SUPPLEMENTAL
REMEDIAL INVESTIGATION WORK PLAN

FOR

ROSE CLEANERS
500 Lexington Avenue
Mount Kisco, New York 10549
Site No.: 3-60-059
Index No.: W3-0978-03-12

PREPARED FOR

NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
625 BROADWAY
ALBANY, NEW YORK 12233-7016

PREPARED BY

BERNINGER ENVIRONMENTAL, INC.

BEi

June 2006

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SUPPLEMENTAL WORK PLAN SCOPE

Tasks 1 to 6 of the approved Remedial Investigation Work Plan were performed at the Rose Cleaners, (Site Number 3-60-059) located at 500 Lexington Avenue, Mt. Kisco, New York 10549 by Berninger Environmental Inc. (BEI) during May - October 2005.

Based upon the remedial investigation completed to date, BEI has identified significant supplemental investigatory data needs for this property. This work plan proposes to use the NYSDEC/USEPA Triad approach in which an initial phase of supplemental sampling will be performed, with a preplanned course of action for subsequent sampling phases, predicated on the interim data. This preplanned process will allow for comprehensive data collection and the time-effective completion of the site characterization.

An updated evaluation of the sensitive receptors in the area will be generated based upon the development of more off-property data. Furthermore, the off-property groundwater data will be used to further evaluate potential impacts and exposure assessment relative to surface water, sediment and other media.

1.0 INTRODUCTION

1.1 Remedial Investigation

A Remedial Investigation Report (RI Report) on the Rose Cleaners Inactive Hazardous Waste Disposal Site (IHWDS) was prepared pursuant to the requirements of an executed Order on Consent (December 22, 2003) between the New York State Department of Environmental Conservation (NYSDEC), Division of Environmental Remediation (DER), and LRB Cleaners, Inc., the Respondent.

Task 1 (Piezometer Installation/Determination of Groundwater Flow Direction), Task 2 (Soil Gas Investigation), Task 3 (Soil Investigation), Task 4 (Groundwater Investigation) and Task Nos. 5 and 6 (Surface Water and Sediment Investigation) of the approved Investigation Work Plan were implemented by Berninger Environmental Inc. (BEI) at the Rose Cleaners property during May - October 2005. Based upon the remedial investigation completed to date, BEI has identified significant supplemental investigatory data needs for this property. This addendum (supplemental) to the RI work plan has been prepared to address the requirements established in NYSDEC correspondence dated February 24, 2006 and May 9, 2006 and a site meeting held on May 5, 2006.

The subject property is listed on the NYSDEC DER Registry of Inactive Hazardous Waste Disposal Sites in New York State as Site Number 3-60-059 with a Classification of 2 pursuant to ECL 27-1305. The site is located at 500 Lexington Avenue, Mt. Kisco, New York 10549, fully described at Dist. 80.64, Section 01, Lot 14.

1.2 Triad Approach in Site Investigation

As encouraged by the United States Environmental Protection Agency's (USEPA's) Office of Solid Waste and Emergency Response and the NYSDEC DER, BEI proposes an integrated "triad" or pre-planned approach for the continued supplemental investigation of this site. The triad approach includes systematic planning such as the development of

dynamic work plans and real time data collection strategies to implement data collection and make technical decisions at hazardous waste sites. In lieu of the adoption of real time technologies, BEI proposes to integrate real time "flexibility" into the characterization strategy, by which the investigatory program will be implemented.

Specifically, data will be developed in a tiered or step-wise fashion, both on-site and off-site. The proposed overall scope, method and means for this sampling is provided in this work plan. This strategy provides the flexibility to continue with subsequent phases of investigation and other associated phases such as pilot testing and/or the development or proposal of interim remediation measures, without a significant loss of time.

1.3. Site Background and History of Use

Site Name:	Rose Cleaners
Owner:	LRB Cleaners, Inc.
Operator:	Hwa-Young Kim
Location:	500 Lexington Avenue, Mount Kisco, New York 10549
	Latitude 41º 12' 16.914 N, Longitude 73º 43' 42.489" W
Remedial Investigation Agreement:	IHWDS Site No.: 3-60-059
	Index No.: W3-0978-03-12

The current site development consists of a one-story concrete block/masonry slab-on-grade approximately 5,810 ft^2 building. The building possesses a built-up metal flat roof. The building was remodeled in 1955 and 1962. A 100-ft^2 fur vault was added in addition to partitioned office spaces. Approximately 10,900 ft^2 of asphalt paving (installed circa 1955 and maintained thereafter) is present exterior to the building. The property has always been used as a cleaning plant/facility. A tenant is located at the rear of the building; the date of occupancy by the tenant is unknown. The tenant is a plumbing company that uses the building space primarily as a warehouse for plumbing supplies.

2.0 PROPOSED SUPPLEMENTAL INVESTIGATION

Based upon the data developed the approved Remedial Investigation Work Plan, BEI has identified supplemental investigatory data needs as follows:

2.1 Soil Gas Sampling and Indoor/Outdoor Air Quality

As tetrachloroethene was detected at all on-site soil gas sampling locations, the development of supplemental off-property soil gas data is required to further refine the overall site model. This work plan proposes a tiered approach in which a first phase of supplemental off-site soil gas sampling will be performed at the directly adjoining properties or properties directly in line with elevated concentrations of on-site soil gas. These specific initial targeted locations have been identified in Figure 2.

As on-site concentrations of soil gas in several areas are elevated with respect to guidance values, it is anticipated that subsequent phases of soil gas investigation may be required, beyond those locations selected on Figure 2. In order to allow for a flexible, time and cost effective field investigation approach, as each set of soil gas data is developed (and validated), the next direct-in-line potential receptor will be targeted for sampling. This approach will be applied in instances wherein soil gas concentrations are above guidance values and the potential for indoor air quality impacts continue to exist. These proposed efforts would include sub-slab sampling and/or indoor or outdoor air quality at potential off-site receptors, dependent upon soil gas concentrations, land use, site occupancy and other site specific factors. As the soil gas investigation progresses, reference will be made to the NYSDOH PCE Matrix. Each data set will be documented in a limited summary report for transmission to the NYSDEC/NYSDOH, on a timely basis, as interim deliverables.

In addition to identifying appropriate off-site receptors for supplemental soil gas sampling, sampling has been and will continue to be proposed along preferential pathways such as utility paths. As the soil gas sampling program expands away from the study site, ambient

outdoor air sampling will also be performed at areas that are conducive to an outdoor inhalation pathway. All off-site locations will require access agreements. If access is not feasible, the NYSDOH/NYSDEC will be contacted for assistance in order to ensure that testing of these locations is performed.

All soil gas sampling will be performed in accordance with the NYSDOH February 2005 guidance document utilizing a helium gas tracer analysis. This work will be performed under the specifications already approved in the RI work plan.

Locations of and Implementation of Soil Gas Sampling

As shown on Figure 2, supplemental subgrade soil vapor sampling (SSV) will be performed. These first phase locations are indicated and coincide with elevated concentrations reported in the prior remedial investigation report. Locations mid-way (½) between the subject property and off-site occupied locations and a sub-slab location inside the dry cleaner building have been proposed.. As requested specifically by the NYSDEC and NYSDOH during our site meeting, an SSV sample will also be collected from within the house along New Castle Drive, located directly to the west of the study site.

With the Geoprobe equipped with a Post-Run Tubing System (PRT), soil gas samples will be collected from beneath the asphalt pavement at depths of approximately 2 feet bgs, in order to make a representation of soil conditions below asphalt, potentially migrating off-site. The boreholes will be sealed at the land surface using quick dry cement. The samples will be collected in summa canisters for laboratory testing using a helium gas tracer analysis. Upon completion of each day's sample collection, the canisters will be transported under strict chain-of-custody to an NYSDOH-ELAP certified laboratory for analysis by EPA Method TO-14 Volatile Organic Compounds (VOC) list analytes by TO-15 method. The borings will be abandoned by clean sand and bentonite grout to grade.

Locations of and Implementation of Indoor and Outdoor Air Quality Sampling

As shown on Figure 2, supplemental testing for PCE concentrations in indoor air will be performed. These efforts will utilize PCE badges initially as an unobtrusive means to obtain pertinent proximate, off-site indoor air quality data for residences surrounding the subject property. These badges will be placed inside the homes or other locations for a 24 hour (1440 minutes) minimum time period. As discussed with the NYSDEC and NYSDOH, the badges will preferentially be placed in family rooms, within first floor living space and finished basements. The badges will be sealed, retrieved and submitted for laboratory analysis by EPA Method 311.9 at Gallson Laboratory, Syracuse, New York.

Ambient air samples will also be collected at various locations as shown on Figure 2. Summa canisters or PCE badges will be utilized to collect the ambient air samples, subject to the same methodologies described above for soil gas sampling.

2.2 Soil Sampling

Supplemental soil sampling has been proposed to be performed inside and exterior to the dry cleaner building to further identify or dispute the presence of suspected shallow sub-grade PCE source areas (see Figure 4). Soil samples will be analyzed for TCL VOCs by EPA Method 8260 and Tentatively Identified Compounds (TICs) with an NYSDEC ASP B deliverable package. This includes the area inside the building where heavy impacts are noted exterior (north side of building); the historic dumpster area and the rear of the building. Additional delineation of soil conditions will be performed in order to provide sufficient data for the selection of approach to site remediation technologies. In addition, to lateral investigation, supplemental subsurface depths will be sampled as necessary (above the water table) to vertically define the PCE impacts.

Although no specific additional areas of potential contaminant sources (such as former PCE tanks, drum storage or appurtenances or migration conduits) have been identified, this issue will continue to be considered as the site and off-site investigation continues. Specifically,

if supplemental soil sampling or other on-site media sampling indicates the possibility of unidentified source areas, a next phase of site or off-site investigation of the soil media will continue, in accordance with the prior approved work plan protocols for same. Each data set will be documented in a limited summary report for transmission to the NYSDEC/NYSDOH on a timely basis as interim deliverables.

All soil sampling will be performed in accordance with the NYSDEC DER-10 guidance document. This work will be performed under the specifications already approved in the RI work plan.

2.3 Groundwater Sampling

Based upon the data generated to date, supplemental on-site and off-site groundwater data to the east-southeast (upgradient), west, north and northwest is necessary to delineate the PCE plume. These locations have been designated on Figures 2 and 3. On-site groundwater data will be supplemented to complete the lateral and vertical extent of PCE and related compounds. Off-site locations were selected to allow for a further delineation of groundwater conditions, on either side of the creek (downstream), and adjacent to the study site.

Groundwater samples will be collected for analysis for TCL VOCs by EPA Method 624 and TICs with an NYSDEC ASP B deliverable package. The sampling intervals are also detailed on the attached figure and include supplemental shallow sampling at 5-6 ft bgs and 15-17 ft bgs at the property east perimeter (upgradient), south-southeast and across the creek. Deeper supplemental groundwater sampling is proposed at 35-27 ft bgs; 45-47 ft bgs and 55-57 ft bgs at prior sampling locations that exhibited concentrations of VOCs in groundwater above actionable concentrations. Access agreements will be required for off-site locations. Arrangements will be made as required. Supplemental depths will be sampled within the aquifer as necessary to vertically define the PCE and related VOC impacts. In the event that the testing data indicates that concentrations of PCE and VOCs extend either laterally or

vertically beyond the area identified on Figures 2 or 3, subsequent sampling locations will be selected based upon projected groundwater flow direction, surface water effects and source areas identified on-site. Aquifer characteristics will also be determined through methods such as slug testing or equivalent. Specifically, hydraulic conductivity testing via the use of Geoprobe adapted equipment is proposed (see Appendix A). This information will be integrated to confirm and refine the site conceptual model as the project progresses, allowing for a comprehensive and detailed delineation program. Each data set will be documented in a limited summary report for transmission to the NYSDEC/NYSDOH on a timely basis as interim deliverables. All groundwater sampling will be performed in accordance with the NYSDEC DER-10 guidance document and under the specifications already approved in the RI work plan.

2.4 Surface Water and Sediment Sampling

Based upon the data generated to date, supplemental off-site surface water and sediment data farther to the north (along the creek, past the prior sampling locations) is necessary to complete the site conceptual model and migration pathways. These locations have been designated on Figures 2 and 3. Surface water and sediment samples will be collected for analysis for TCL VOCs by EPA Method 624/8260 and TICs with an NYSDEC ASP B deliverable package. These samples will be collected in accordance with the procedures in the approved work plan.

2.5 Monitoring Well Installation

Based upon the results of supplemental groundwater sampling, a multi-level permanent monitoring well network will be proposed for installation to allow for remedial decision making and future monitoring of remedial actions. An interim deliverable will be provided that specifies the details on the multi-level permanent monitoring well network for NYSDEC review and approval prior to installation.

2.6 Sensitive Receptor Analysis & Exposure Assessment

An updated evaluation of the sensitive receptors in the area will be generated based upon the development of the supplemental on and off-property data. Furthermore, the off-property groundwater data will be used to further evaluate potential impacts and exposure assessment relative to surface water, sediment and other media.

2.7 Supplemental Pilot or Feasibility Studies

Supplemental studies such as pilot testing, analyses of soils, etc. may be required to determine the most feasible presumptive remedy for site soils and/or groundwater. These will be proposed on an as needed basis as the supplemental site investigation/remedial work continues.

2.8 Project Schedule and Reporting

Within 30 days of the approval of the Remedial Investigation Supplemental Work Plan, BEI will begin to mobilize for the performance of the above referenced tasks; dependent upon achieving successful off-site access. Each of the individual tasks will take approximately one week to perform; laboratory analysis of data associated with same is anticipated to take approximately 45-60 days inclusive of data useability review.

As discussed previously, interim report deliverables will be provided as deemed necessary. The findings of these tasks will be included in a complete overall RI report. This report will be generated within 45 days of receipt of all of the above proposed data, subsequent to validation. A copy of the preliminary and final report will be submitted to each of the recipients listed in the Remedial Investigation Agreement. When the Investigation is considered complete by the NYSDEC and if it is determined that remedial efforts are necessary, only the ELAP-approved laboratory data will be used to make remedial decisions. The information included in the final report shall be sufficient to make remedial decisions.

3.0 QUALITY ASSURANCE / QUALITY CONTROL PROCEDURES

Quality Assurance /Quality Control (QA/QC) procedures were developed to ensure that suitable and verifiable data results from sampling and analyses are maintained during the field. The prior approved investigation work plan provided detailed quality assurance procedures to be followed for sampling and laboratory analysis activities. These procedures were implemented during the initial RI investigation and will be utilized for all supplemental studies. A summary description of the quality assurance procedures followed is provided below.

3.1 Sampling Personnel

The activities associated with the field sampling and analysis program were performed under the supervision of a Quality Assurance Officer, in accordance with the NYSDEC, DER "Draft Technical Guidance for Site Investigation and Remediation", December, 2000 (3/26/01). The samplers possessed a minimum of two or more years experience in environmental/geological field work. Additionally, all samplers had received mandatory forty-hour Occupational Safety and Health Administration (OSHA) training on working with potentially hazardous materials and appropriate Hazard Communication Program and Right-To-Know' training.

3.2 Sampling Equipment

Individual QA/QC measures were implemented for each of the types of equipment, field screening instruments, sample containers, etc. used in the performance of the sampling program.

3.2.1 Geoprobe

Prior to arrival on the subject property and between sample locations, the probes were decontaminated by washing them with a detergent (Alconox) and potable water solution and rinsing them with distilled water.

3.2.2 Glassware

All sample glassware was "level A" certified decontaminated containers supplied by a NYSDOH-Certified Commercial Laboratory. Samples analyzed for media potentially containing VOCs were placed in Teflon-lined containers. All samples were preserved by cooling them to a temperature of approximately four degrees Celsius.

3.3 Sample Documentation

To establish and maintain proper sample documentation control, the following sample identification and chain-of custody procedures were followed.

3.*3.1 Sample Identification*

Sample identification was executed by use of a sample tag, log book and chain-of-custody form. Said documentation provided the following information: 1) the project code; 2) the sample laboratory number; 3) the sample preservation; 4) the date the sample was secured from the source media; 5) the time the sample was secured from the source media; and 6) the person who secured the sample from the source media.

3.3.2 Chain-of Custody Procedures

Due to the evidential nature of samples, possession was traceable from the time the samples were collected until they were received by the testing laboratory. A sample was considered under custody if it: was in a person's possession; it was in a person's view, after being in possession; if it was in a person's possession and they locked it up; or, it was in a designated secure area. When transferring custody, the individuals relinquishing and receiving the samples signed, dated and noted the time on the Chain-of-Custody Form.

3.3.3 Laboratory-Custody Procedures

A designated sample custodian accepted custody of the delivered samples and verified that the information on the sample tags matched that on the Chain-of-Custody Records. Pertinent information as to delivery, pick-up, courier, etc., were entered in the "remarks" section. The

custodian entered the sample tag data into a bound logbook. The laboratory custodian used the sample tag number, or assigned a unique laboratory number to each sample tag, and assured that all samples were transferred to the proper analyst or stored in the appropriate source area. The laboratory custodian distributed samples to the appropriate analysts. Laboratory personnel were responsible for the care and custody of samples, from the time they were received, until the sample was exhausted or returned to the sample custodian. All identifying data sheets and laboratory records were retained as part of the permanent documentation. Samples received by the laboratory were retained until after analysis and quality assurance checks were completed.

FIGURES

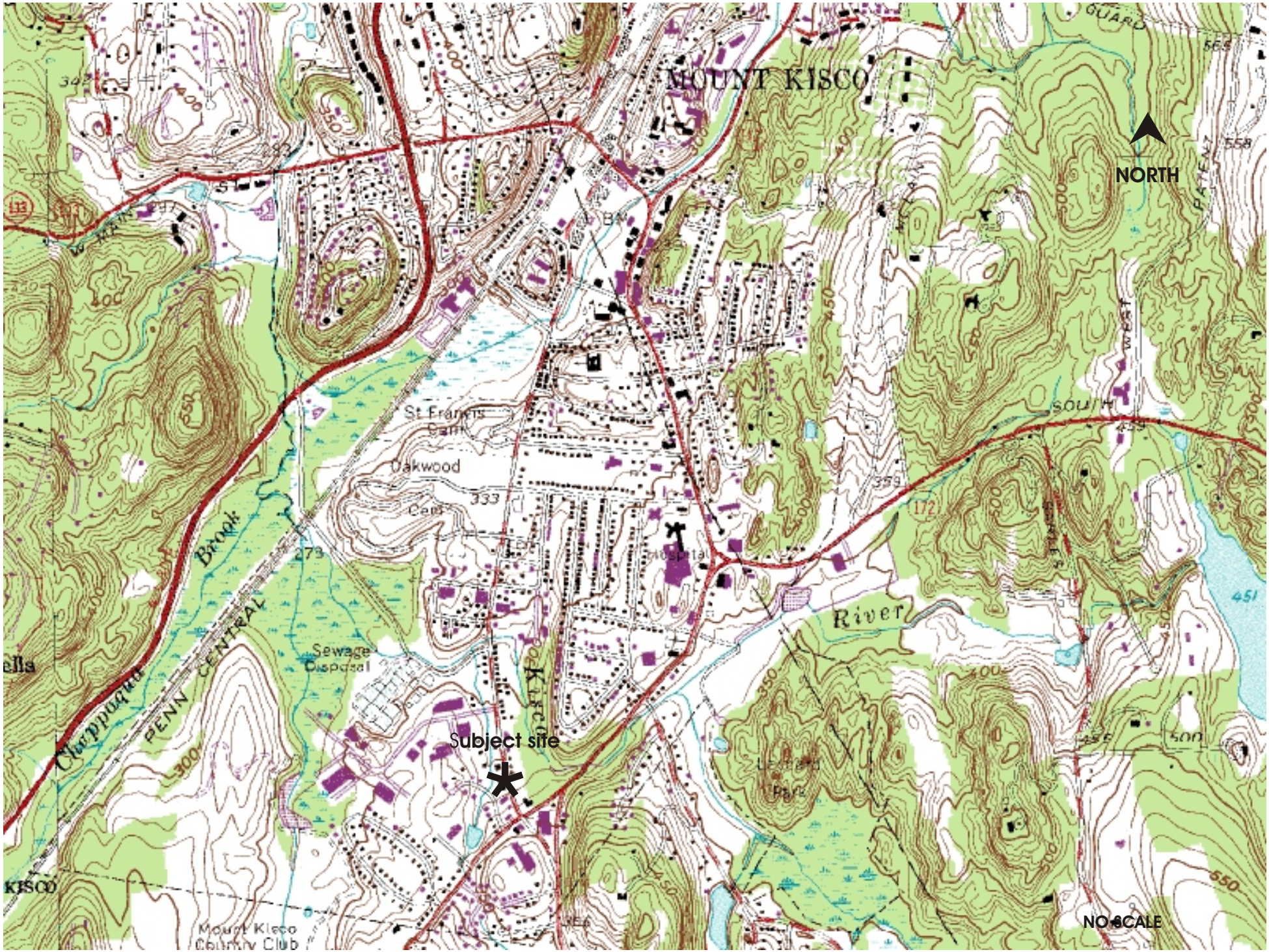
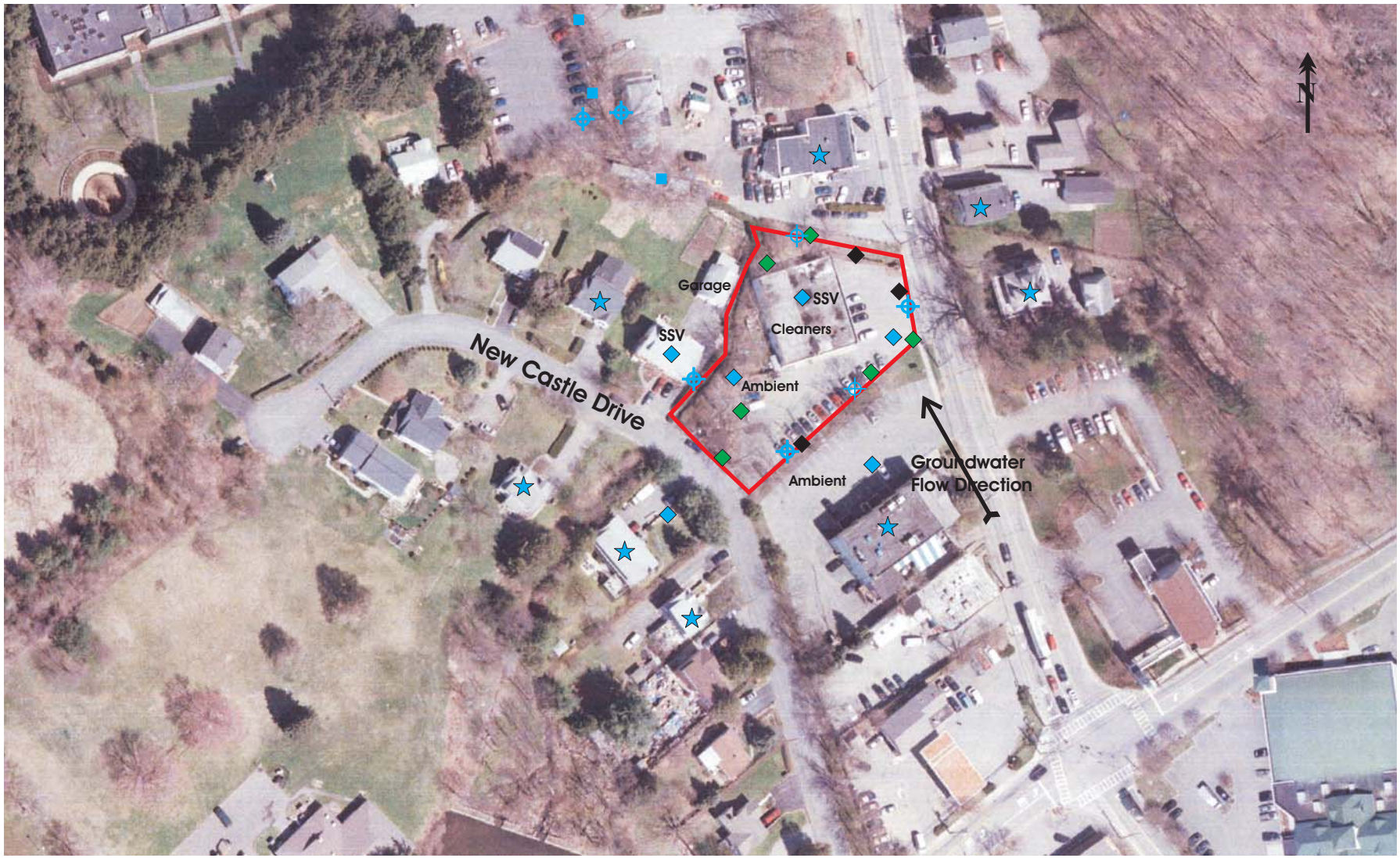


FIGURE 1 - SITE LOCATION AND TOPOGRAPHY

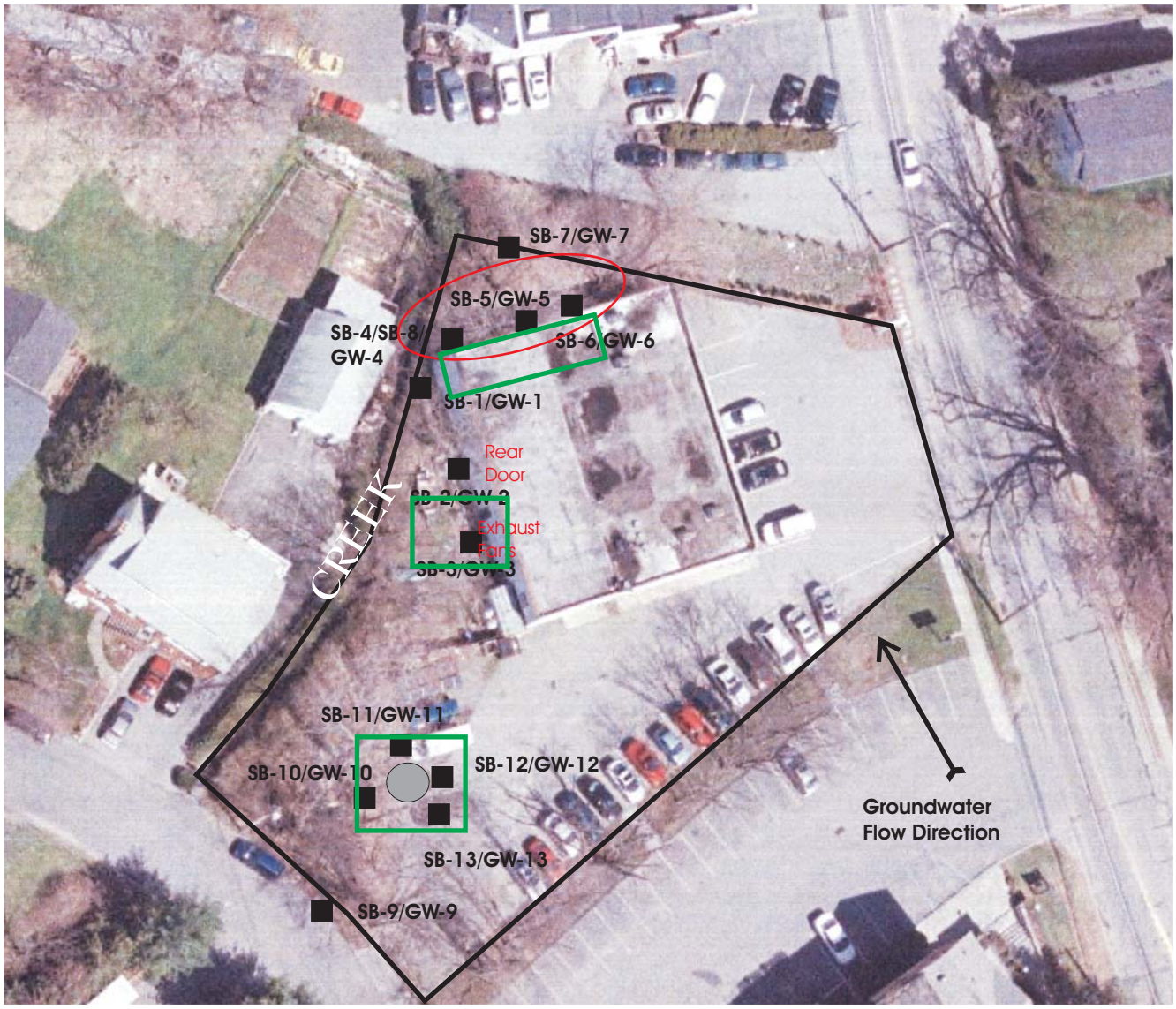
APPENDICES



No scale

- Locations of PCE in Soil Gas > 100 *u*g/m^3
- Proposed PCE Badge Sampling Locations
- Proposed Supplemental Soil Gas Sampling Locations
- Proposed Supplemental Surface Water/Sediment Sampling Locations
- Proposed Supplemental On- & Off-Site Groundwater Sampling Locations (see Figure 3 for detailed locations and intervals)

Figure 2 -Supplemental Indoor Air, Soil Gas (SSV) Surface Water/Sediment & Groundwater Sampling Locations	**Rose Cleaners** **500 Lexington Avenue** **Mt. Kisco, New York**	Berninger Environmental, Inc. 90 Knickerbocker Avenue Bohemia, New York 11716



Notes:

SB-9/GW-9
Soil & Groundwater Sampling Locations

Historic Dumpster Location

Areas of Proposed Supplemental Soil Sampling

Soil Boring#	Depth, bgs	PCE	TCE	1,2-DCE	VC	TVOCS
SB-1	3-4 ft	270	26	260	ND	628
SB-2	5-6 ft	110	11 J	170	ND	400
SB-3	4-5 ft	**34,000**	280	180	ND	34,460
SB-4	4-5 ft	**1,600,000**	**75,000**	**7,800 J**	ND	1,683,170
SB-5	3-4 ft	**51,000**	44 J	ND	ND	51,044
SB-6	3-4 ft	**15,000**	10 J	12 J	ND	15,022
SB-8	6"-8"	**4,300**	13	6 J	ND	4,319
SB-9	3-4 ft	ND	ND	ND	ND	ND
SB-10	3-4 ft	**15,000**	46	14	ND	15,060
SB-11	0.5 - 1 ft	ND	ND	ND	ND	ND
SB-12	3-4 ft	740	22	21	ND	783
SB-13	0-3 ft	ND	ND	ND	ND	ND

Scale
0 41 Feet

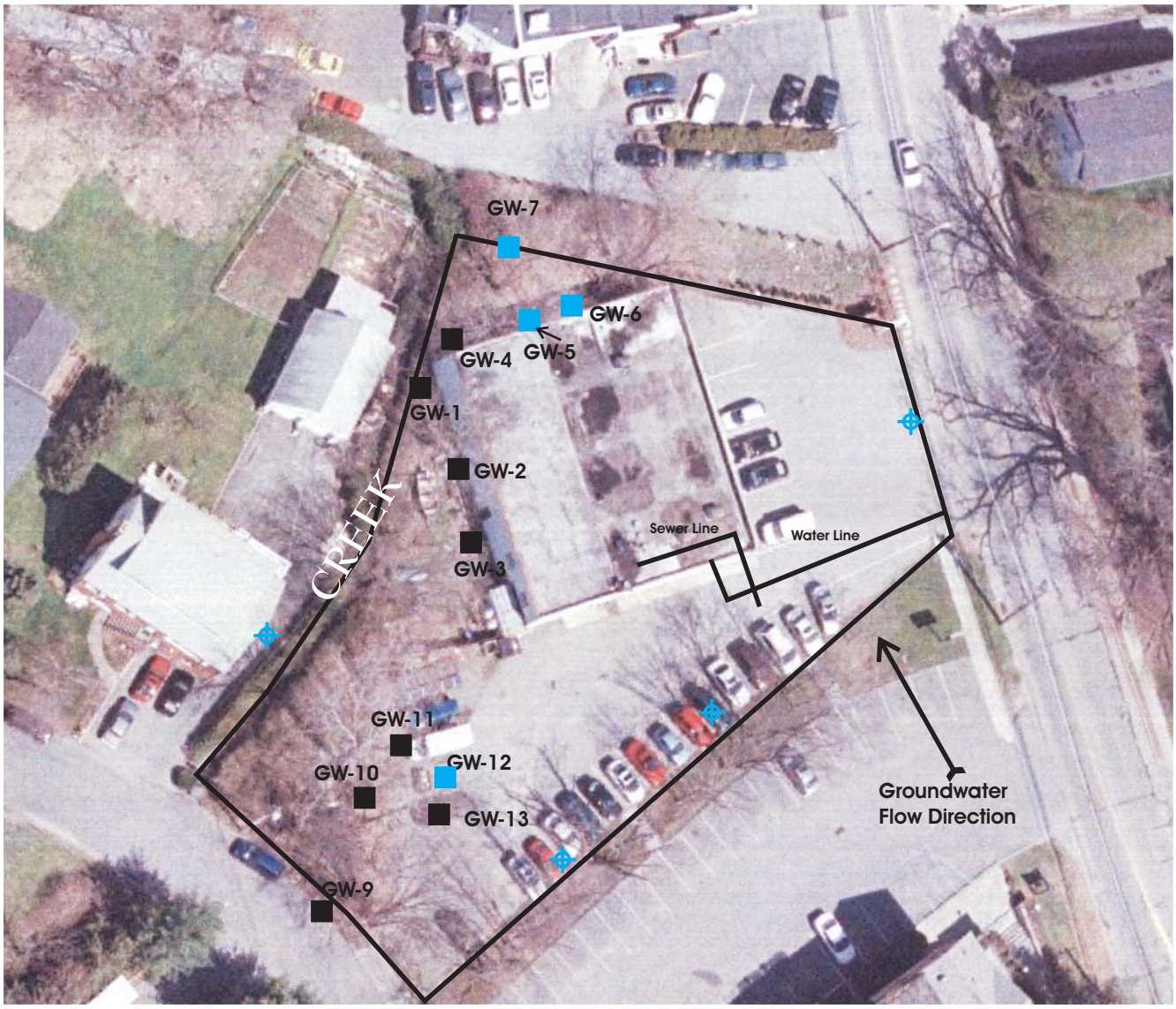
PCE - Tetrachloroethene; TCE - Trichloroethene; 1,2-DCE - Dichloroethene; VC- Vinyl Chloride;
TVOCs - Total Volatile Organic Compounds. Bold # = Exceedance of NYSDEC Potable Groundwater SGVs or Surface Water SGVs

Figure 4 -Proposed Soil Sampling Locations

Rose Cleaners
500 Lexington Avenue
Mt. Kisco, New York b

Berninger Environmental, Inc.
90 Knickerbocker Avenue
Bohemia, New York 11716
(631) 589 - 6521

Two off-site groundwater sampling locations - See Figure 2



Groundwater Sample	Depth, bgs	PCE	TCE	1,2-DCE	VC	TVOCS
GW-1	4-6 ft	14 J	ND	13,000	6,900	19,936
	14-16 ft	14,000	ND	110	42	14,152
	24-26 ft	2,300	ND	45	16 J	2,361
GW-2	5-7 ft	1,200	230	2,800	85	4,315
	15-17 ft	140	8	14	ND	162
	25-27 ft	220	8	32	ND	268
GW-3	5-7 ft	1,500	560	3,500	80 J	5,640
	15-17 ft	150	20	55	ND	225
GW-4	5-7 ft	55,000	10,000	11,000	400	76,400
	15-17 ft	57,000	590	480	ND	58,070
	25-27 ft	12,000	430	440	ND	12,870
GW-5	5-7 ft	240,000	ND	ND	ND	240,000
	15-17 ft	300,000	2,200	1,100 J	ND	303,300
	25-27 ft	300,000	1,800	660 J	ND	302,460
GW-6	5-7 ft	34,000	860	360	6 J	35,226
	15-17 ft	2,500	50 J	22 J	ND	2,572
	25-27 ft	1,400	48 J	34 J	ND	1,482

Groundwater Sample	Depth, bgs	PCE	TCE	1,2-DCE	VC
GW-7	5-7 ft	1,200	32 J	81 J	ND
	15-17 ft	150,000	480	360	26
	25-27 ft	140,000	420	160	8J
GW-9	5-7 ft	2 J	ND	ND	ND
	15-17 ft	2 J	ND	ND	ND
GW-10	5-7 ft	380	47 J	15	ND
	15-17 ft	120	17 J	7	ND
GW-11	5-7 ft	26	4 J	2 J	ND
	15-17 ft	17	ND	3 J	ND
GW-12	5-7 ft	5,800	1200 J	220	ND
	15-17 ft	5,400	910 J	120	ND
GW-13	5-7 ft	3,500	640 J	210	ND
	15-17 ft	1,900	560 J	330	ND

Notes:

GW-9
Prior Groundwater Sampling Locations

Supplemental Groundwater Sampling Intervals:
35 - 37 ftbgs
45 - 47 ft bgs
55 - 57 ft bgs

Supplemental Groundwater Sampling Intervals:
5 - 7 ftbgs
15 - 17 ft bgs

PCE - Tetrachloroethene; TCE - Trichloroethene; 1,2-DCE - Dichloroethene; VC- Vinyl Chloride;
TVOCs - Total Volatile Organic Compounds. Bold # = Exceedance of NYSDEC Potable Groundwater SGVs or Surface Water SGVs

Scale
0 41 Ft

Figure 3 - Supplemental Groundwater Sampling Locations

Rose Cleaners
500 Lexington Avenue
Mt. Kisco, New York

Berninger Environmental, Inc.
90 Knickerbocker Avenue
Bohemia, New York 11716
(631) 589 - 6521

APPENDIX A

Hydraulic Conductivity Slug Testing with GeoProbe