PRECISION
ENVIRONMENTAL SERVICES, INC.
831 RT. 67, LOT 38 A
BALLSTON SPA, NY 12020
TEL: 518-885-4399
FAX: 518-885-4416
CERTIFIED WOMEN-OWNED BUSINESS ENTERPRISE

25 YEARS
1991 - 2016

PERIODIC REVIEW REPORT

PERIOD: July 1, 2013 to June 30, 2016

DAMBROSE CLEANERS SITE
1517-1519 Van Vranken Avenue
Schenectady, NY

NYSDEC SITE NO.: 447030

PREPARED FOR:
NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL
REMEDIATION
625 BROADWAY, 12TH FLOOR
ALBANY, NY 12233

PREPARED BY:
PRECISION ENVIRONMENTAL
SERVICES, INC.
831 ROUTE 67, LOT 38A
BALLSTON SPA, NY 12020

October 25, 2016

TABLE OF CONTENTS

List of Figures

Appendices

1.0 EXECUTIVE SUMMARY

This Periodic Review Report document provides a written synopsis of prior work and its effects on environmental compliance at the Dambrose Cleaners Inactive Hazardous Waste Disposal Site. Site investigation and remediation is conducted in accordance with a published Site Management Plan (SMP) and administration provided by the New York State Department of Environmental Conservation (NYSDEC or Department).

1.1 Background

The Dambrose Cleaners site is located at 1517 and 1519 Van Vranken Ave. in the City of Schenectady, Schenectady County, NY. It is located in a residential and commercial portion of the City approximately 300 feet north of Union College.

Located in a mixed urban setting and is surrounded by both private residence and commercial business. Figure 1 provides additional information on general site location. Retail dry cleaning operations from approximately 1957 through 2001 reportedly resulted in contamination of soil and groundwater due to release of Tetrachloroethene (PCE). Recently, the first floor of the building was converted to a residential apartment from prior use as a drop off service for off site dry cleaning. A residential apartment also exists on the second floor.

PCE and associated degradation products were initially documented at the site in the late 1990's during environmental site assessment and investigations by private consultants for a property transaction. Ultimately, soil, groundwater, soil gas and indoor air were found to be contaminated with constituents of concern (CoCs) associated with PCE. Concentrations in groundwater were documented to be as high as 15,000 µg/L with indoor air found as high as 540 µg/m3. The Site was added to the Registry of Inactive Hazardous Waste Disposal Sites on December 6, 2001 as Site #447030.

After site planning, investigation and design, a subslab depressurization system (SSDS) was installed at the site in 2005 as part of an interim remedial measure. A Record of Decision (ROD) was issued for the site in October 2007 and a Soil Vapor Extraction System (SVES) was installed in 2011. Figure 2 presents conditions obtained from the Feb. 7, 2011 property map by Malcom Pirnie, Inc.

The SSDS and SVES remain in operation as of the date of this report. The goal of theses remedies is to remediate the identified and perceived source of PCE impacts located at the rear of the property and below the building.

1.2 Effectiveness and Compliance

The 2011 SMP describes Engineering and Institutional Controls, Site Monitoring requirements, and an Operation and Maintenance Plan. Compliance with the remedial goals was demonstrated though site monitoring and operation & maintenance. Engineering Controls include:

- Soil Cover and Concrete Cap
- Sub slab depressurization system (SSDS)
- Soil Vapor Extraction System (SVES)

1.2.1 Engineering Controls

The Soil Cover was clean imported backfill placed over the SVES. The Concrete Cap was a 10- inch thick concrete slab constructed in a parking area over the western portion of the Site. This cap system minimizes exposure to remaining contamination in soil and did not appear to be compromised during the reporting period. No obvious wear was observed during site inspections or review.

The sub-slab depressurization system includes three suction points below the basement building slab. It operated satisfactorily during the reporting period and actually demonstrated increased removals from soil gas from the prior reporting period.

The SVE system, consisting of subsurface horizontal soil vapor extraction wells bedded in trenches of granular material, was activated in January, 2011.

1.2.2 Institutional Controls

Institutional controls implemented as part of the ROD include limiting the use and development of the property, compliance with the approved Site Management Plan, and restricting uses of groundwater as a source of potable or process water. Floor 1 of the building was recently converted to a residential apartment from prior use as a drop off service for off site dry cleaning. This apartment use is allowed under the "restricted residential" institutional control. No significant change in site or potable water use has occurred since the prior reporting period and thus compliance with these controls was satisfied.

1.2.3 Monitoring and Operation & Maintenance

Routine, monthly monitoring of the SVES, annual air sampling of the SVES and SSDS and biennial groundwater monitoring have been completed at the site since activation of the SVES. Analytical results indicate these two engineering controls continue to extract PCE from the site. Groundwater monitoring of existing site wells continues on a biennial basis.

1.3 Recommendations

Concentrations of contaminants in groundwater, soil and subslab vapor indicate the continued need for operation of the implemented Engineering /Institutional Controls at the site. Variations in the analytical results indicate the need for:

- Performance of additional interior sampling of the basement air to further document the effectiveness of the SSDS and to confirm that the first floor transition from light commercial to residential use has not affected the building characteristics or system function;
- Additional routine monitoring, preferably on a quarterly or seasonal basis should be carried out to document variations in concentrations;
- Continued monthly monitoring of the SVES and SSDS.

2.0 SITE OVERVIEW

The Dambrose Cleaners site is located at 1517 and 1519 Van Vranken Ave. in the City of Schenectady, Schenectady County, NY. The site encompasses an 0.11 acre lot within a City block bounded by Nott Street, Van Vranken Avenue, and Hattie and Carrie Streets. The site is located in an urban setting and is surrounded by both private residence and commercial business. Figure 1 provides additional information on general site location. The site consists of a two story building and the first floor was recently converted to a residential apartment from prior use as a drop-off service for off-site dry cleaning. A residential apartment also exists on the second floor.

Retail dry cleaning operations reportedly existed at the site from approximately 1957 through 2001. This historic on premises dry cleaning operations and the storage/use of Tetrachloroethene (PCE) resulted in at least one documented spill in 1989. This use is believed to have contributed to releases as a result of poor operational practices and housekeeping. Key findings and actions were:

- PCE and associated degradation products were initially documented at the site in soil, groundwater, soil gas and indoor air. PCE concentrations in groundwater were documented to be as high as 15,000 µg/L.
- Concentrations within indoor air were found as high as 540 µg/m3.
- A subslab depressurization system (SSDS) was installed at the site in 2005 as part of an interim remedial measure.
- A Record of Decision (ROD) was issued for the site in October 2007.
- In January 2011 a Soil Vapor Extraction System (SVES) was installed and made operational pursuant to the ROD.
- A Site Management Plan was prepared in October, 2011 by Malcom Pirnie, Inc. to document proposed actions intended to manage remaining contamination at the Site.
- The SSDS and SVES remain in operation as of the date of this report. The goal of the SVES is to remediate the identified and perceived source of PCE impacts located at the rear of the property.

Figure 2 is a Site Map obtained from the Feb. 7, 2011 property map by Malcom Pirnie, Inc.

3.0 EC/IC Compliance and Evaluation of performance, effectiveness, and protectiveness

Engineering controls on the site are:

- soil cover and concrete;
- sub slab depressurization system; and
- soil vapor extraction system.

Institutional Control on the site is agreement to an environmental easement to:

- Limit the use and development of the property to restricted residential use, which would also permit commercial or industrial uses;
- Require compliance with the approved Site Management Plan;
- Restrict the uses of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH;

3.1 Soil Cover and Concrete Cap

After construction completion of the SVE system, clean imported backfill was placed over the gravel trenches. A 10- inch thick concrete slab was then constructed and incorporated as a parking area over the western portion of the Site. This cap system minimizes exposure to remaining contamination in soil.

Visual inspection of the soil cap and concrete occur on a monthly basis and during annual evaluation to monitor performance of this control. Both are significantly intact as originally constructed with no obvious wear. Photo documentation of the Cap is presented in Appendix A.

3.2 Sub slab depressurization system (SSDS)

In 2005, a sub-slab depressurization system with three suction points was installed to create a negative pressure gradient between the basement and the area beneath the building slab. Additionally, cracks and seams in the slab were sealed, and the sump was capped and sealed. Vapor from beneath the slab is vented above the roofline of the Dambrose Cleaners Building.

During this monitoring period the system has operated well. Vacuum beneath the slab is documented through visual inspection of system controls and the manometer. Air samples of SSDS exhaust were collected:

- August 23, 2013,
- November 17, 2014, and
- August 31, 2015.

Samples were analyzed for VOCs via analytical method TO-15. As presented in the chart below, the SSDS continues to remove PCE vapors from the subsurface.

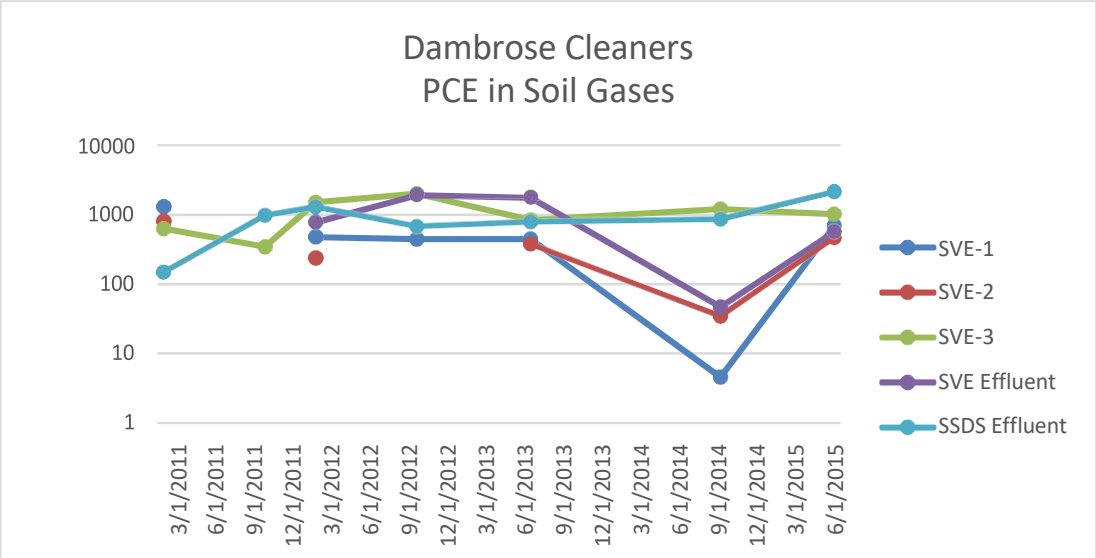
3.3 Soil Vapor Extraction System

The purpose of the SVE system is to mitigate adsorbed contaminant mass within the vadose zone and capture fugitive VOCs. The vacuum and negative airflow induced by the SVE blower draws the contaminant mass upward to the horizontal SVE lines. Following extraction by the blower, the raw recovered vapor is then discharged to the atmosphere. Currently, no method of off-gas treatment has been applied.

The SVE system consists of one 33 foot long and two 25 foot long subsurface horizontal soil vapor extraction wells bedded in trenches of granular material. The system activated on January 10, 2011. It has generally been in operation since this date, with periodic maintenance shutdown mostly attributed to icing in the exhaust stack in winter and short circuiting at SVE Trench 2.

Efforts in June, 2011 to seal off surface penetrations where ambient air was believed to be entering SVE Trench 2 and causing a loss of vacuum were successful. However, this problem re-surfaced in 2012. PES and NYSDEC assessed the possible cause(s) contributing to current short-circuiting, however, no obvious source was identified.

Data over the last three years indicates PCE concentrations in soil vapor and groundwater samples continue to fluctuate, however, an upward trend existed due to 2015 data. As described below in Section 4.0, this may be due to low levels of precipitation which exposes greater surface area of the SVE wells to the smear zone and adsorbed contaminant mass in soil. This may have led to increased soil vapor extraction.



3.4. Institutional controls

Institutional Control on the site is current as described below:

3.4.1. *Limit the use and development of the property to restricted residential use, which would also permit commercial or industrial uses*;
"Restricted-residential use" is the land use category which shall only be considered when there is common ownership or a single owner/managing entity of the site. Restricted-residential use:
(a) shall, at a minimum, include restrictions which prohibit:
(1) any vegetable gardens on a site, although community vegetable gardens may be considered with department approval; and
(2) single-family housing;

The first floor was recently converted to a residential apartment from prior use as a drop-off service for off-site dry cleaning. A residential apartment also exists on the second floor. While this land use is residential in nature, it complies with the "Restricted-residential use" Institutional Control as defined above.

3.4.2. *Require compliance with the approved Site Management Plan*;
Periodic monitoring, reporting, operation, and maintenance is conducted at the site in compliance with this periodic review report and the site management plan.

3.4.3. *Restrict the uses of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH*;

Public water is currently provided to the building.

4.0 MONITORING/OPERATION & MAINTENANCE

Site Monitoring is provided to evaluate the performance and effectiveness of the remedy:

- SSDS to control concentrations of Site contaminants in indoor air;
- SVES to reduce contamination at the Site;
- Soil cover and concrete cap to function as a barrier to receptor exposure to the remaining contamination; and
- Entire remedy for green remediation principles.

As described in the Site Management Plan and the table below, routine monitoring of the remedy is required.

Monitoring Program	Frequency*	Matrix	Analysis
SVES	Initial baseline monitoring, followed by semi-annual monitoring for one year and annual monitoring thereafter	1. Contaminant concentrations in soil vapor as represented by samples of influent to the SVES 2. Vacuum maintained in each leg of the SVES collection system	1. VOCs in air by TO-15 2. Measurement of vacuum in each leg of the collection system using electronic system data
SSDS	Initial baseline monitoring, followed by semi-annual monitoring for one year and annual monitoring thereafter	Vacuum maintained under the basement slab of 1517/1519 Van Vranken Avenue	Measurement of SSDS vacuum, using the SSDS system output readings
Groundwater	Initial baseline monitoring, followed by semi-annual monitoring for one year and one monitoring event every fifth quarter thereafter	Groundwater in the monitoring wells shown on Figure 3, (subject to adjustment by the NYSDEC	VOCs by EPA Method 8260B and groundwater elevations
Soil Cover and Concrete Cap	Inspection at each monitoring event conducted for other media as identified herein	Soil Cover and Concrete Cap	Visual inspection

4.1 SSDS Monitoring

This task included general system review of blower, system controls and piping in the basement of the building. Similar to the SVES, these samples are secured in clean tedlar bags provided by the analytical laboratory, labeled, and submitted under chain of custody to TestAmerica Analytical Labs, in Buffalo, NY to be analyzed via EPA Method TO-15.

Samples were collected from the influent and effluent SVE system airstreams and effluent airstream of the sub slab depressurization system

(SSDS) on August 31, 2015. As described in Table 1 (Summary of VOCs in System Air Analytical Results) several VOCs, including Tetrachloroethene (PCE), were detected within the collected samples. PCE levels were the most significant. They increased from prior analyses and were detected at 2,082 µg/m^3. Table 2 (PCE in Soil Vapor Over Time) describes this further.

4.2 SVES Monitoring

This task included general system review of blower, related equipment, and system components. All samples were obtained by aseptic techniques, secured in clean tedlar bags provided by the analytical laboratory, labeled, and submitted under chain of custody to Testamerica Analytical Labs, in Buffalo, NY to be analyzed via EPA Method TO-15.

As indicated in the Tables 1, several VOCS were detected. PCE was the most significant, with its highest concentration (626 µg/m^3) originating from the northernmost trench of the SVE system (SVE-3). Similar to the SSDS system, they increased from prior analyses (Table 2).

4.3 Groundwater Monitoring

Groundwater monitoring includes water level measurements, monitoring well inspection, and groundwater sampling. During the monitoring period, groundwater sampling occurred August 18, 2015.

Water levels in nine monitoring wells (MW-1R, MW-2R, MW-3, MW-4, MW-6, MW-7, MW-8, MW-9, and MW-10) were recorded to determine the calculate groundwater elevations. These elevations ranged from 184.34 feet (MW-8) to 195.67 (MW-3). For the most part, these levels were slightly lower than prior years. The groundwater gauging and elevation data is presented in the attached Table 4.

In addition to determining the depth to groundwater, select monitoring wells were purged of a minimum of three well volumes by manual repetitive bailing, allowed to re-charge to equilibration, and sampled. All samples were obtained by aseptic techniques, secured in clean laboratory supplied glassware, labeled, and placed on iced storage for subsequent submission under chain of custody to the NYS DEC contract laboratory, TestAmerica of Buffalo, NY to be analyzed via EPA Method 8260.

Per Table 5, constituents of concern, including PCE and its daughter compounds, were found in site monitoring wells. Four wells (MW-1R, MW-2R, MW-4 and MW-6) were at or above the standards established in the NYSDEC - *Division of Water Resources, Classes, and Quality Standards for Groundwater*, Chapter 10 of Title 6, Article 2, Part 703.5. The data also

indicates the PCE contaminant plume is generally limited to the Dambrose Cleaners site and properties located immediately down gradient.

4.3 Soil Cover and Concrete Cap Monitoring

At the time of each monitoring event, a visual inspection of the soil cover and concrete cap was conducted. The purpose of the visual inspection was to identify any changes, such as damage, to the surficial media which could compromise the functionality of the soil cover and/or concrete cap. In addition, cursory inspection was provided during monthly monitoring of the SVES.

No significant wear on the soil cover and concrete cap was observed. This control appears to be maintained in satisfactory condition.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 SMP Compliance

This Periodic Review Report described how all requirements of the SMP were met. This was accomplished through each component of the remedy - the respective monitoring, operation and maintenance of the following Engineering controls and Institutional Controls:

- soil cover and concrete;
- sub slab depressurization system;
- soil vapor extraction system.
- Site environmental easement.

5.2 Performance and Effectiveness of the Remedy

Successful implementation of each component of the remedy contributed to achievement of remedial objectives for the site.

Air samples of SSDS exhaust were collected and analyzed for VOCs via analytical method TO-15. The SSDS continues to remove PCE vapors from the subsurface.

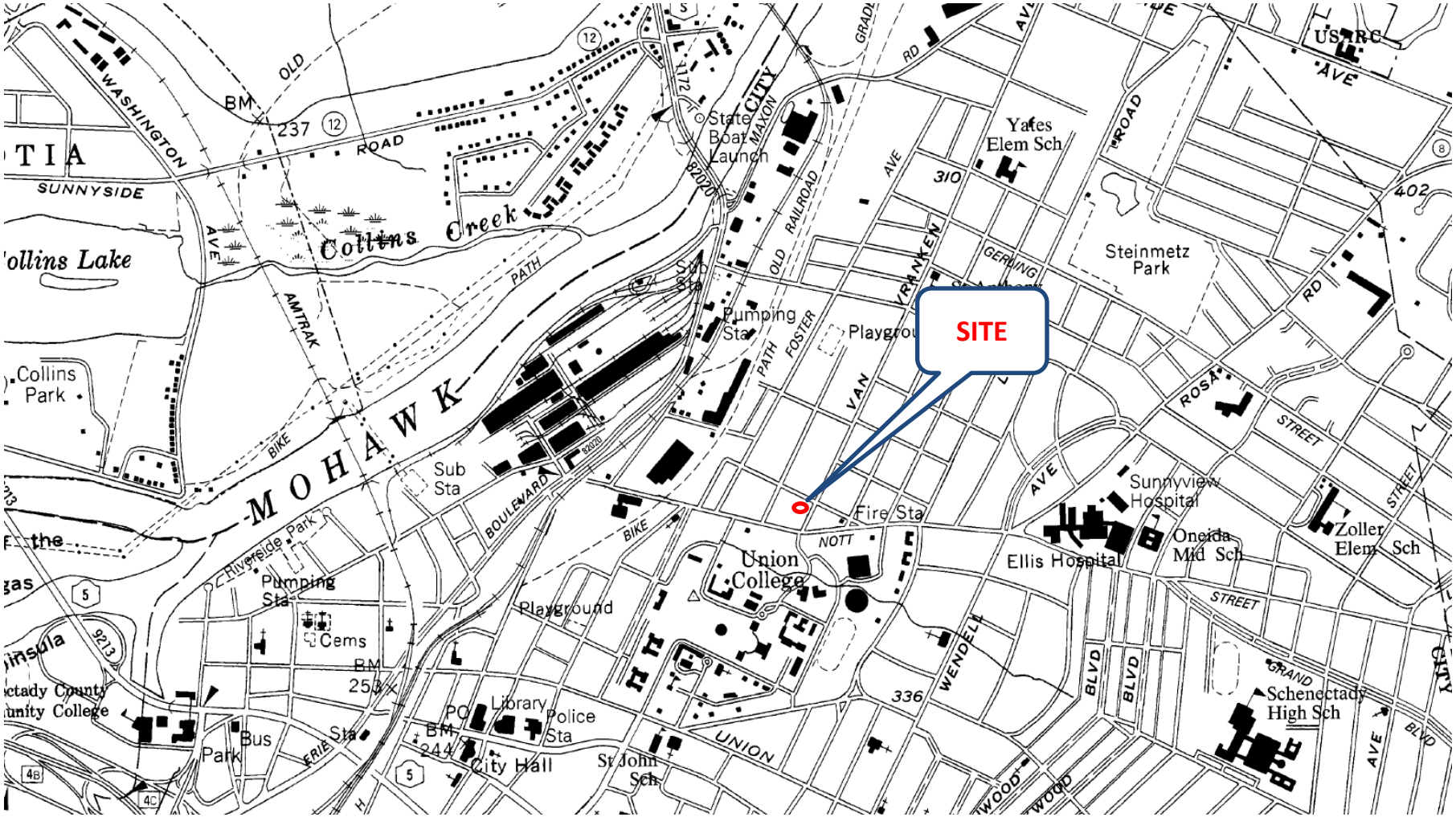
Data collected indicates concentrations of PCE in soil vapor and groundwater samples continue to fluctuate, however, an upward trend was interpreted due to data from 2015. According to Table 4, August 2015 groundwater elevations were near or below recorded historic lows. Concurrently, low levels of precipitation were reported during the 2015 monitoring period based on review of local precipitation data for the surrounding area. Low precipitation typically yields lower groundwater elevations, which in turn exposes greater surface area of the SVE wells to the smear zone. This likely allows for increased extraction of soil vapor from the contaminant mass.

Concentrations of contaminants in groundwater, soil and subslab vapor indicate the continued need for operation of the implemented Engineering Controls (ECs) at the site. PCE concentrations documented in system exhaust indicate that the SVES is still removing PCE contamination and therefore should remain in place.

Increases in contaminants may be a result of increased system efficiencies, however, it could also be due to seasonal variation. PES recommends:

- Performance of additional interior sampling of the basement air to further document the effectiveness of the SSDS and to confirm that the first floor transition from light commercial to residential use has not affected the building characteristics or system function;
- Additional routine monitoring, preferably on a quarterly or seasonal basis should be carried out to document variations in concentrations;
- Continued monthly monitoring of the SVES and SSDS.

FIGURES



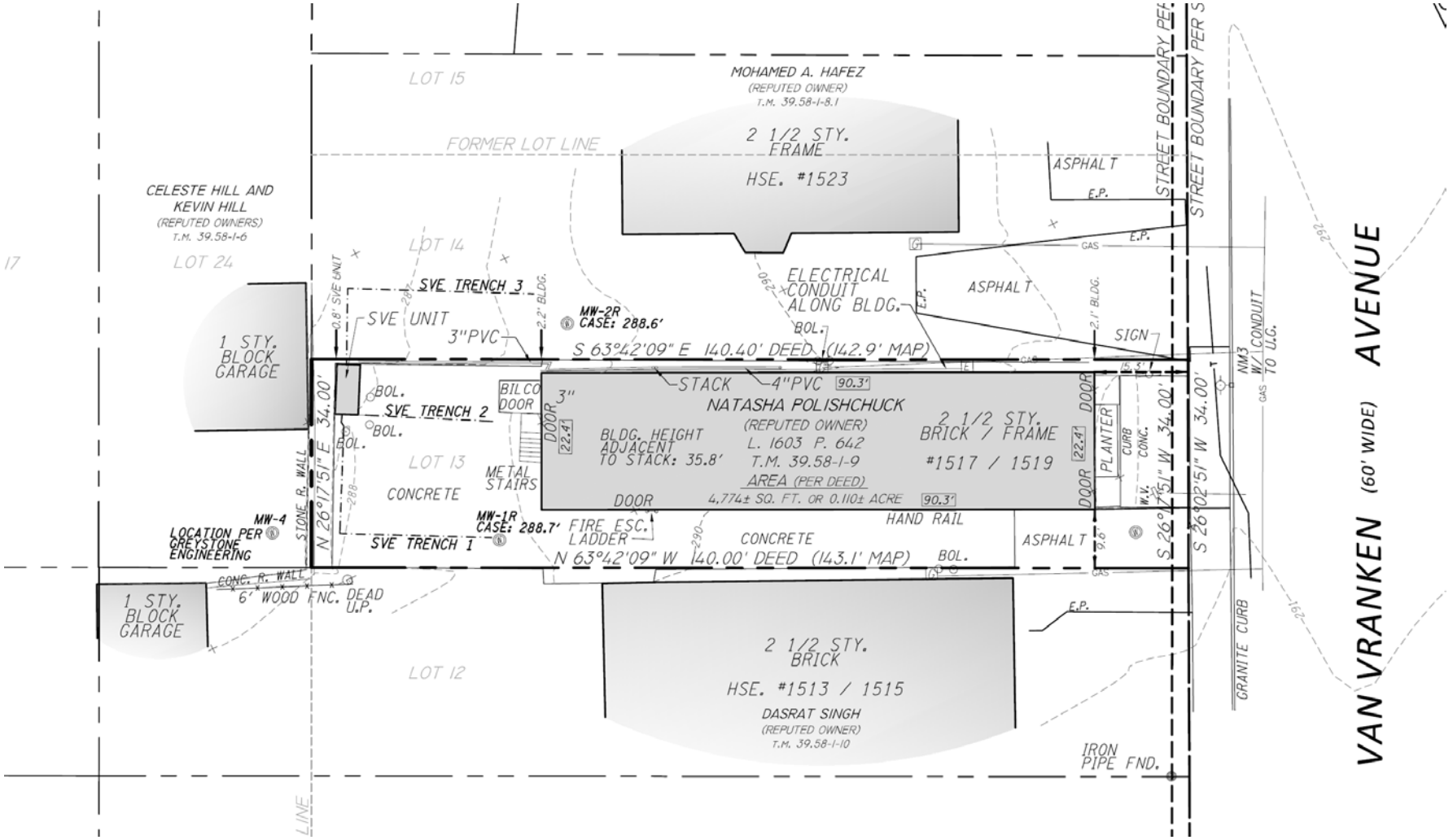
PRECISION
ENVIRONMENTAL SERVICES, INC.
831 RT. 67, LOT 38 A
BALLSTON SPA, NY 12020
TEL: 518-885-4399
FAX: 518-885-4416
CERTIFIED WOMEN-OWNED BUSINESS ENTERPRISE

Figure 1 – LOCATION MAP

Dambrose Cleaners – 1517 Van Vranken Avenue

City of Schenectady, Schenectady County, New York

NYSDEC Site # 447030 **Scale: NONE**



PRECISION
ENVIRONMENTAL SERVICES, INC.
831 RT. 67, LOT 38 A
BALLSTON SPA, NY 12020
TEL: 518-885-4399
FAX: 518-885-4416
CERTIFIED WOMEN-OWNED BUSINESS ENTERPRISE

Figure 2 – Site Map

Dambrose Cleaners – 1517 Van Vranken Avenue

City of Schenectady, Schenectady County, New York

Source: Malcolm Pirnie **NYSDEC Site # 447030** **Scale: NONE**

APPENDIX A

PHOTOGRAPHS

Soil cover and concrete cap

SVES

Soil cover and concrete cap

SSDS Piping

SSDS Blower and Piping

Site Area

APPENDIX B

TABLES

Table 1
Summary of VOCs in System Air Analytical Results
Dambrose Cleaners
1517 Van Vranken Avenue
Schenectady, NY

Parameter (Method TO-15)	SAMPLE IDENTIFICATION				
	SVE-1	SVE-2	SVE-3	SVE Effluent	SSDS Effluent
1,1,1-Trichloroethane	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND
1,1,2-Trichlorotriflouroethane	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	ND	ND	ND	ND	**57.8**
1,2-Dibromoethane	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND
1,2-Dichlorotetrafluorethane	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND
1,3-Hexachlorobutadiene	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND
Acetone	ND	ND	**111**	ND	**65**
Benzene	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ND	ND	ND	ND	ND
Ethyl Acetate	**25.9**	**30.1**	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND
m&p Xylene	ND	ND	ND	ND	**73.5**
Methyl butyl ketone	ND	ND	ND	ND	ND
Methyl ethyl ketone	ND	ND	ND	ND	ND
Methylene Chloride	**148**	**112**	**279**	**133**	**186**
Methyl isobutyl ketone	ND	ND	ND	ND	ND
Methyl-tert-butyl ether	ND	ND	ND	ND	ND
o-Xylene	ND	ND	ND	ND	**27.8**
Styrene	ND	ND	ND	ND	ND
Tetrachloroethene	**514**	**323**	**626**	**433**	**1560**
Toluene	ND	ND	ND	ND	**82.5**
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	**29.8**
Trichlorofluoromethane	ND	ND	ND	ND	ND
Vinyl acetate	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND
Total Compounds	**687.90**	**465.10**	**1,016.00**	**566.00**	**2,082.40**

Samples collected on August 31, 2015
All Values are Reported in ug/m3
ND = Not Detected
Only parameters with detections summarized
Analytical Facility - Pace Analytical Laboratory, Inc. Schenectady, New York

Table 2
PCE in Soil Vapor Over Time
Dambrose Cleaners
1517 Van Vranken Avenue
Schenectady, NY

Date	Monitoring Point				
	SVE-1	SVE-2	SVE-3	SVE Effluent	SSDS Effluent
3/18/2011	1300	810	630		150
11/1/2011			345		965
3/15/2012	473	243	1510	772	1270
11/29/2012	443		2000	1900	669
8/23/2013	445	373	841	1750	779
11/17/2014	4.56	35.1	1,210	46.8	847
8/31/2015	687.9	465.1	1016	566	2082.4

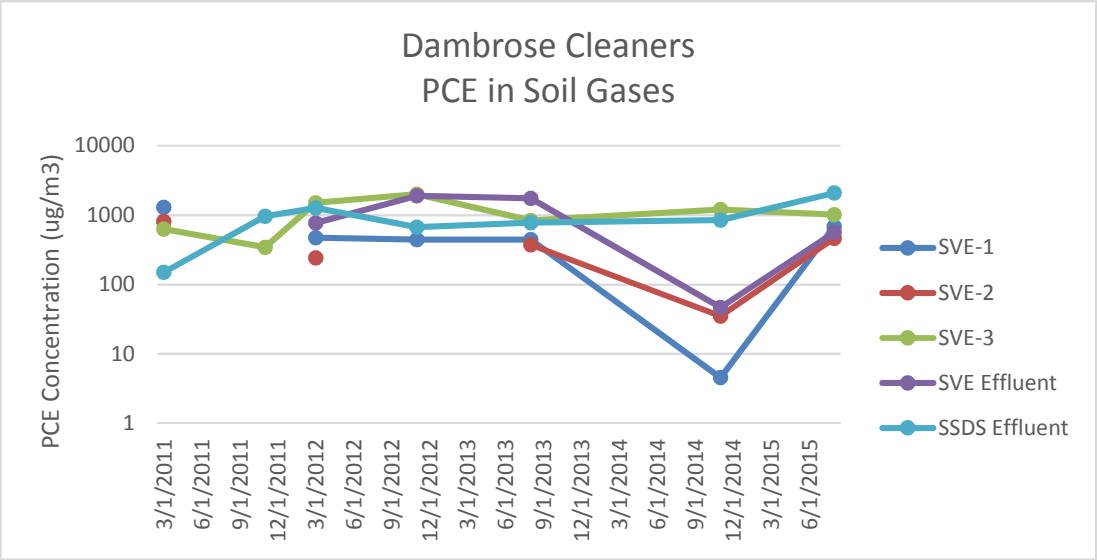


TABLE - 3
SVE System Removal Summary

Dambrose Cleaners
1517 Van Vranken Avenue
Schenectady, NY

Date	SVE Effluent Vapor Concentration* (ppb)	Air Flow (SCFM)
1/10/2011	650	96.00
1/11/2011	700	94.78
1/12/2011	1067	93.00
1/13/2011	750	94.82
1/14/2011**	1300	94.07
1/28/2011	400	94.59
2/18/2011	930	91.75
3/4/2011	206	95.10
3/18/2011	121	91.33
4/1/2011	174	92.25
4/15/2011	700	93.36
5/20/2011	340	88.63
6/22/2011	810	87.89
7/27/2011	847	85.66
9/8/2012**	-	-
10/7/2011	1200	92.86
11/1/2011	284	94.14
12/14/2011	0	95.47
1/16/2012	500	94.91
1/30/2012	200	95.53
2/21/2012	400	99.21
3/15/2012	0	96.92
4/9/2012	400	93.81
5/24/2012	414	89.05
6/11/2013	144	88.43
7/2/2013	-	88.39
8/23/2013	358	88.36
9/20/2013	217	88.74
10/24/2013	0	91.17
11/22/2013	131	95.16
12/30/2013	110	96.03
1/27/2014	200	95.70
3/7/2014	0	100.03
4/4/2014	0	94.14
5/12/2014	200	91.71
6/3/2014	185	89.52
7/7/2014	11	88.12
8/4/2014	500	89.09
9/2/2014	369	87.50
10/2/2014	636	92.38
11/3/2014	258	93.00
11/17/2014	0	95.22
12/26/2014	0	95.35
1/26/2015	0	95.57
2/9/2015	263	96.98
3/3/2015	0	95.70
4/13/2015	0	94.57
5/29/2015	219	92.47
6/26/2015	0	90.86
7/22/2015	487	89.41
8/18/2015	178	88.40
10/7/2015	0	92.89
11/10/2015	23	95.94
3/9/2016	0	91.32
4/1/2016	42	89.71
5/7/2016	26	91.95

* = As determined in field PID screening of airstream
** = System shutdown

Table 4
Summary of Groundwater Gauging and Elevation Data
Dambrose Cleaners
1517 Van Vranken Avenue
Schenectady, NY

Monitoring Well ID	Top of Casing Elevation	Depth to Water From Top of Casing	Watertable Elevation	Depth to Water From Top of Casing	Watertable Elevation	Depth to Water From Top of Casing	Watertable Elevation	Depth to Water From Top of Casing	Watertable Elevation
		5/6/2011		4/9/2012		8/23/2013		8/18/2015	
MW-1R	200.07	6.51	193.56	7.91	192.16	7.90	192.17	8.51	191.56
MW-2R	199.56	5.79	193.77	7.45	192.11	7.59	191.97	7.88	191.68
MW-3	202.91	5.93	196.98	7.40	195.51	7.41	195.50	7.24	195.67
MW-4	193.47	0.60	192.87	1.90	191.57	1.93	191.54	2.29	191.18
MW-5	197.78	4.93	192.85	-	-	6.89	190.89	7.41	190.37
MW-6	191.10	5.02	186.08	5.55	185.55	5.62	185.48	6.19	184.91
MW-7	195.04	7.36	187.68	3.90	191.14	4.45	190.59	4.10	190.94
MW-8	190.43	5.50	184.93	5.95	184.48	-	-	6.09	184.34
MW-9	190.99	4.81	186.18	5.35	185.64	5.30	185.69	5.15	185.84
MW-10	191.17	4.46	186.71	5.15	186.02	5.29	185.88	-	-
MW-11	200.13	4.82	195.31	-	-	-	-	-	-

All Values are expressed in feet
Survey data courtesy of NYS DEC and performed by PES

Table 5
Groundwater Sampling Results
Dambrose Cleaners
1517 Van Vranken Avenue
Schenectady, NY

Parameter (EPA METHOD 8260B)	MONITORING WELL/SAMPLE IDENTIFICATION						NYS DEC Groundwater Standards
	MW-1R	MW-2R	MW-3	MW-4	MW-6	MW-7	
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	10
1,1,2,2-Trichloroethane	ND	ND	ND	ND	ND	ND	0.7
1,1,2-Trichloro-1,2,2-triflouroethane	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	5
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	5
1,2-Dibromo-3-Chloropropane	ND	ND	ND	ND	ND	ND	0.04
1,2-Dibromomethane	ND	ND	ND	ND	ND	ND	-
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	3
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	0.6
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	1
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	3
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	3
2-Hexanone	ND	ND	ND	ND	ND	ND	-
2-Butanone (MEK)	ND	ND	ND	ND	ND	ND	-
4-Methyl-2-pentanone (MIBK)	ND	ND	ND	ND	ND	ND	-
Acetone	ND	ND	ND	ND	ND	ND	-
Benzene	ND	ND	ND	ND	ND	ND	0.7
Bromodichloromethane	ND	ND	ND	ND	ND	ND	-
Bromoform	ND	ND	ND	ND	ND	ND	-
Bromomethane	ND	ND	ND	ND	ND	ND	5
Carbon disulfide	ND	ND	ND	ND	ND	ND	60
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	ND	5
Dibromochloromethane	ND	ND	ND	ND	ND	ND	-
Chloroethane	ND	ND	ND	ND	ND	ND	5
Chloroform	ND	ND	ND	ND	ND	ND	7
Chloromethane	ND	ND	ND	ND	ND	ND	-
cis-1,2-Dichloroethene	**3.1**	**21**	ND	**14**	**21**	ND	5
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	0.4
Cyclohexane	ND	ND	ND	ND	ND	ND	-
Dichlorodiflouromethane	ND	ND	ND	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	ND	ND	5
Isopropylbenzene	ND	ND	ND	ND	ND	ND	5
Methyl acetate	ND	ND	ND	ND	ND	ND	-
MTBE	ND	ND	ND	ND	ND	ND	10
Methylcyclohexane	ND	ND	ND	ND	ND	ND	-
Methylene Chloride	ND	**12 B**	ND	ND	ND	ND	5
Styrene	ND	ND	ND	ND	ND	ND	5
Tetrachloroethene	ND	**210**	ND	**6.5**	ND	ND	5
Toluene	ND	ND	ND	ND	ND	ND	5
Trichloroflouromethane	ND	ND	ND	ND	ND	ND	5
Trichloroethene	ND	**14**	ND	**4.8**	ND	ND	5
Vinyl chloride	**6.1**	ND	ND	**4.5**	ND	ND	2
m & p - Xylene	ND	ND	ND	ND	ND	ND	5
o-Xylene	ND	ND	ND	ND	ND	ND	5
Xylenes (Total)	ND	ND	ND	ND	ND	ND	5
Total Compounds	**9.2**	**257**	**ND**	**29.8**	**21**	**ND**	

Samples collected on August 18, 2015
All Values are Reported in ug/L (parts per billion - ppb)
ND = Not Detected
J - Result is less than the RL but greater than or equal to the MDL. Concentration is an approximate value.
Analytical Facility - Test America - Buffalo
Highlighted values equal or exceed NYSDEC groundwater standards.

APPENDIX C

OWNER CERTIFICATION

Enclosure 1
Institutional and Engineering Controls - Property Owner Survey

Site Details **Box 1**

Site No. 447030

Site Name Dambrose Cleaners

Site Address: 1517 VanVranken Avenue Zip Code: 12308
City/Town: Schenectady
County: Schenectady
Site Acreage: 0.1

Reporting Period: June 30, 2013 to June 30, 2016

	YES	NO
1. Is the information above correct?	☒	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you answered YES to questions 2, 3 or 4, include documentation with this form.		
5. Is the site currently undergoing development?	☐	☒

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Restricted-Residential, ~~Commercial, and Industrial~~	☒	☐
7. Are all Institutional Controls (ICs) in place and functioning as designed?	☒	☐

Signature of Property Owner

Date

SITE NO. 447030 Box 3

Description of Institutional Controls

Parcel	Owner	Institutional Control
39.58-1-9	Natasha Polishchuk	Ground Water Use Restriction Landuse Restriction Soil Management Plan Monitoring Plan Site Management Plan O&M Plan IC/EC Plan

From ROD:

Imposition of an institutional control in the form of an environmental easement that will require (a) limiting the use and development of the property to residential use, which would also permit commercial or industrial uses; (b) compliance with the approved site management plan; (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (d) periodic certification of institutional and engineering controls.

Development of a site management plan which will include the following institutional and engineering controls: (a) continued evaluation of the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified;
(b) continued operation of the sub-slab depressurization system at the Dambrose building whenever it is occupied; (c) monitoring of groundwater and soil vapor; (d) identification of any use restrictions on the site; and (e) provisions for the continued proper operation and maintenance of the components of the remedy.

The Department will periodically certify the institutional and engineering controls until the Department determines that this certification is no longer needed. This submittal will: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; and (b) state that nothing has occurred that would impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
39.58-1-9	Air Sparging/Soil Vapor Extraction Vapor Mitigation

Sub-slab Depressurization System for 1517 Van Vranken Ave. and Soil Vapor Extraction system for horizontal wells on site and adjacent property.

Box 5

Periodic Review Report (PRR) Survey Statements

For each Institutional or Engineering control listed in Boxes 3 and/or 4, by checking "YES" below I believe all of the following statements to be true:

(a) the Institutional Control(s) and/or Engineering Control(s) employed at this site remain unchanged since the date that the Control was put in-place, or was last approved by the Department;

(b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

(c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control; and

(d) if a Site Management Plan (SMP) exists, nothing has occurred that would constitute a violation or failure to comply with the SMP for this Control.

YES X NO

N. [signature] 9.9.16

Signature of Property Owner Date

APPENDIX D

ENGINEER CERTIFICATION

Enclosure 1
Engineering Controls - Standby Consultant/Contractor Certification Form

Site Details **Box 1**

Site No. **447030**

Site Name **Dambrose Cleaners**

Site Address: 1517 VanVranken Avenue Zip Code: 12308
City/Town: Schenectady
County: Schenectady
Site Acreage: 0.1

Reporting Period: June 30, 2013 to June 30, 2016

	YES	NO
1. Is the information above correct?	☑	☐
If NO, include handwritten above or on a separate sheet.		
2. To your knowledge has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☑
3. To your knowledge has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☑
4. To your knowledge have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☑
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. To your knowledge is the site currently undergoing development?	☐	☑

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Restricted-Residential, Commercial, and Industrial	☑	☐
7. Are all ICs/ECs in place and functioning as designed?	☑	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and contact the DEC PM regarding the development of a Corrective Measures Work Plan to address these issues.

Signature of Standby Consultant/Contractor

Date 10/4/16

SITE NO. 447030 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
39.58-1-9	Natasha Polishchuk	Ground Water Use Restriction Landuse Restriction Soil Management Plan Monitoring Plan Site Management Plan O&M Plan IC/EC Plan

From ROD:

Imposition of an institutional control in the form of an environmental easement that will require (a) limiting the use and development of the property to residential use, which would also permit commercial or industrial uses; (b) compliance with the approved site management plan; (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (d) periodic certification of institutional and engineering controls.

Development of a site management plan which will include the following institutional and engineering controls: (a) continued evaluation of the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified;
(b) continued operation of the sub-slab depressurization system at the Dambrose building whenever it is occupied; (c) monitoring of groundwater and soil vapor; (d) identification of any use restrictions on the site; and (e) provisions for the continued proper operation and maintenance of the components of the remedy.

The Department will periodically certify the institutional and engineering controls until the Department determines that this certification is no longer needed. This submittal will: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; and (b) state that nothing has occurred that would impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
39.58-1-9	Air Sparging/Soil Vapor Extraction Vapor Mitigation

Sub-slab Depressurization System for 1517 Van Vranken Ave. and Soil Vapor Extraction system for horizontal wells on site and adjacent property.

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification, including data and material prepared by previous contractors for the current certifying period, if any;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☑	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) nothing has occurred that would constitute a failure to comply with the Site Management Plan, or equivalent if no Site Management Plan exists.

YES	NO
☑	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and contact the DEC PM regarding the development of a Corrective Measures Work Plan to address these issues.

Signature of Standby Consultant/Contractor

10/4/16
Date

Box 6

IC/EC CERTIFICATIONS

Qualified Environmental Professional Signature

I certify that all information in Boxes 2 through 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I William C. Hennessy, Jr. at Precision Environmental Services
print name

831 St. Rt. 67

Ballston Spa, NY 12020
(print business address)

am certifying as a Qualified Environmental Professional.

W Hennessy Jr.
Signature of Qualified Environmental Professional

Stamp
(Required for PE)

10/4/16
Date