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October 29, 2012

Mr. Paul Patel, P.E.
NYS Department of Environmental Conservation
Division of Env Remediation, Remedial Bureau C
625 Broadway
Albany, NY 12233-7014

RE: American Cleaners @ Middletown ***VIA EMAIL***
VCP Site No. V00461-3, Orange County
Modification 2 for February 2012 Remedial Action Work Plan

Dear Paul,

Attached find the report defining the second Modification of the February 2012 Remedial Action Work Plan. This plan addresses the removal of the contaminated soil by the back door in place of horizontal or vertical Vapor Extraction methods because the area of contamination is small and excavation and disposal is quick and permanent.

As you know we have the contractor lined up to conduct the excavation and loading the soil into a roll-off container and dispose of the soil according to NYSDEC regulations. The report defines the various rounds of soil sampling relevant to determining if any soils need cleanup where they were reported in much earlier sampling events at the site. The locations and concentrations of soil samples are shown on maps to document the procedures and results.

On November 1 with a rain date of November 5, 2012; Clean Harbors of Newburgh, NY will be excavating and loading the roll-off container. I will be supervising the operation, collecting soil samples and scanning them with the ppb PID, and then sending the perimeter samples to York Analytical Laboratories. Our engineer Jolanda Jansen would normally be writing this letter, but as you know, she is out of the country right now and will review our activities when she returns next month.

Yours truly,

Katherine J Beinkafner

Katherine J. Beinkafner, Ph.D.
Certified Professional Geologist #6611

Cc: Erez Halevah, American Cleaners
David Crosby, NYS DEC
Jolanda G Jansen, P.E.

Introduction

As work at American Cleaners Middletown has progressed, the soil and groundwater conditions have been re-evaluated. The results of soil and soil gas sampling have brought about changes in the Remedial Action Work Plan (February 2012) to conduct appropriate remediation for the subsurface and sub-slab conditions encountered in the re-evaluation. All historical and 2012 soil sample PCE concentrations are shown on Figure 1.

Soil Sampling Relating to Changes in Remedial Action

Soil samples were collected on four occasions to meet various project objectives. The first soil sampling event occurred on May 15, 2012 when soil samples were found to have 0.0 ppm PID readings while a soil vapor extraction pilot test was attempted in the tight silty clay till soils under the blacktop. Since the pilot test indicated that the soil did not have sufficient permeability to sustain movement of vapors, it was decided to change plans and sample the soil since the Geoprobe™ was on site. Eleven sampling points (identified as ACMS1 through ACMS11) were selected within the "PCE plume" shown on Figures 2, 6, and 10 in the Remedial Action Work Plan (February 2012). At each sampling location starting on the blacktop the Geoprobe™ was driven four feet into the ground and a 2-inch diameter by 39-inch long clear plastic sleeve of sediment was collected. The sleeve was cut open the sediments were scanned with the Photoionization Detector (RAE Systems miniRAE 2000). A sample was scooped out of the plastic sleeve with a sterile trowel at approximately 3 feet in all cases except at ACMS4 where a fresh sample was obtained from 4 to 5 feet. The sample from the sleeve was packed into a 2-ounce clear glass jar with white plastic screw lid. Each sample was labeled and placed on ice in a cooler for pickup by the York Analytical Laboratories the next day with trip blank and equipment blanks. The laboratory results are summarized in Table 1. Five samples showed measurable amounts of PCE ranging from 9.7 to 230 ug/kg(ppb), while two samples showed estimated concentrations denoted by the J to the right of the value. In four samples, PCE was not detected as indicated by a value of "ND" in the results column. None of the samples even came close to the PCE Soil Cleanup Objective (SCO) of 1.300 ppm or 1300 ppb listed in the Table 375-6.8(a) Remedial Program SCO. The trip and field blank were clean except for small concentrations of Acetone and Methylene chloride, both common laboratory contaminants and not chemicals of concern in this location.

The second soil sampling event was outlined in Tables 2 and 3 in our submittal Remedial Investigation Work Plan: Re-Evaluation of On-Site Contaminants (June 2012). Seven sampling locations (ASCM12 to ACCM18) were proposed to check the status of four historical soil samples, confirm the findings of two samples from the May 2012 event (not defined by a work plan), and find any VOC concentrations in historical Soil Gas Summa sampling points. The depth of sampling of these locations was proposed as 3 feet below blacktop surface. The DEC Project Manager suggested samples could be taken beneath the gravel at the top of natural or fill soil materials thinking that PCE might infiltrate the blacktop and gravel and lodge at the top of the tight till soil. For those reasons, on July 25, 2012 at each of 7 locations, two soil samples were collected in a 4-foot sample sleeve with the Geoprobe™, a shallow and a deep sample identified as ASCM12S and ASCM12D for the shallow and deep sample. The laboratory results are summarized in Table 4 from the York Analytical Laboratories Report. As in the May sampling event, a few samples were reported with all VOCs as ND, not detected. Several samples had low concentrations of PCE and a few breakdown products and all concentrations below the SCO for PCE. Only one sample, that is ASCM12S by the backdoor, has a concentration of 3900 ppb PCE plus 47 ppb TCE and therefore

PCE is greater than the SCO of 1300 ppb. However, the deeper sample at the same location, ASCM12D had a concentration of 210 ppb for PCE.

On July 25, 2012 the proposed sample location inside the building under the concrete slab, sample ASCM19 could not be accessed when the Soil Vapor sample was taken at that location using a Summa Canister. However, after three extraction points were installed at three locations through the slab, the central location at XP2 was enlarged to a 6-inch diameter boring and two soil samples were collected and analyzed on September 27, 2012. On Figure 1 of the Re-Evaluation Work Plan of June, the location of XP2 is between historical sub-slab soil sampling locations of BEI-10 and BEI-5. The laboratory results of VOCs detected in samples XP2-A and –B are summarized in Table 5. The field equipment blank was shown to be contaminated with 5.3 ug/L (ppb) methylene chloride, a common laboratory contaminant; although for the trip blank all VOCs were reported as ND, not detected. The different concentrations of PCE indicates that the highest value (1,200,000 ug/kg) is near the top of the soil underlying the slab (15 inches below the floor) and far less (820 ug/kg) has seeped deeper into the soil (25 inches below the floor). For that reason the vapor extraction point XP2 was used as the sub-slab vapor collection point when the Vapor Extraction System was installed on September 27, 2012.

Sampling of soil at former hot spots under blacktop outside the building has boiled down to one shallow sample at one location (Sample ACMS12S) exceeding the Part 375 SCO for PCE of 1300 ug/kg (ppb). The location of the soil samples ACMS12S and ACMS12D is about 4.5 feet directly behind the backdoor. Two samples were collected, one just below the gravel (ACMS12S about 6-9 inches) and a second at 3 feet below ground surface (ACMS12D). The analysis of the deeper sample ACMS12D resulted in a concentration of 210 ug/kg, a value below the SCO for PCE. Sample ASCM11 was reported with a concentration of 23 uk/kg for PCE and is well below the SCO. At three feet deep and 9 feet from the two building walls sample ACMS11 forms a square area of 9 by 9 feet by 3 feet deep yielding 243 cubic feet or 9 cubic feet of soil to excavate.

In the process of locating a subcontractor to remove and dispose of the soil to be excavated by the back door, Clean Harbors of Newburgh, NY was contacted. In the conversations about classification of the soil material as hazardous with VOCs, the classification of the soil using the TCLP method of analysis for the 8360 list of VOCs was considered as a highly probable means of classifying the soil as nonhazardous because the PCE is not likely to leach from the soil and the results will be below the 0.7 ppm or 700 ppb value for classification of PCE contaminated soil to be considered nonhazardous with TCLP analysis.

On October 11, 2012 two soil samples were collected form near the original BEI-3 soil sample and the more recent ACMS12 samples. A hand auger was used to auger through a hole driven in the blacktop with a steel pry bar. The auger was driven down to the base of gravel and samples ACMS20 and ACMS21 were collected from the top of the soil. The samples were packed in duplicate 2 ounce glass jars with screw top lids. One set of samples was warmed and scanned with the PID to determine ppm of VOCs.

The other set of samples was packed on ice in a cooler and picked up by York Analytical Laboratories for total soil analysis by US EPA Method SW-846-8260B and for TCLP analysis for the 8260 list of VOCs. Results of the analyses were obtained on October 16, 2012 and are summarized in Table 6. To determine if a soil is hazardous using the TCLP data, the sum of the concentrations of the volatiles detected is compared to the standard. As show in Table 6, the two samples are both classified as

nonhazardous. This additional analytical step was preformed because disposal in a landfill is significantly less expensive than transport and disposal of hazardous waste.

Revised Remedial Action for Soil Outside of Backdoor Beneath Blacktop

The presence of PCE contamination in soils beneath the blacktop is quantified above. Cleanup by excavation and disposal of contaminated soil is the most cost effective remedial measure. That measure is described here and proposed as the first method of cleanup. In the event that complete cleanup cannot be achieved by excavation, a second circuit will be installed in the vapor extraction system with a horizontal extraction pipe buried in the excavation backfilled with gravel. That secondary measure is described below to be used as an alternative measure, if the excavation work is too costly and extensive. That result is unlikely, but must be presented to document potential sampling results and potential remedial measures.

Soil Excavation by Back Door

As described above, a concentration of 3900 ug/kg detected in soil sample ACMS12S (6-inches below surface) is above the NYSDEC soil cleanup standard (SCS) of 1300 ug/kg for PCE. In the same boring, sample ACMS12D (3-feet below surface) PCE was detected at 210 ug/kg indication that soil at that depth is below the NYDSEC SCS for PCE. The original sample at BEI-3 (at 2-feet below surface) was reported as18 ug/kg. The sample at 10 feet in the BEI-3 boring was below the water table, so it is not really a soil sample and is not considered relevant to this remedial measure. A PCE-concentration of 23 ug/kg was detected in Sample ACMS11 (3 feet below surface) and about 6.5 feet away from sample ACMS12D. Sample ACMS11 is located 9 feet from the shed wall and the back wall of the back door corner of the American Cleaners Building, forming a maximum 9-foot square as the maximum excavation area for the remedial measure. Samples ACMS12D and sample ACMS11 predict the maximum depth of the excavation at 3 feet below ground surface.

Remedial Steps include:

● The blacktop will be removed and piled on plastic sheeting along the curb to the southwest of the back door toward the dumpster.

● Digging will begin at the location of samples BEI-3 and 12 and proceed radially outward in vertical intervals of 1-foot. After testing with the Photoionization Detector (PID) for VOCs, the soil will be placed in the roll-off container on the first parking place to the southeast of the back door. The second parking place will be empty. The second parking place will probably be taken up by the roll-off truck since it is longer than the normal car.

● A RAE systems ppbRAE 3000 will be rented to scan soil samples because that model can measure down to 1 ppb, whereas other miniRAE models have a limit of 1 ppm. Since the SCS is 1300 ug/kg (1300 ppb or 1.3 ppm), the ppbRAE 3000 will help be effective in determining where “clean” soil is detected on the perimeter of the excavation of soil samples. A clean small shovel / trowel / spoon will be used to place soil samples into 2-ounce clear jars with screw lid provided by the laboratory. Aluminum foil will be placed over the top of the jar when it is filled with soil reducing headspace to a minimum. (Unfortunately the lab sent 8-ounce jars.)

● Each soil sample will be kept in the jar for 15 to 30 minutes. If weather is warm, the jar will be placed in the sun. If weather is cold, the sample will be placed in the boiler room to warm the jar and

encourage VOCs to be released from the soil and vaporize in the headspace. Once the jar and contents are warm, the nozzle of the ppbRAE 3000 will be poked through the foil to get a reading of total VOCs measured in ppb. If the PID measurement is not "clean," additional soil will be removed along the perimeter surface the sample came from.

● Each sidewall will have two samples with vertical separation with a total of 4 sidewall samples to be sent to the laboratory for analysis. Samples will not be needed on the NE and SE foundation walls. Two samples will be taken from the bottom of the excavation. When 6 samples have been deemed "clean" with the PID, excavation will cease and the sample jars will be sealed with plastic lids placed on ice and sent to the laboratory. A NYS-certified laboratory Analysis will analyze the soil samples with EPA method SW-846-8260B. Category B deliverables will be ordered from the laboratory and sent to a data validation expert to prepare a data usability report. For each day of sampling, a field equipment blank (distilled water run over sampling equipment) and a trip blank (distilled water sent from the lab in clear glass 40 milliliter vials) will be submitted to the laboratory (Table 7).

● For the period of time of the excavation and sampling work, the backdoor of the building will remain closed, unless there is an important reason to have it open for a short period of time. Employees and goods will have to enter and exit the building by other doors. Vans and trucks and cars of employees or vendors will have to park on the sides of the building. If items need to be brought into the back of the building, they should be taken through the garage door toward Route 211. The trucks, vans and cars cannot be parked or driving behind the building when the excavation work is proceeding. The excavator will be moving back and forth from the hole by the back door and to the roll-off at the back curb.

● The door to the boiler room will remain open so that the samples can be placed in that room to warm for PID scanning. Employees are not expected to be entering or leaving through the boiler room because it is too close to the active excavation area.

● After excavation, the hole in the ground will be covered with a plywood platform, so that employees can enter the back door.

● When sample results are returned from the laboratory, if all samples are deemed "clean" with respect to PCE-contamination, then the excavation will be backfilled with gravel or washed- stone. If all samples are not considered "clean," then excavation and sampling will be continued until they are or it is decided that it will be more cost effective to install of a second circuit in the Vapor Extraction System.

● New blacktop will be applied to the surface area of excavation over the backfilled gravel.

Results of sampling and documentation of the soil excavation will be included in the final report indicating the fate of PCE-contaminants on the American Cleaners Middletown Site.

Second VES Circuit for Potential Treatment of Driveway Contaminants beneath Blacktop at Back Door

The schematic diagram (Figure 4 in Modification of Feb 2012 RAWP dated September 2012) shows a separate circuit on the left side for a second circuit for treatment of VOCs beneath the blacktop outside the back door (*ibid* Figures 8 and 9). A 4-inch PVC manifold is planned to merge the air flow from the sub-slab extraction point (XP2) in the building with that from a horizontal slotted screen

placed below the blacktop by the backdoor. This second circuit will only be installed if the excavation of soils from the backdoor area is not able to attain perimeter soil samples below the soil cleanup standard of 1300 ug/kg for PCE. Blacktop will be applied to the area of excavation and installation of the horizontal PVC extraction pipe with backfilled gravel.

Concomitant Procedural Plans

Concomitant procedural plans include the contributory plans associated with the remedial action work plan such as the QA/QC Plan, the Health and Safety Plan, and the Community Air Monitoring Plan as described or referenced below.

QA/QC Plan

For soil sampling outside the back door for confirmation of excavation to clean perimeters, analytical parameters and other QAPP information is provided in Table 7. York Analytical Laboratories, or another NYSDOH certified laboratory will be analyzing the samples for Volatile Organic Compounds using EPA method Sw-846-8260B. Category B (NY ASP B) laboratory deliverables will be requested from the lab and submitted and a Data Usability Summary Report (DUSR) will be prepared by a data validation expert. Trip and equipment blanks will be sent to the lab for each day of soil sampling.

Health and Safety Plan

The Health and Safety Plan for field work at the American Cleaners Middletown location has been used and updated for the Site Re-Evaluation Work Plan (June 2012) and was included in previous submittals: Modification of the February 2012 Remedial Action Work Plan (September 2012) and Remedial Investigation Work Plan: Re-Evaluation of On-Site Contaminants (June 2012).

Community Air Monitoring Plan

The Community Air Monitoring Air Plan for field work at the American Cleaners Middletown location has been used, updated and was included in previous submittals: Modification of the February 2012 Remedial Action Work Plan (September 2012) and Remedial Investigation Work Plan: Re-Evaluation of On-Site Contaminants (June 2012).

Contractor Selection and Schedule

Clean Harbors of Newburgh, NY will be the contractor to excavate the soil material, load it into a roll-off container, and ship to Clean Earth of New Jersey. They have approved of the soil profile based on the sample results provided from York Analytical Laboratories. The day of excavation, loading, and transport away from the American Cleaners Middletown, NY is planned for Thursday, November 1 and the rain date is Monday, November 5. Mid-Hudson Geosciences will be supervising the work and taking the perimeter samples for laboratory testing as described above.

The work of excavation and soil sample results will be documented in a summary report of remedial and sampling work accomplished up to and including the soil excavation and the first month of VES operations. Also data validation Data Usability Reports and complete laboratory reports will be included in that report.

Table 1

Summary of May 16, 2012 Soil Sampling Results at American Cleaners Middletown

Initial Soil Sampling prior to RIWP: Re-Evaluation of On-Site Contaminants

Soil Sampling was conducted by Katherine Beinkafner (owner of Mid-Hudson Geosciences) and Todd Syska (Geoprobe Owner & Operator) on May 16, 2012

Laboratory Analyses of 11 Soil Samples and two Distilled Water Blanks (Trip Blank and Field Blank) were Conducted by

York Analytical Laboratories, 120 Research Drive, Stratford, CT 06615 and reported in 12ED631 FINAL 05 24 2012 1642.PDF

The following table compiled by Mid-Hudson Gesociences lists the occurrence of Volatile Organic Compounds in the Soil and Blank Samples

No entry in the matrix indicates the analyte was not detected or recorded as ND in the Lab Report.

Analyte Name	SOIL SAMPLES												Blanks		
	ACMS1	ACMS2	ACMS3	ACMS4	ACMS5	ACMS6	ACMS7	ACMS8	ACMS9	ACMS10	ACMS11	units	TRIP	FIELD	units
depth below surface	3-3.2 ft	3-3.2 ft	3-3.2 ft	4-4.5 ft	3-3.2 ft	3-3.2 ft	3-3.2 ft	3-3.2 ft	3-3.2 ft	3-3.2 ft	3-3.2 ft				
1,2,4-Trimethylbenzene	3.6 J	7.3	3.4 J	6.4	1.9 J	1.5 J	11	20	1.3 J	1.2 J	1.1 J	ug/kg			ug/L
1,3,5-Trimethylbenzene	1.1 J	2.6 J	1.2 J	1.2 J			3.9 J	7.0 J				ug/kg			ug/L
2-Butanone	6.0 J	21	16	9.5 J	4.3 J	13						ug/kg			ug/L
Acetone	66 B	110 B	100 B	97 B	93 B	110 B	52 B	97 B	45 B	56 B	45 B	ug/kg	12 B	15 B	ug/L
Ethyl Benzene	1.1 J	2.3 J	1.2 J	2.0 J			3.3 J	6.5 J				ug/kg			ug/L
Methylene chloride	44 B	50 B	43 B	43 B	42 B	45 B	49 B	100 B	39 B	26 B	42 B	ug/kg	11 B	10B	ug/L
n-Propylbenzene		1.4 J		1.2 J			2.3 J					ug/kg			ug/L
o-Xylene	2.1 J	3.9 J	2.1 J	3.8 J	1.2 J	0.96 J	6.1	12	0.95 J	0.94 J	ND	ug/kg			ug/L
p- & m- Xylenes	5.7 J	11 J	5.7 J	10 J	2.9 J	2.6 J	17	33	2.2 J	2.2 J	20.0 J	ug/kg			ug/L
Xylenes, Total	7.7 J	15 J	7.9 J	14 J	4.1 J	3.6 J	23	45	3.1 J	3.1 J	2.0 J	ug/kg			ug/L
Tetrachloroethylene			**3.6 J**	**1.4 J**			**62**	**230**	**9.7**	**22**	**23**	**ug/kg**			ug/L
cis-1,2-Dichloroethylene								6.6 J				ug/kg			ug/L
Toluene	1.1 J	2.0 J	1.2 J	1.5 J			2.6 J	5.2 J				ug/kg			ug/L
Trichloroethylene								4.2 J			1.4J	ug/kg			ug/L

Notes:

Laboratory Method: US EPA SW846-8260B, VOC list: 8260, Sample Preparation Method: 5035B.

Laboratory flags: Letters to the right of analyte con‹ Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants.

The flag "B" means analyte was detected in associated batch blank. For volatiles, methylene chloride and acetone are common laboratory contaminants.

Data users should consider anything <10x the blank value as artifact.

The flag "J" means analyte detected below reporting limit, but greater than method detection limit (MDL)

Therefore such results are considered estimated concentrations.

Soil results are recorded in micrograms per kilogram or ug/kg or equivalent to parts per billion.

Blank (water) results are recorded in micrograms per Liter or ug/L or equivalent to parts per billiion.

The NYS DEC soil cleanup objective listed in Subpart 375-6: Remedial Program Soil Cleanup Objectives, table 375-6.8 (a) Unrestricted Use Soil Cleanup Objectives

The NYS DEC soil cleanup objective in 375-6.8 (a) are presented in units of parts per million. Specifically for tetrachloroethylene, the SCO is 1.3 ppm or 1300 ppb.

The chemical of concern at American Cleaners Middletown, NY site is the dry cleaning solvent known by the following names: tetrachloroethene, tetrachloroethylene, perchloroethylene, PCE, and PERC. To be certain we are referring to the same chemical, often the unique Chemical Abstracts Service Number (CAS identification number) is used: 127- 18-4.

The CAS number is used on all Laboratory Reports.

Table 2

Proposed Soil, Groundwater and Soil Gas Sampling

Remedial Investigation Work Plan

Re-evaluation of site to determine whether or not additional remedial action is required

American Cleaners, Middletown, NY

NYS DEC DER Voluntary Cleanup Program Site No. V-00461-3

Prepared by Mid-Hudson Geosciences and Jansen Engineering, June 3, 2012

1. Proposed Soil Sampling at former locations using US EPA Method SW-846-8260B

Map	Sampling Date	Sample Identification	Sample Depth	PCE (ug/kg) Concentration	Comment	Proposed Soil Sample Identification	Proposed Soil Sample Depth
RAWP, 2/12, Fig 2	06/18/03	BEI-3	2 ft	18		ACMS 12	2 ft
RAWP, 2/12, Fig 2	06/18/03	BEI-3	10 ft	1900	Below water table	none	none
RAWP, 2/12, Fig 2	03/01	B-5	unknown	1420		ACMS 13	3 ft
RAWP, 2/12, Fig 2	03/01	B-9	unknown	3296		ACMS 14	3 ft
This Report, Fig 1	5/16/2012	#5	3 ft	ND		ACMS 15	3 ft
This Report, Fig 1	5/16/2012	#8	3 ft	230		ACMS 16	3 ft

2. At former Soil Gas Sampling location, Proposed Soil Sampling using US EPA Method SW-846-8260B

Note: Soil gas first to get best undisturbed sample, followed by soil sampling

Soil Gas Laboratory Method will be US EPA Method TO-14

SOIL GAS SAMPLING Map	Sampling Date	Sample Identification	Sample Depth	PCE (ug/m3) Concentration	Comment	Proposed Soil Sample Identification	Proposed Soil Sample Depth
RAWP, 2/12, Fig 3	6/03	SG-11	unknown	460		ACMSG 11	3 ft
RAWP, 2/12, Fig 3	11/17/05	SG-25	unknown	120,000		ACMSG 25	3 ft
SOIL SAMPLING	**US EPA Method SW-846-8260B**					Proposed	Proposed
Map	Sampling Date	Sample Identification	Sample Depth	PCE (ug/m3) Concentration	Comment	Soil Sample Identification	Soil Sample Depth
RAWP, 2/12, Fig 3	6/03	SG-11	unknown	460		ACMS 17	3 ft
RAWP, 2/12, Fig 3	11/17/05	SG-25	unknown	120,000		ACMS 18	3 ft

3. Proposed Sampling Under the Building from within the building

Note: Soil gas first to get best undisturbed sample, followed by soil sampling

Soil Gas Laboratory Method will be US EPA Method TO-14

SOIL GAS SAMPLING Map	Sampling Date	Sample Identification	Sample Depth	PCE (ug/m3) Concentration	Comment	Proposed Soil Gas Samp Identification	Proposed Soil Sample Depth
RAWP, 2/12, Fig 3	11/18/05	SSSV-1	unknown	20,000	Summa Canister>>	SSSV-2	below slab
SOIL SAMPLING	**US EPA Method SW-846-8260B**					Proposed	Proposed
Map	Sampling Date	Sample Identification	Sample Depth	PCE (ug/kg) Concentration	Comment	Soil Sample Identification	Soil Sample Depth
RAWP, 2/12, Fig 2	07/16/03	BEI-10	5-6 ft	78,000	possibly below WT	ACMS 19	3 ft

4. Proposed Groundwater Sampling at former locations using US EPA Low Flow Method & Lab Method SW-845-8260B

GROUNDWATER SAMPLING Map	Sampling Date	Sample Identification	PCE (ug/L) Concentration	TCE (ug/L) Concentration	disDCE (ug/L) Concentration	VC (ug/L) Concentration	Proposed Groundwater Sampling
RIR 04/10/10, Fig5-5	06/18/03	T7	ND	ND	1J	ND	Yes
RIR 04/10/10, Fig5-5	06/18/03	MW28	270	24	25	ND	Yes
RIR 04/10/10 Fig5-5	03/01	T5	47	4J	24	ND	Yes
RIR 04/10/10 Fig5-5	03/01	MW26	2600	64	64	2	Yes
RIR 04/10/10 Fig5-5	03/01	MW25	910	19	22	ND	Yes

Note: New groundwater samples will be identified by their monitoring well number.

Table 3
Sampling Locations, Rationale, Analytical Method, and QA Quantification
Remedial Investigation Work Plan
Re-evaluation of site to determine whether or not additional remedial action is required
American Cleaners, Middletown, NY
NYS DEC DER Voluntary Cleanup Program Site No. V-99461-3
Prepared by Mid-Hudson Geosciences and Jansen Engineering, June 3, 2012

Soil Sample Identification	Sample Dep[th (feet)	Soil Sample Location	Rationale for Location	Number of Samples	VOCs EPA 8260B
ACMS 12	3	Blacktop	Check status of BEI-3 (6/18/03)	1	√
ACMS 13	3	Blacktop	Check status of B-5 (03/01) conditions	1	√
ACMS 14	3	Blacktop	Check status of B-9 (03/01) conditions	1	√
ACMS 15	3	Blacktop	Confirm status of ACMS#5 (5/16/12)	1	√
ACMS 16	3	Blacktop	Confirm status of ACMS#8 (5/16/12)	1	√
ACMS 17	3	Blacktop	Find PCE concentrations in Soil at SG-11	1	√
ACMS 18	3	Blacktop	Find PCE concentrations in Soil at SG-25	1	√
ACMS 19	3	Building	Check status of BEI-10 (7/16/12) in un-saturated conditions	1	√

Soil Gas Sample Identification	Sample Depth (feet)	Soil Gas Sample Location	Rationale for Location	Number of Samples	VOCs EPA TO-14
ACMSG 11	0.5-1	Blacktop	Check status of SG-11 (6/03)	1	√
ACMSG 25	0.5-1	Blacktop	Check status of SG-25 (11/17/05)	1	√
SSSV-2	1-2?	Building	Check status of SSSV-1 (11/18/05)	1	√

Groundwater Monitorling Well Identification	Screen Interval (feet)	Monitoring Well Location	Rationale for Location	Number of Samples	VOCs EPA 8260B
T7	8-18	downgradient	Check contaminant status since 01/2010	1	√
MW28	9.5-14.5	downgradient	Check contaminant status since 01/2010	1	√
T5	10-20	downgradient	Check contaminant status since 01/2010	1	√
MW26	4-14	downgradient	Check contaminant status since 01/2010	1	√
MW25	5.5-15.5	downgradient	Check contaminant status since 01/2010	1	√

SAMPLE QUALITY ASSURANCE QUANTIFICATION			
Parameter	Soil Samples	Soil Gas Samples	Groundwater
Maximum number of Samples	8	3	7
Number of Equipment Blanks	1/day	N/A	1/day
Number of trip Blanks	1/day	N/A	1/day
Number of Duplicate Samples	0	0	0
Number of Matrix Spike Samples	0	0	1
Number of Matrix Spike Duplicates	0	0	1
Sample Preservation	zero head space cool at 4 ^{o}F	Return to Lab ASAP	zero head space cool at 4^{o}C
Sample Container Volume	2 oz	6 liter	40 ml
Sample Container Type	glass jar, screw lid	Summa Canister	glass vial
Sample Holding Time	14 days	30 days	14 days
Sample Storage in Field	cooler with ice paks	N/A	Cooler with ice paks
Transport to Laboratory	Cooler w fresh ice paks	N/A	Cooler w fresh ice paks

Table 4

Summary of July 25, 2012 Soil Sampling Results at American Cleaners Middletown
Sampling outlined in RIWP: Re-Evaluation of On-Site Contaminants (June 2012)
Soil Sampling was conducted by Jolanda Jansen (Jansen Engineering, PLLC),
Katherine Beinkafner (Mid-Hudson Geosciences) and Todd Syska (Geoprobe Owner & Operator).
Laboratory Analyses of 14 Soil Samples and two Distilled Water Blanks (Trip Blank and Field Blank) were Conducted by
York Analytical Laboratories, 120 Research Drive, Stratford, CT 06615 and reported in 12G0902 FINAL 08 06 2012 1616.PDF
The following table compiled by Mid-Hudson Gesociences lists the occurrence of Volatile Organic Compounds in the Soil and Blank Samples
No entry in the matrix indicates the analyte was not detected or recorded as ND in the Lab Report.

Analyte Name	SOIL SAMPLES										
	ACMS12S	ACMS12D	ACMS13S	ACMS13D	ACMS14S	ACMS14D	ACMS15S	ACMS15D	ACMS16S	ACMS16D	Units
depth below surface	0.5-0.75 ft	3-3.2 ft	0.5-0.75 ft	4-4.5 ft	0.5-0.75 ft	3-3.2 ft	0.5-0.75 ft	3-3.2 ft	0.5-0.75 ft	3-3.2 ft	
1,2,4-Trimethylbenzene			2.3 J								ug/kg
Acetone		8.3 J	24	13		9.3 J	28	79	14	12	ug/kg
Methylene chloride	10 JB	1.8 JB	17 B	5.0 JB	8.4 JB	2.4 JB	4.9 JB	4.0 BJ	14 B	1.8 BJ	ug/kg
Napthalene	1.3 J								1.5 J		
Xylenes, Total			3.7 J								ug/kg
Tetrachloroethylene	**3900**	**210**	**42**	**7.3**	**22**	**23**	**2.9 J**	**1.1 J**	**170**	**ND**	ug/kg
cis-1,2-Dichloroethylene	2.3 J	13			3.0 J	33	1.8 J				ug/kg
Toluene			1.3 J								ug/kg
trans-1,2-Dichloroethylene								1.3 J			
Trichloroethylene	47	8	2.1 J		7.6	24	1.0 J		1.5 J		ug/kg

Analyte Name	SOIL SAMPLES					Blanks		
	ACMS17S	ACMS17D	ACMS18S	ACMS18D	Units	TRIP	FIELD	units
depth below surface	0.5-0.75 ft	3-3.2 ft	0.5-0.75 ft	3-3.2 ft				
1,2,4-Trimethylbenzene					ug/kg			ug/L
Acetone					ug/kg	9.8 J	8.8 J	ug/L
Methylene chloride	3.2 BJ	3.2 JB	2.8 BJ	2.7 JB	ug/kg			ug/L
Napthalene					ug/kg	1.2 J		ug/L
Xylenes, Total					ug/kg			ug/L
Tetrachloroethylene	ND	ND	61	ND	ug/kg			ug/L
cis-1,2-Dichloroethylene					ug/kg			ug/L
Toluene					ug/kg			ug/L
Trichloroethylene					ug/kg			ug/L

Notes:

Laboratory Method: US EPA SW846-8260B, VOC list: 8260, Sample Preparation Method: 5035B.

Laboratory flags: Letters to the right of analyte concentrations are called flags.

The flag "B" means analyte was detected in associated batch blank.
For volatiles, methylene chloride and acetone are common laboratory contaminants.
Data users should consider anything <10x the blank value as artifact.

The flag "J" means analyte detected below reporting limit, but greater than method detection limit (MDL)
Therefore such results are considered estimated concentrations.

Soil results are recorded in micrograms per kilogram or ug/kg or equivalent to parts per billion.

Blank (water) results are recorded in micrograms per Liter or ug/L or equivalent to parts per billiion.

The NYS DEC soil cleanup objective listed in Subpart 375-6: Remedial Program Soil Cleanup Objectives,
table 375-6.8 (a) Unrestricted Use Soil Cleanup Objectives

The NYS DEC soil cleanup objective in 375-6.8 (a) are presented in units of parts per million.

Specifically for tetrachloroethylene, the SCO is 1.3 ppm or 1300 ppb.

The chemical of concern at American Cleaners Middletown, NY site is the dry cleaning solvent known by the following names: tetrachloroethene, tetrachloroethylene, perchloroethylene, PCE, and PERC. To be certain we are referring to the same chemical, often the unique Chemical Abstracts Service Number (CAS identification number) is used: 127- 18-4.

The CAS number is used on all Laboratory Reports.

Table 5

Summary of 9/27/12 Sub-Slab Soil Sampling at American Cleaners, Middletown, NY

Sampling outlined in RIWP: Re-Evaluation of On-Site Contaminants (June 2012)

In Table 2, Part 3, this sampling location was identified as ACMS 19

Samping did not occur until installation of VES;

hence, the samples were identified by the extraction point (XP2).

Soil sampling conducted by Katherine Beinkafner (Mid-Hudson Geosciences)

Soil augering by Todd Syska.

Laboaratory Analysis conducted by York Analytical Laboratories, Inc.

120 Research Dr, Stratford, CT 06615

Laboratory Report: 12J0066 FINAL 10 09 2012 1657.PDF

The following table compiled by Mid-Hudson Geosciences lists

the Voltatile Organic Compounds detected in Soil and Blank Samples

No entry In the matrix means the analyte was not detected (ND)

Analyte Name	SUB-SLAB SOIL SAMPLES			BLANKS		
	XP2-A	XP2-B	units	TRIP	FIELD	units
depth below surface	15 inches	25 inches				
Methylene chloride	63000 B	2.4 B	ug/kg		5.3 J	ug/L
Tetrachloroethylene	1200000	820	ug/kg			ug/L
cis-1,2-Dichloroethylene		67	ug/kg			ug/L
Trichloroethylene		63	ug/kg			ug/L

Notes:

Notes on Tables 1 and 4 apply to this table also.

Table 6

Summary of October 11, 2012 Soil Sampling for Waste Classification of Disposal

Soils near former ASCM12 and BEI- near the back door of American Cleaners, Middletown, NY

where soil excavation is proposed as a remedy to remove soils above Part 375 Soil Cleanup Objective

Two samples were taken by the backdoor, one to the left and one to the right of othre samples.

Samples were taken from below the blacktop and gravel, in the top of soils beneath the parking lot.

The depth of samples is approximately 0.5 to 1.0 feet below blacktop surface.

Both samples were sent to York Analytical Laboratories, Inc.

requesting two analyses for each; One to measure total VOC concentrations

and a second to measure TCLP concnetrations

The TCLP sum of volatiles is compared to the standard of 700 ppb and the soil in this

case is classified as non-hazardous.

Laboratory analyses were conducted by York Analytical Laboratories, Inc.

120 Research Dr, Stratford, CT 06615

Laboratory Report: 12J0483 FINAL 10 16 2012 1635.PDF

The following table compiled by Mid-Hudson Geosciences lists

the Volatile Organic Compounds detected in the soil samples.

No VOCs were detected in the Trip and Field Blanks.

No entry in the matrix means the analyte was not detected (ND).

Analytical Method	Sample ID	PCE ug/kg	TCE ug/kg	cis12DCE ug/kg	Meth Chloride ug/kg		
8260	ACMS20	83	3.5	ND	ND		
8260	ACMS21	9800	120	2 J	1.2 J		
		ug/L	ug/L	ug/L	ug/L	Sum Compared to Std	Hazardous
TCLP VOCs	ACMS20	10 J	ND	ND	ND	10ppb<700ppb	NO
TCLP VOCs	ACMS21	130	8.8	ND	ND	138.8ppb<700ppb	NO

notes: ug/kg = micrograms per kilogram, mass of analyte in soil sample, parts per billion (ppb)

ug/L = micrograms per Liter, mass of analyte in liquid solution, ppb

TCLP standard to determine Hazardous Waste is 0.7 ppm = 700 ppb

Sum of all volatiles detected in TCLP test is compared to standard

Hazardous materials are greater than 700 ppb or .7 ppm

Notes:

Notes on Tables 1 and 4 apply to this table also.

Table 7

Soil Sampling Locations, Rationale, Analytical Method, and QA Quantification

Modification to Remedial Action Work Plan of February 7, 2012

Soil Excavation and Disposal outside Back Door

Confirmation of Perimeter Samples as "Clean" compared with Soil Cleanup Standard for PCE of 1300 ug/kg

American Cleaners, Middletown, NY

NYS DEC DER Voluntary Cleanup Program Site No. V-99461-3

Prepared by Mid-Hudson Geosciences and Jansen Engineering, September 18, 2012

Revised October 29, 2012 to delete sampling on foundation walls.

Modification 2 to Feb 2012 RAWP

Soil Sample Identification	Sample Dep[th (inches)	Soil Sample Location	Rationale for Location	Number of Samples	VOCs EPA 8260B
SWW1	6	sidewall	Determine concentration RE SCS	1	√
SWW2	below 6	sidewall	Determine concentration RE SCS	1	√
NWW1	6	sidewall	Determine concentration RE SCS	1	√
NWW2	below 6	sidewall	Determine concentration RE SCS	1	√
EB	bottom	excavation	Determine concentration RE SCS	1	√
WB	bottom	excavation	Determine concentration RE SCS	1	√

Notes: 1. Abbreviations for sidewall sample ID, first letter is for North, East, South, or West
second two letters are SD for "sidewall" and last number 1 is for 6-inch deep sample
or "below 6" for deeper sample below 6-inches
2. Abbreviations for bottom of excavation sample ID, EB stands for East Bottom
and WB stands for West Bottom

SAMPLE QUALITY ASSURANCE QUANTIFICATION

Parameter	Soil Samples
Maximum number of Samples	6
Number of Equipment Blanks	1/day
Number of trip Blanks	1/day
Number of Duplicate Samples	0
Number of Matrix Spike Samples	0
Number of Matrix Spike Duplicates	0
Sample Preservation	minimal head space
	cool at 4 ^{o}F
Sample Container Volume	2 oz
Sample Container Type	clear glass jar, screw lid
Sample Holding Time	14 days
Sample Storage in Field	cooler with ice paks
Transport to Laboratory	Cooler with fresh ice paks

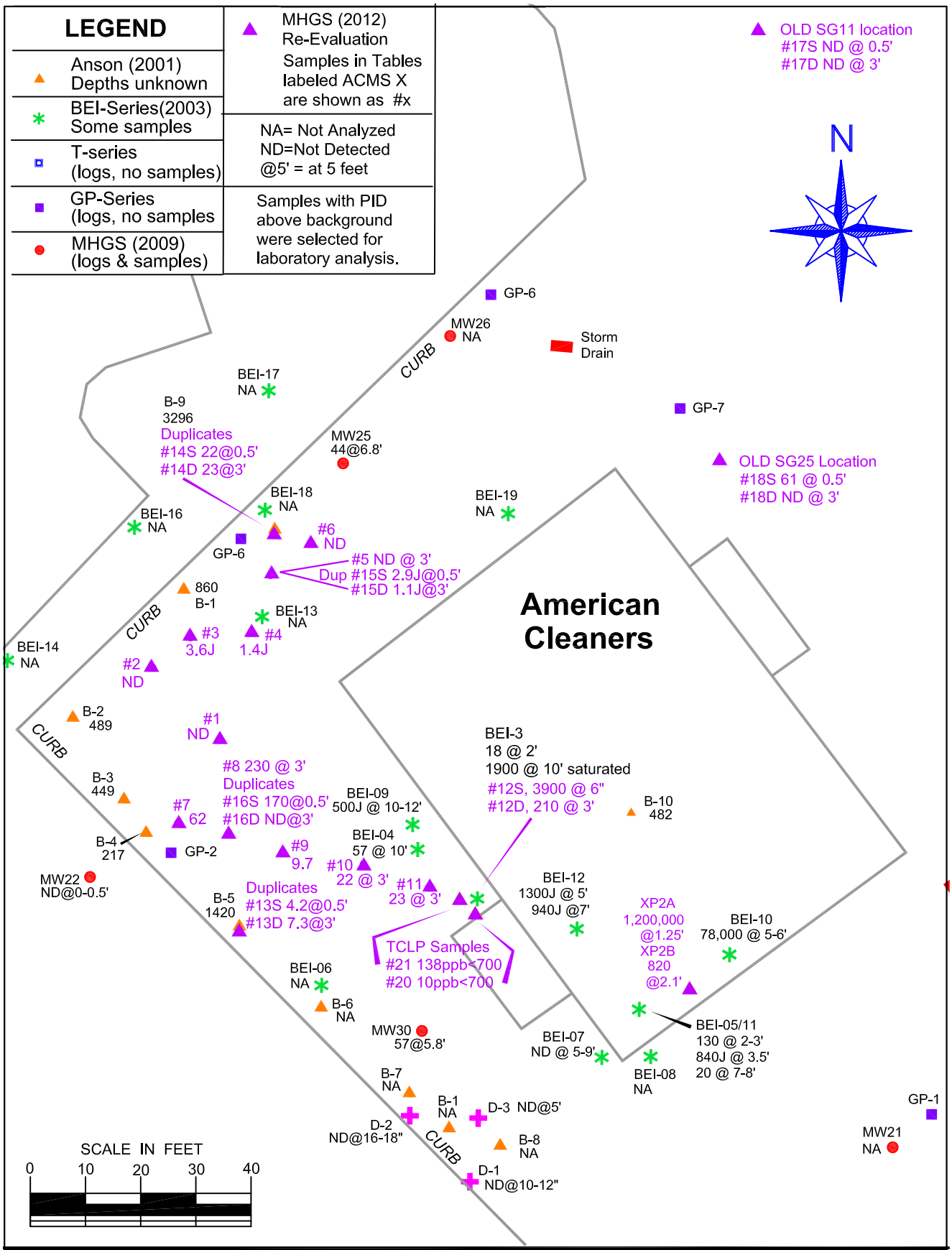

Figure 1. Map of PCE

Concentrations (in ug/kg) Detected in Soil

American Cleaners at Caldor Lloyds Mall
360 Route 211 East, Middletown, NY 10940
NYSDEC DER VCP V-00461-3 Oct 2012

Prepared by
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