and Field Observation Log form.

6. Deliver the samples to the laboratory within all appropriate holding times for the parameters to be analyzed.

7. Clean all the used sampling equipment per Standard Procedures for Decontamination.

PLUMLEY ENGINEERING, P.C.
STANDARD OPERATING PROCEDURES

GROUNDWATER SAMPLING PROCEDURE

This procedure ensures that a groundwater sample collected is representative of the hydrogeologic formation. This procedure is utilized anytime a monitoring well is sampled. There are no specific definitions for this procedure. Consult the Equipment Checklist for required materials. Precautions on the chemical preservative Material Safety Data Sheets must be followed.

INSTRUCTIONS:

1. Read over the scope of work to become familiar with the specifics of the program.

2. Obtain appropriate sample containers from the laboratory.

3. Prepare sampling equipment necessary for the program.

    a. Consult the Equipment Checklist.

    b. Reserve equipment, if necessary.

    NOTE: Try to have enough equipment on site to avoid decontamination while sampling.

    c. Check, test and clean all equipment before leaving for the site.

    d. Always bring more than enough personnel protective equipment and expendables (ex. gloves, tyvek, rope etc.) on site to complete the program.

4. Examine the monitoring well.

    a. Confirm the well identification.

b. Note any damage in the groundwater field log.

5. Place a plastic sheet around the monitoring well so the field equipment (bailer, rope, meters, etc.) is not in direct contact with the ground, avoiding contamination.

6. Wipe the monitoring well's outer casing cover clean of any foreign material which might enter the well when it is opened.

7. Unlock the monitoring well.

NOTE: Securely lock the monitoring well when it is left unattended and is not in direct view.

8. If organic contamination is suspected in the groundwater, monitor the well headspace with a photoionization detector (PID).

a. Open the outer well casing cover just enough to insert the PID probe.

b. Monitor the well headspace for organic vapors.

c. Remove the probe and close the casing cover.

d. Record the results in the groundwater field log.

e. Establish appropriate levels of personnel protection.

9. Remove the outer well casing cover.

10. Put on a new pair of disposable gloves before doing any field measurements, preventing cross-contamination.

11. Measure the depth to water and the total depth of the monitoring well with an electronic water level indicator.

12. Calculate the volume of water within the well and determine how much must be evacuated.

Monitoring Well Volume Calculation:

SWL = Depth to Water
TD = Total Depth of Well
L = Length of Water Column
C = Conversion Factor
N = Number of Volumes to Evacuate
TV = Total Volume to Evacuate

TD - SWL = L

L x C = 1 well volume

1 well volume x N = TV

Common Conversion Factors:

0.16 2 inch well

0.65 4 inch well

NOTE: Quick field calculations for 3 well volume evacuation.

2-inch well: divide the length of the water column (L) by 2

4 inch well: multiply the length of the water column (L) by 2

13. The monitoring wells shall be evacuated by manual bailing. Dedicated bailers are provided in each well. In the event any bailer is missing, a new bailer shall be dedicated to that well.

14. If initial field readings (ex. eh, temperature, pH, specific conductivity, etc.) are necessary:

a. Measurements are taken from the first water evacuated from the well.

NOTE: Always calibrate field meters on site daily before initial use and check the calibration periodically.

b. Field reading are taken in the following order:

eh
temperature
pH
specific conductivity

c. Record the readings in the groundwater field log.

15. If a bailer is going to be used to evacuate the monitoring well:

a. Push only the bailer loop through the protective polyethylene wrap, leaving the rest of the bailer covered.

b. Attach a spool of 3/16-inch polypropylene rope to the bailer, using at least two half hitches, and weave the rope end through the main rope several times.

c. Keep the bailer in the protective wrap until just before it is lowered into the monitoring well.

d. Gently lower the bailer into the well until it contacts the water surface.

NOTE: The contact is felt through the rope and may be audible.

e. An immiscible layer check will be done prior to evacuation with the bailer:

1. Lower the bailer about 2 feet into the water (skim the surface).

2. Retrieve the bailer.

NOTE: The bailer rope is still attached to the spool and care must be taken to avoid contamination of the rope spool. In addition, the retrieved rope must not come in contact with sources of contamination.

3. Pour the bailer contents into a clear glass container for observation.

4. Return the bailer to the well.

5. Record any amount of free product and associated observations in the field log (ex. odor, sheen).

f. Gently lower the bailer to the bottom of the well.

NOTE: The bailer must go all the way to the bottom to ensure there is enough rope if the well must be bailed dry.

g. Cut the bailer rope from the spool.

h. Begin bailing.

1. Gently retrieve the bailer.

2. Empty the bailer into a graduated 5 gallon bucket.

3. Gently lower the bailer 1 or 2 feet below the surface of the water.

4. Repeat steps 1, 2 and 3 until the required water volume has been removed or the well is dry.

16. Evacuated well water is dumped away from the well so that it doesn't flow back towards any monitoring well.

NOTE: If the evacuated water is contaminated (ex. free product, strong odor or sheen) the purge water shall be stored on-site in a 55 gallon drum. Notify the client of status of drum after each sampling event and arrange appropriate disposal.

17. a. For samples collected for analysis by volatile parameters, 95% well recovery is not required. Sampling for VOCs should be performed as soon as sufficient volume of a sample can be collected without disturbing any sediment that may be present at the bottom of the well.

NOTE: VOC samples must be collected within 2 hours of well evacuation.

b. For samples collected for analysis by semi-volatile parameters, 95% well recovery is required prior to sampling. If 95% recovery is not noted within 24 hours, the DEC shall be consulted for proper sample collection procedure. This procedure is likely to consist of collecting the sample while taking care not to disturb any sediment that may be present at the bottom of the well.

18. If samples for both volatile and semi-volatile analysis are to be collected from the same well and 95% well recovery is not noted within 2 hours of well evacuation, the DEC shall be consulted for proper sample collection procedure. This will likely consist of collecting the samples separately by the procedures outlined in Item 17.

19. Before collecting any samples:

a. Check the sample containers are properly labeled as to client name, sample location, analysis to be performed and container preservation.

b. Check sample containers are stored in a contaminant-free environment.

20. Samples are collected from the screened portion of the monitoring well in the order of the parameters' volatilization sensitivity unless otherwise specified in the scope of work.

a. Volatile organics

b. Field readings

c. Total organic carbon

d. Extractable organics

e. Total metals

f. Dissolved metals

g. Phenols

h. Cyanides

i. Sulfate and chloride

j. Turbidity

k. Nitrate and ammonia

l. Radionuclides

21. Begin sample collection.

a. Do not over fill preserved sample containers. This may result in inadequately preserved samples.

b. Containers for volatile analysis are filled slowly in such a way that the sample runs down the inner wall of the container reducing volatilization of the sample.

c. Containers for alkalinity and volatile analysis are filled with no headspace.

NOTE: If headspace is present in the container after it is capped, it is emptied out and refilled. The label is corrected to read "unpreserved", if necessary.

d. Containers for semi-volatile analysis are filled with as little headspace as possible.

e. Keep the quality control requirements of the program in mind and collect adequate sample volumes (Appendices 1 and 2).

22. Immediately after sampling:

a. Store all collected samples in a cooler maintained at 4 degrees centigrade.

b. Place the custody seals on the containers or coolers if the scope of work calls for them.

c. Fill out the chain of custody form.

d. Check the groundwater field log is complete.

NOTE: Field notes are critical to inform the client and laboratory personnel about the conditions of the well and other observations (ex. weather, strange odors, bent casing or flooded wells). These notes may help in running the samples as well as interpreting the analytical results.

23. Collect the used expendables (ex. gloves, rope etc.) in a plastic bag and properly dispose of them.

24. Lock the monitoring well.

25. Deliver the samples to the laboratory within all appropriate holding times for the parameters to be analyzed.

26. Clean all the used sampling equipment per Standard Procedures for Decontamination.

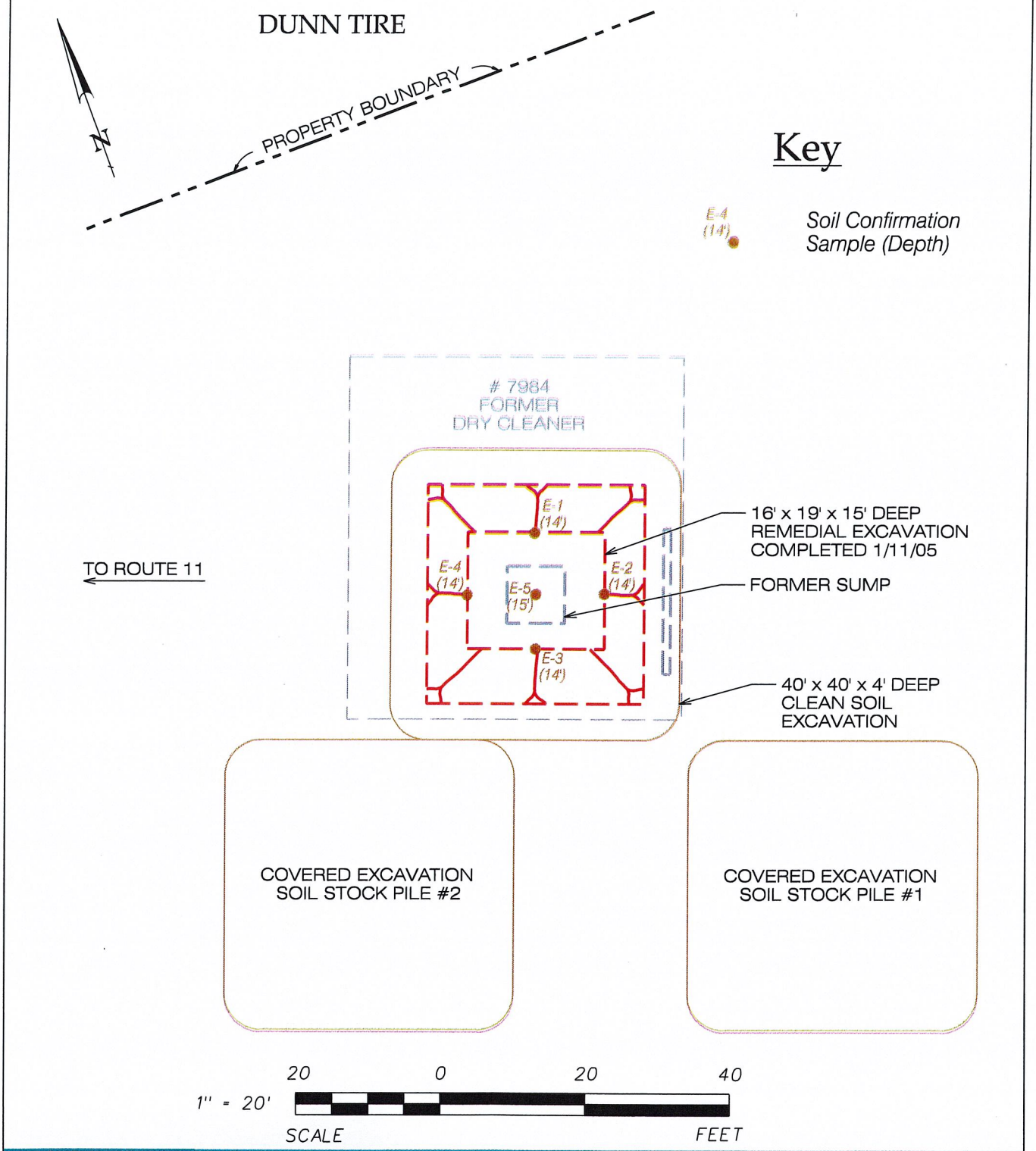
PLUMLEY ENGINEERING, P.C.
STANDARD OPERATING PROCEDURES

SAMPLING EQUIPMENT CLEANING PROCEDURE

This procedure ensures better laboratory results through the use of properly cleaned sampling equipment. This procedure is utilized anytime sampling equipment is cleaned. There are no specific definitions for this procedure. Materials required include Alconox, deionized water, 10% nitric acid solution and methanol. Precautions on the Material Safety Data Sheets must be followed.

INSTRUCTIONS:

1. Rinse the equipment with tap water to remove any loose debris.
2. Wash the equipment with tap water and non phosphate detergent (ex. Alconox).
3. Rinse the equipment with tap water to remove any traces of detergent.
4. Rinse the equipment with a 10% nitric acid solution followed by deionized water.
5. Rinse the equipment with methanol.
6. Allow the equipment to air dry in a contaminant free area.
7. Seal the equipment in plastic to keep it clean.
8. Label the equipment with the cleaner's initials and date of cleaning.
9. Store all the equipment in a contaminant free area.



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DESCRIPTION: POST - EXCAVATION SOIL SAMPLES

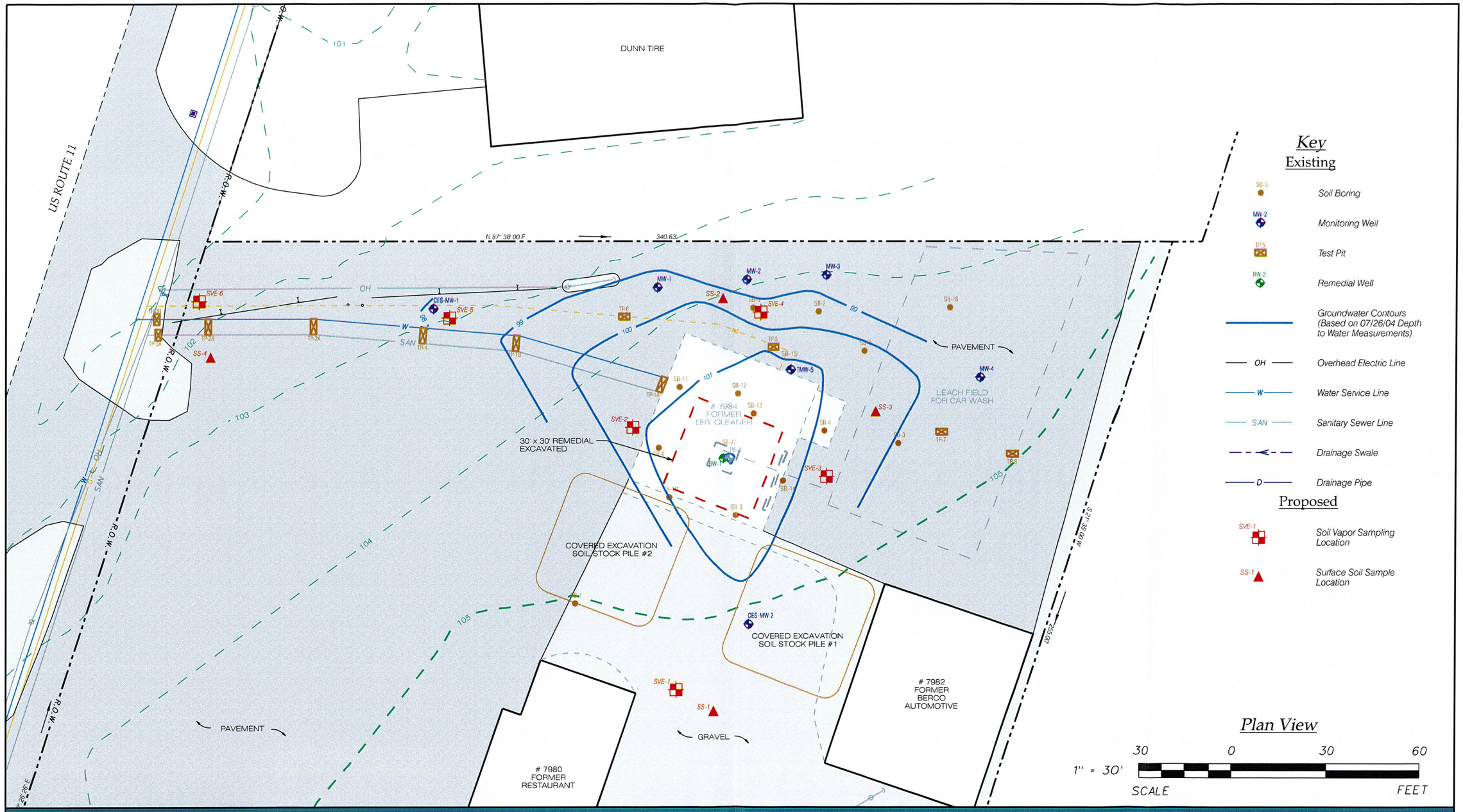
PROJECT: VOLUNTARY CLEAN UP PROGRAM
VCA No. A7-0466-0702

CLIENT: HANCOCK & ESTABROOK, LLP

LOCATION: TOWN OF CICERO, ONONDAGA COUNTY, NEW YORK

FIGURE 1

...\2003074.00\Drawings\8.5x11.dgn 2/10/2005 9:24:22 AM



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Civil and Environmental Engineering

REVISIONS: DATE: BY:

NOTE: NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

PROJECT: *VOLUNTARY CLEANUP PROGRAM*
VCA No. A7-0466-0702

DWG. TITLE:
SOIL VAPOR AND SURFACE SAMPLE LOCATIONS

CLIENT:
HANCOCK & ESTABROOK, LLP

LOCATION:
TOWN OF CICERO, ONONDAGA COUNTY, NEW YORK

PROJECT No.:	2004074
FILE NAME.:	EV01P
SCALE:	1" = 30'
DATE:	FEB. 2005
ENG'D BY:	WJS
DRAWN BY:	JMD
CHECKED BY:	DRV

SHEET NO.:

FIGURE 2