PROPOSED REMEDIAL ACTION PLAN

Greener Cleaners
State Superfund Project
Schenectady, Schenectady County
Site No. 447041
February 2017

Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

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SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing a remedy for the above referenced site. The disposal of hazardous wastes at the site resulted in threats to public health and the environment that were addressed by actions known as interim remedial measures (IRMs), which were undertaken at the site. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the remedial investigation (RI) or feasibility study (FS). The IRMs undertaken at this site are discussed in Section 6.2.

Based on the implementation of the IRM(s), the findings of the RI indicate that the site no longer poses a threat to human health or the environment. The IRM(s) conducted at the site attained the remediation objectives identified for this site, which are presented in Section 6.5, for the protection of public health and the environment. No Further Action is the remedy proposed by this Proposed Remedial Action Plan (PRAP). A No Further Action remedy may include site management, which will include continued operation of any remedial system installed during the IRM and the implementation of any prescribed institutional controls/engineering controls (ICs/ECs) that have been identified as being part of the proposed remedy for the site. This PRAP identifies the IRM(s) conducted and discusses the basis for No Further Action.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program, the mission of which is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375. This document is a summary of the information that can be found in the site-related reports and documents in the document repository identified below.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all PRAPs. This is an opportunity for public participation in the remedy selection process. The public is encouraged to review the

reports and documents, which are available at the following repository:

Schenectady County Public Library
Attn: Reference Desk
99 Clinton St.
Schenectady, NY 12305
Phone: (518) 388-4500

A public comment period has been set from:

2/23/2017 to 3/25/2017

A public meeting is scheduled for the following date:

3/7/2017 at 6:30 PM

Public meeting location:

Schenectady Public Library
Central Library - McChesney Room
99 Clinton St.
Schenectady, NY

At the meeting, the findings of the remedial investigation (RI) will be presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period will be held, during which verbal or written comments may be submitted on the PRAP.

Written comments may also be sent through 3/25/2017 to:

Robert Filkins
NYS Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233
robert.filkins@dec.ny.gov

The Department may modify the proposed remedy presented in this PRAP based on new information or public comments. Therefore, the public is encouraged to review and comment on the proposed remedy identified herein. Comments will be summarized and addressed in the responsiveness summary section of the Record of Decision (ROD). The ROD is the Department's final selection of the remedy for this site.

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen

participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The former Greener Cleaners site, previously Kem Cleaners, was a commercial dry cleaning business in Schenectady. The site is located at 809 State Street, and is bordered by State Street to the south, Mynderse Street to the west, Chestnut Street to the east, and the rear of residences on Victory Avenue to the north. The site is in an urban area with a mix of commercial and residential properties along State Street and residences on the side streets off of State Street

Site Features: The site is 1.39 acres in area and includes an approximately 16,000 square foot, one story masonry building and a 1,000 square foot outbuilding used for storage only . With the exception of a 1900 square foot parcel on Chestnut Street, which is covered in crushed stone, the remainder of the site is covered with asphalt. Some of this remaining area is used for parking, while other areas are unused. The portion of the site to the west of the on-site building is fenced with a gate on the State Street side.

Current Zoning and Land Use: The site is still in operation as a commercial dry cleaner by a new operator under the name of Best Cleaners. The dry cleaning operations at the site have reportedly not used tetrachloroethene (PCE) or other chlorinated solvents since 2008. The site consists of four tax parcels. The two parcels bordering State Street are zoned Mixed-Use Commercial, which permits residential use. The other two parcels are zoned Two-Family Residential.

Past Use of the Site: The site operated as Kem/Greener Cleaners for approximately 12 years until 2010. The site was used as an automobile dealership until the late 1990s.

Site Geology and Hydrology: The depth to groundwater is approximately 15 feet in the vicinity of the site. Groundwater flow direction is west. Soils at the site are sands above 15 feet, overlying a mix of sand, silt and clay below 15 feet.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to restricted-residential use (which allows for commercial use and industrial use) as described in Part 375-1.8(g) is/are being evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the investigation to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is included in the Tables for the media being evaluated in Exhibit A.

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The PRPs for the site, documented to date, include:

Kem Plant, LLC

The PRPs for the site declined to implement a remedial program when requested by the Department. After the remedy is selected, the PRPs will again be contacted to assume responsibility for the remedial program. If an agreement cannot be reached with the PRPs, the Department will evaluate the site for further action under the State Superfund. The PRPs are subject to legal actions by the state for recovery of all response costs the state has incurred.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,
- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,
- Ecological and Human Health Exposure Assessments.

The analytical data collected on this site includes data for:

- groundwater
- soil

- soil vapor
- indoor air
- sub-slab vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in Exhibit A list the applicable SCGs in the footnotes. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a hazardous waste that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized in Exhibit A. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

tetrachloroethene (PCE)
trichloroethene (TCE)
lead

Based on the investigation results, comparison to the SCGs, and the potential public health and environmental exposure routes, certain media and areas of the site required remediation. These media were addressed by the IRM(s) described in Section 6.2. More complete information can be found in the RI Report and the IRM Construction Completion Report.

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Record of Decision.

The following IRM(s) have been completed at this site based on conditions observed during the RI.

Sub-slab Depressurization System and Soil Vapor Extraction System

PCE and TCE were detected in the soil vapor at the site and underneath the buildings at the site. Mitigation measures, consisting of a sub-slab depressurization system, were installed by the

Department in February 2017 at the on-site buildings to mitigate the migration of vapors into the building from soil and groundwater.

A soil vapor extraction (SVE) system was installed by the Department in February 2017 to remove volatile organic compounds (VOCs) from the subsurface. VOCs are being physically removed from the soil by applying a vacuum to wells that have been installed into the vadose zone (the area below the ground but above the water table). The vacuum draws air through the soil matrix which carries the VOCs from the soil to the SVE well.

Four SVE wells were installed into the vadose zone and screened from 5 feet below the ground surface to a depth of approximately 15 feet. The air containing VOCs extracted from the SVE wells is treated by passing the air stream through activated carbon which removes the VOCs from the air prior to it being discharged to the atmosphere. A Construction Completion Report for this IRM is being developed.

Soil Removal

In January 2017 soil to a depth of 1.5 feet was removed from an approximately 1000 square foot area in the vicinity of a sample which exceeded restricted residential soil cleanup objectives (SCOs) for lead. Approximately 50 cubic yards of soil were removed and disposed of off-site. The excavation was backfilled with a 1.5 feet of crushed stone.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water.

Based upon the resources and pathways identified and the toxicity of the contaminants of ecological concern at this site, a Fish and Wildlife Resources Impact Analysis (FWRIA) was deemed not necessary for OU 01.

Nature and Extent of Contamination - Soil, groundwater, and soil vapor samples were analyzed for the presence of volatile organic compounds (VOCs) during the site characterization. Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, and pesticides/PCB during the remedial investigation.

The investigations have indicated that tetrachloroethene (PCE) in groundwater, soil, and soil vapor has impacted the site. PCE is a commonly used dry cleaning solvent.

Soil: A combined 23 soil samples, ranging in depth between surface (0-2 inches) to 18-20 feet were taken as part of the site investigations. One shallow soil sample from the site characterization was above the unrestricted PCE soil cleanup objective (SCO) of 1.3 parts per million (ppm) with a concentration of 25 ppm. No other soil samples exceeded unrestricted VOC SCOs. Soil samples from 18 locations were analyzed for metals contamination with three

locations exceeding the unrestricted SCOs for lead of 63 ppm, with a maximum concentration of 300 ppm at a depth of 1-2 feet.

Groundwater: Sixteen monitoring wells were installed on and off-site. Twelve are shallow, water table wells at depths of 20 to 24', and four are deep wells at depth of 48'. In the most recent round of groundwater sampling in July 2015 four wells, all on-site, contained PCE exceeding groundwater standards at concentrations up to 210 parts per billion (ppb). The groundwater standard for PCE is 5 ppb. No other VOCs exceeded groundwater standards. Only one off-site well ever exceeded groundwater standards for PCE, a concentration of 8.7 ppb in May 2014 just outside the northeast site boundary. No other metals, pesticides/PCB, or SVOC exceeded groundwater standards.

Soil vapor, Sub-slab vapor, and Indoor air: Elevated levels of PCE up to 2,400,000 ug/m3 were detected in on-site soil vapor samples during the site characterization. Maximum PCE concentrations were 110,000 ug/m3 during the most recent soil vapor sampling in November 2013. Multiple indoor air and sub-slab vapor samples taken in the on-site dry cleaner building support the need for mitigation, with sub-slab PCE concentrations up to 60,000 ug/m3 and indoor air concentrations up to 15 ug/m3. Trichloroethene (TCE) concentrations also demonstrate this need, with concentrations up to 104 ug/m3 and 19 ug/m3, respectively, which exceeds NYSDOH's indoor air guideline for TCE of 2 ug/m3. Sampling was also conducted at two off-site buildings. The results indicated no actions are need to address exposures related to soil vapor intrusion.

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure.*

Direct contact with contaminants in the soil is unlikely because the majority of the site is covered with a building and pavement. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. A Sub-slab depressurization system (systems that ventilate/remove the air beneath the building) has been installed in the on-site building to prevent the indoor air quality from being affected by the contamination in soil vapor beneath the building. Sampling indicates soil vapor intrusion is not a concern for off-site structures that were sampled, additional off-site sampling is recommended if access is granted.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or

mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

- Remove the source of ground or surface water contamination.

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

SECTION 7: SUMMARY OF PROPOSED REMEDY

Based on the results of the investigations at the site, the IRM that has been performed, and the evaluation presented here, the Department is proposing No Further Action as the remedy for the site. This No Further Action remedy includes continued operation of the soil vapor extraction (SVE) and sub-slab depressurization systems (SSDSs) installed as IRMs and described in section 6.2, and the implementation of ICs/ECs including an Environmental Easement, a Site Management Plan, and maintenance of the site cover as the proposed remedy for the site. The Department believes that this remedy is protective of human health and the environment and satisfies the remediation objectives described in Section 6.5.

In addition to the interim remedial measures noted above, the elements of the proposed remedy include:

1) Cover System

A site cover currently exists and will be maintained to allow for restricted residential use of the site. Any site redevelopment will maintain the existing site cover. The site cover may include paved surface parking areas, sidewalks or soil where the upper two feet of exposed surface soil meet the applicable soil cleanup objectives (SCOs) for restricted residential use. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6NYCRR part 375-6.7(d).

2) Institutional Control

Imposition of an institutional control in the form of an environmental easement for the controlled property which will:

- require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);

- allow the use and development of the controlled property for restricted residential, commercial and industrial uses, as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and

- require compliance with the Department approved Site Management Plan.

3) Site Management Plan

A Site Management Plan which includes the following:

a) an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed above.

Engineering Controls: The SVE system, the SSDS systems, and site cover system discussed above.

This plan includes, but may not be limited to:

- an Excavation Plan, if required, which details the provisions for management of future excavations in areas of remaining contamination;

- descriptions of the provisions of the environmental easement including any land use, and/or groundwater and/or surface water use restrictions;

- a provision for evaluation of the potential for soil vapor intrusion for any currently unoccupied buildings that become occupied and any new buildings developed on the site, and for any offsite structures where access for sampling was not previously granted, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;

- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 3 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (SCOs);

- provisions for the management and inspection of the identified engineering controls;

- maintaining site access controls and Department notification; and

- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b) a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- monitoring of soil vapor to assess the performance and effectiveness of the remedy;

- a schedule of monitoring and frequency of reporting; and

- monitoring for vapor intrusion for any future buildings as may be required by the Institutional and Engineering Control Plan discussed above.

c) an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the active vapor mitigation system. The plan includes, but is not limited to:

- procedures for operating and maintaining the system(s); and

- compliance inspection of the system to ensure proper O&M as well as providing the data for any necessary reporting.

- maintaining site access controls and Department notification; and

- providing the Department access to the site and O&M records.

Exhibit A

Nature and Extent of Contamination

This section describes the findings of the Remedial Investigation for all environmental media that were evaluated. As described in Section 6.1, samples were collected from various environmental media to characterize the nature and extent of contamination.

For each medium for which contamination was identified, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are arranged into three categories; volatile organic compounds (VOCs), pesticides/ polychlorinated biphenyls (PCBs), and inorganics (metals and cyanide). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use. For soil, if applicable, the Restricted Use SCGs identified in Section 4 and Section 6.1.1 are also presented.

Groundwater

During the RI, groundwater samples were collected from 13 monitoring wells to assess groundwater conditions on and off-site. The remaining three wells were not sampled due to low water levels. Nine monitoring wells were shallow overburden wells 20-24' deep, and four were deep (48') overburden wells. The results indicate contamination in shallow groundwater exceeds the SCG for PCE on-site. Deep wells and off-site wells were not significantly impacted. (See Figure 2)

Table #1 - Groundwater

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b]	Frequency Exceeding SCG
VOCs			
PCE	ND - 210	5	4 of 13

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.

b- SCG: Standard Criteria or Guidance - Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).

Groundwater contamination identified during the RI is being addressed by the IRM described in Section 6.2.

Soil

Current site conditions were established from the results of 16 soil samples taken from a total of 14 boring locations installed at the site during the RI and analyzed for VOCs, SVOCs, metals, and pesticide/PCB. None of the samples detected PCE, the contaminant of concern at the site, or other VOCs. However, one 0-2' soil sample taken during a previous investigation exceeded the unrestricted SCO for PCE of 1.3 ppm, with a concentration of 25 ppm. (See Figures 3A and 3B)

Soil samples from 18 locations were analyzed for metals contamination with three locations exceeding the unrestricted SCOs for lead of 63 ppm, with a maximum concentration of 300 ppm at a depth of 1-2 feet.

The lead soil contamination identified during the previous investigation was removed during the IRM described in Section 6.2. The other metals found during the investigation are likely not related to operation of the drycleaner.

Table #2 - Soil

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
Inorganics					
Lead	1.8 - 300	63	3 of 16	400	0 of 16
Mercury	ND – 2.2	0.18	2 of 16	0.81	1 of 16
Barium	11 - 410	350	1 of 16	400	1 of 16
Zinc	20 - 380	109	1 of 14	10,000	0 of 16
Pesticides/PCBs					
4,4'- DDT	ND – 0.019	0.0033	3 of 14	7.9	0 of 14

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;

b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.

c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Restricted Residential Use, unless otherwise noted.

d - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Groundwater.

Soil Vapor

The evaluation of the potential for soil vapor intrusion resulting from the presence of site related soil or groundwater contamination was evaluated by the sampling of soil vapor, sub-slab soil vapor under structures, and indoor air inside structures. At this site due to the presence of buildings in the impacted area, a full suite of samples were collected to evaluate whether actions are needed to address exposures related to soil vapor intrusion.

Indoor air samples were taken in the on-site buildings and two adjacent residential properties. Results indicated PCE and trichloroethene (TCE) concentrations exceeding NYSDOH guidance values in the primary on-site building housing the dry cleaner. Results of sub-slab vapor samples taken at the site indicated need to reduce exposures in main dry cleaners building. TCE concentrations in the indoor air of

the main dry cleaner building exceeds NYSDOH air guideline. Therefore, a remedial measure, in the form of a sub-slab depressurization system, was installed in the main on-site building to prevent vapors from entering the building. The off-site residences did not exceed NYSDOH vapor intrusion guidance values and require no action. The on-site storage building is not designed for continuous occupation and thus does not require monitoring or mitigation. Sub-slab vapor and soil vapor samples taken at the site revealed elevated PCE and TCE concentrations both beneath the main on-site building and in an area adjacent to a loading dock on the northwest side of the building. (See Figure 4) A soil vapor extraction system (SVE) was installed beneath the main building and the adjacent loading dock area to address these elevated concentrations.

Soil vapor and indoor air contamination identified during the RI is being addressed by the IRM described in Section 6.2.


Greener Cleaners - 809 State St.
Mynderse St
Hulett St
Chestnut St
Victory Ave
Locust Ave
Catherine St
5
210 ft
© 2016 Google
Google Earth
Google Earth
feet
meters
500
100

Figure 1

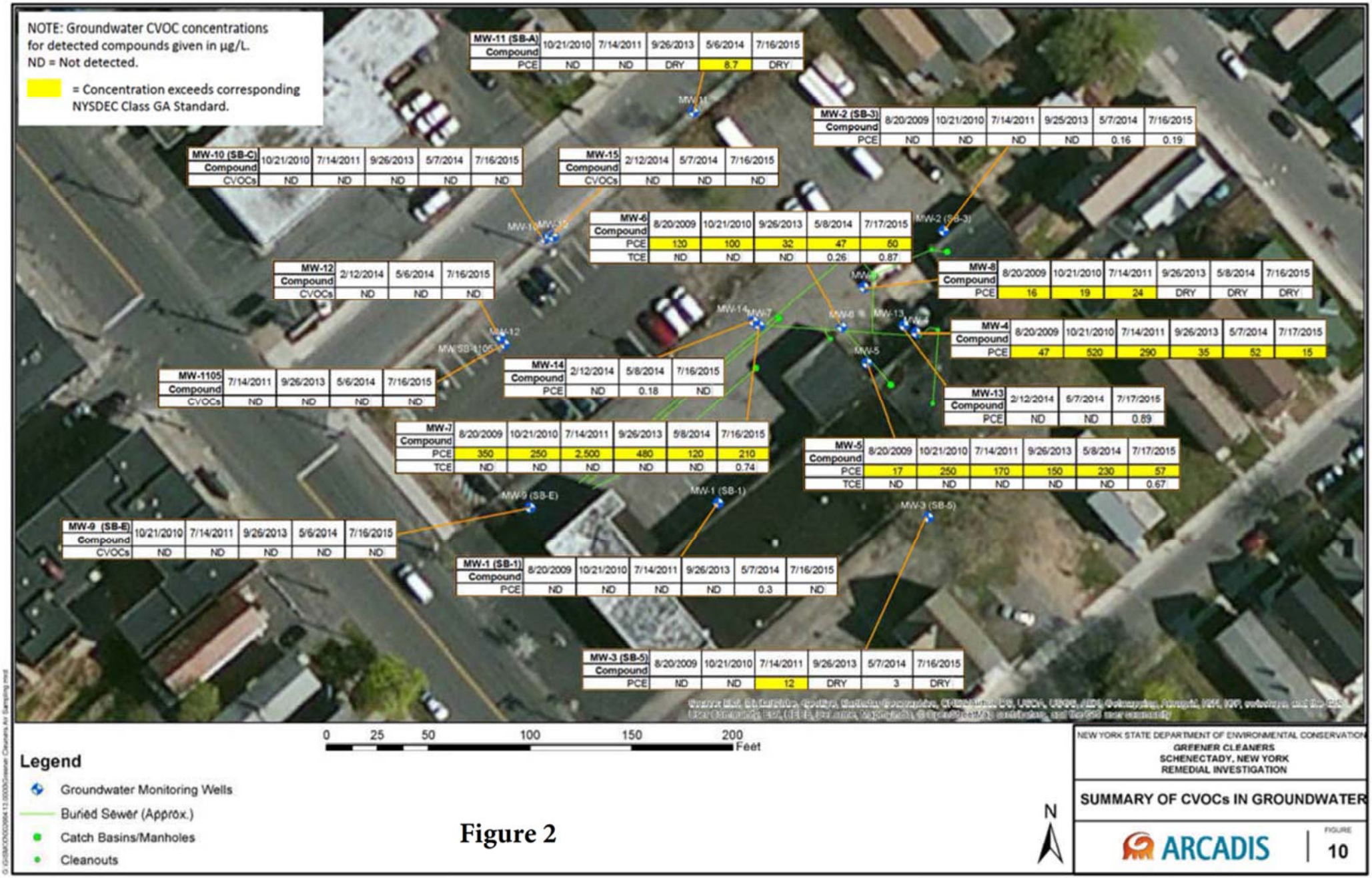
NOTE: Groundwater CVOC concentrations for detected compounds given in µg/L.
ND = Not detected.
= Concentration exceeds corresponding NYSDEC Class GA Standard.
MW-11 (SB-A)
Compound | 10/21/2010 | 7/14/2011 | 9/26/2013 | 5/6/2014 | 7/16/2015
PCE | ND | ND | DRY | 8.7 | DRY
MW-2 (SB-3)
Compound | 8/20/2009 | 10/21/2010 | 7/14/2011 | 9/25/2013 | 5/7/2014 | 7/16/2015
PCE | ND | ND | ND | ND | 0.16 | 0.19
MW-10 (SB-C)
Compound | 10/21/2010 | 7/14/2011 | 9/26/2013 | 5/7/2014 | 7/16/2015
CVOCs | ND | ND | ND | ND | ND
MW-15
Compound | 2/12/2014 | 5/7/2014 | 7/16/2015
CVOCs | ND | ND | ND
MW-6
Compound | 8/20/2009 | 10/21/2010 | 9/26/2013 | 5/8/2014 | 7/17/2015
PCE | 120 | 100 | 32 | 47 | 50
TCE | ND | ND | ND | 0.26 | 0.87
MW-12
Compound | 2/12/2014 | 5/6/2014 | 7/16/2015
CVOCs | ND | ND | ND
MW-8
Compound | 8/20/2009 | 10/21/2010 | 7/14/2011 | 9/26/2013 | 5/8/2014 | 7/16/2015
PCE | 16 | 19 | 24 | DRY | DRY | DRY
MW-4
Compound | 8/20/2009 | 10/21/2010 | 7/14/2011 | 9/26/2013 | 5/7/2014 | 7/17/2015
PCE | 47 | 520 | 290 | 35 | 52 | 15
MW-1105
Compound | 7/14/2011 | 9/26/2013 | 5/6/2014 | 7/16/2015
CVOCs | ND | ND | ND | ND
MW-14
Compound | 2/12/2014 | 5/8/2014 | 7/16/2015
PCE | ND | 0.18 | ND
MW-13
Compound | 2/12/2014 | 5/7/2014 | 7/17/2015
PCE | ND | ND | 0.89
MW-7
Compound | 8/20/2009 | 10/21/2010 | 7/14/2011 | 9/26/2013 | 5/8/2014 | 7/16/2015
PCE | 350 | 250 | 2,500 | 480 | 120 | 210
TCE | ND | ND | ND | ND | ND | 0.74
MW-5
Compound | 8/20/2009 | 10/21/2010 | 7/14/2011 | 9/26/2013 | 5/8/2014 | 7/17/2015
PCE | 17 | 250 | 170 | 150 | 230 | 57
TCE | ND | ND | ND | ND | ND | 0.67
MW-9 (SB-E)
Compound | 10/21/2010 | 7/14/2011 | 9/26/2013 | 5/6/2014 | 7/16/2015
CVOCs | ND | ND | ND | ND | ND
MW-1 (SB-1)
Compound | 8/20/2009 | 10/21/2010 | 7/14/2011 | 9/26/2013 | 5/7/2014 | 7/16/2015
PCE | ND | ND | ND | ND | 0.3 | ND
MW-3 (SB-5)
Compound | 8/20/2009 | 10/21/2010 | 7/14/2011 | 9/26/2013 | 5/7/2014 | 7/16/2015
PCE | ND | ND | 12 | DRY | 3 | DRY
0 25 50 100 150 200 Feet
Legend
Groundwater Monitoring Wells
Buried Sewer (Approx.)
Catch Basins/Manholes
Cleanouts
N
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
GREENER CLEANERS
SCHENECTADY, NEW YORK
REMEDIAL INVESTIGATION
SUMMARY OF CVOCs IN GROUNDWATER
ARCADIS
FIGURE 10

Figure 2

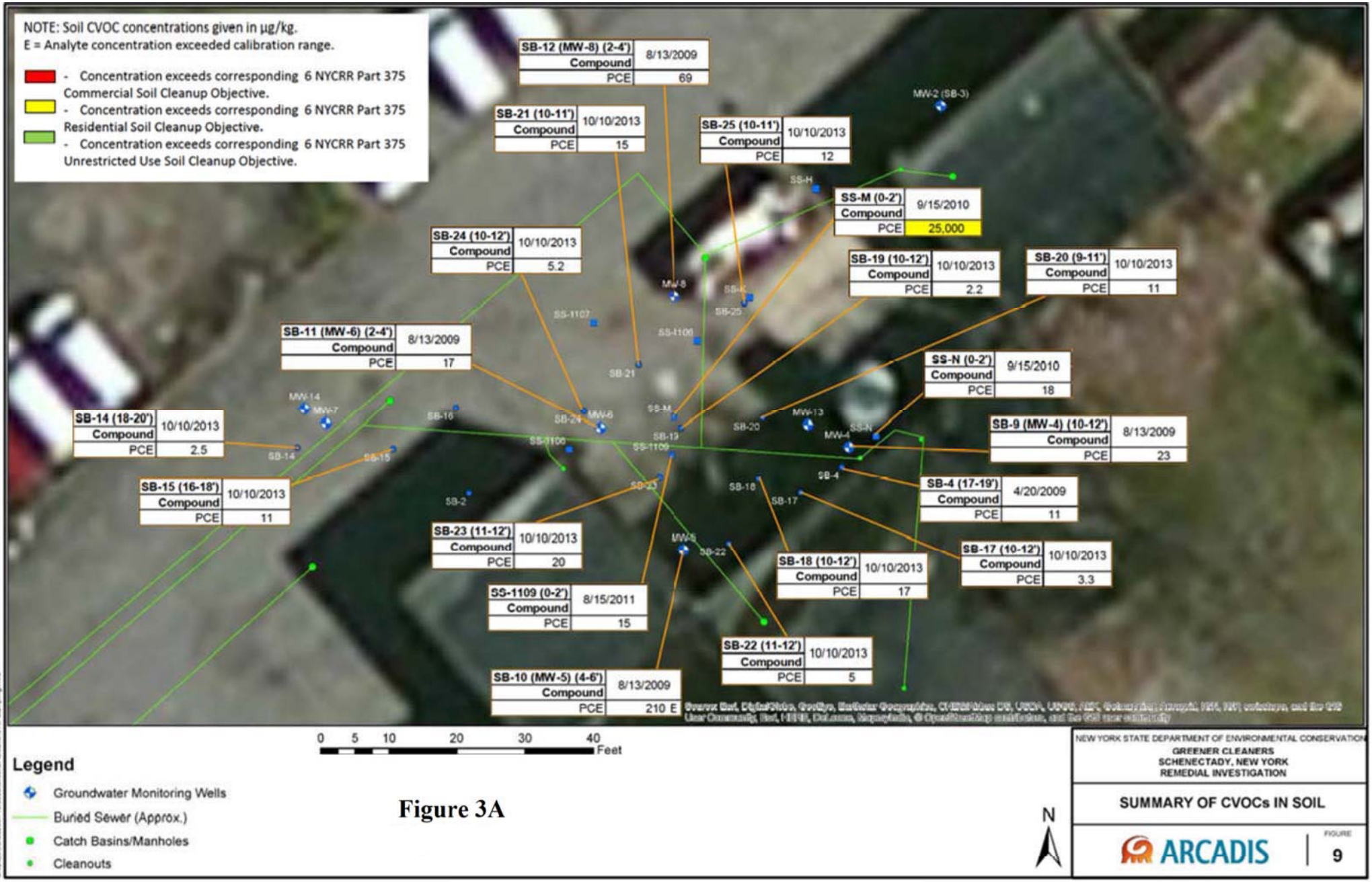
NOTE: Soil CVOC concentrations given in µg/kg.
E = Analyte concentration exceeded calibration range.
- Concentration exceeds corresponding 6 NYCRR Part 375 Commercial Soil Cleanup Objective.
- Concentration exceeds corresponding 6 NYCRR Part 375 Residential Soil Cleanup Objective.
- Concentration exceeds corresponding 6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objective.
SB-12 (MW-8) (2-4') | 8/13/2009 | Compound | PCE | 69
SB-21 (10-11') | 10/10/2013 | Compound | PCE | 15
SB-25 (10-11') | 10/10/2013 | Compound | PCE | 12
SS-M (0-2') | 9/15/2010 | Compound | PCE | 25,000
SB-24 (10-12') | 10/10/2013 | Compound | PCE | 5.2
SB-19 (10-12') | 10/10/2013 | Compound | PCE | 2.2
SB-20 (9-11') | 10/10/2013 | Compound | PCE | 11
SB-11 (MW-6) (2-4') | 8/13/2009 | Compound | PCE | 17
SS-N (0-2') | 9/15/2010 | Compound | PCE | 18
SB-14 (18-20') | 10/10/2013 | Compound | PCE | 2.5
SB-9 (MW-4) (10-12') | 8/13/2009 | Compound | PCE | 23
SB-15 (16-18') | 10/10/2013 | Compound | PCE | 11
SB-4 (17-19') | 4/20/2009 | Compound | PCE | 11
SB-23 (11-12') | 10/10/2013 | Compound | PCE | 20
SB-18 (10-12') | 10/10/2013 | Compound | PCE | 17
SB-17 (10-12') | 10/10/2013 | Compound | PCE | 3.3
SS-1109 (0-2') | 8/15/2011 | Compound | PCE | 15
SB-22 (11-12') | 10/10/2013 | Compound | PCE | 5
SB-10 (MW-5) (4-6') | 8/13/2009 | Compound | PCE | 210 E
MW-2 (SB-3)
SS-H
MW-8
SS-L
SB-25
SS-1107
SS-1108
SB-21
MW-14
MW-7
SB-16
SB-24
MW-6
SS-M
SB-19
SB-20
MW-13
MW-4
SS-N
SB-14
SB-15
SS-1106
SS-1109
SB-4
SB-2
SB-23
SB-18
SB-17
MW-5
SB-22
0 5 10 20 30 40 Feet
Legend
Groundwater Monitoring Wells
Buried Sewer (Approx.)
Catch Basins/Manholes
Cleanouts
N
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
GREENER CLEANERS
SCHENECTADY, NEW YORK
REMEDIAL INVESTIGATION
SUMMARY OF CVOCs IN SOIL
ARCADIS
FIGURE
9

Figure 3A

PE1&2,SB-27 Compound	1.5'-2' 1/19/17	1.5'-2' 1/19/17	1'-2' 12/22/16
Metals (mg/kg)			
Barium	33	137	410
Lead	11.4	225	300
Mercury	0.028	0.67	0.22
Zinc	NA	NA	380
Pesticides (µg/kg)			
4,4'-DDT	NA	NA	19
PCBs (µg/kg)			
Total PCBs	NA	NA	140

SB-26 Compound	0-2" 12/22/16	2'-3' 12/22/16	3'-4' 12/22/16
Metals (mg/kg)			
Lead	69	3.7	2.9
Pesticides (µg/kg)			
4,4'-DDT	15	1.4	0.89
PCBs (µg/kg)			
Total PCBs	ND	ND	ND

- (red) - Concentration exceeds corresponding 6 NYCRR Part 375 Commercial Soil Cleanup Objective.
- (yellow) - Concentration exceeds corresponding 6 NYCRR Part 375 Residential Soil Cleanup Objective.
- (green) - Concentration exceeds corresponding 6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objective.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

GREENER CLEANERS 909 STATE STREET
SCHENECTADY, NEW YORK (SITE # 447041)

REMEDIAL INVESTIGATION

SUMMARY OF LOT 38 SOIL SAMPLING RESULTS

ARCADIS
Infrastructure · Water · Environment · Buildings

FIGURE 3B

Figure 3B

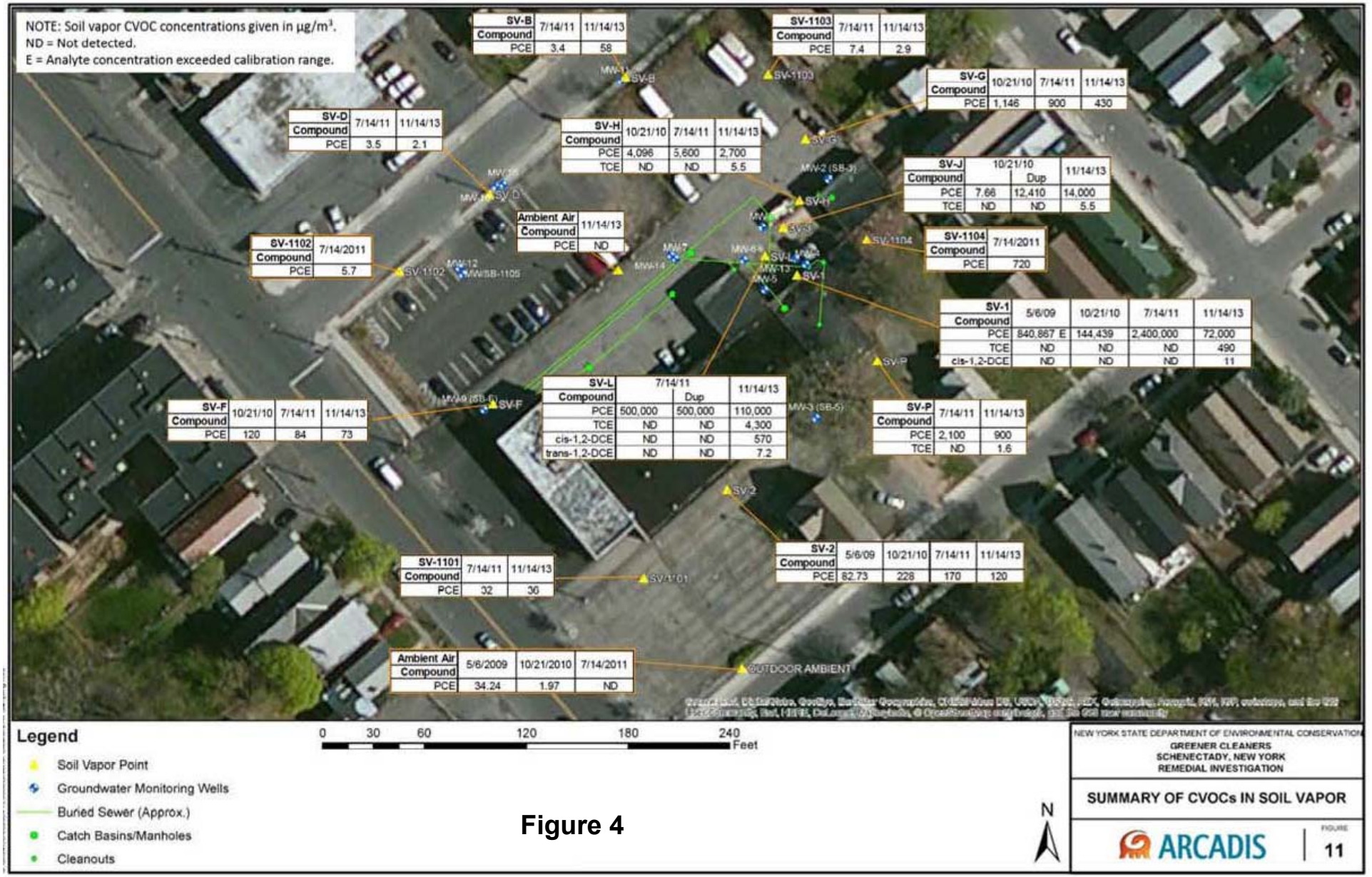
NOTE: Soil vapor CVOC concentrations given in µg/m³.
ND = Not detected.
E = Analyte concentration exceeded calibration range.
SV-B | 7/14/11 | 11/14/13
PCE | 3.4 | 58
SV-1103 | 7/14/11 | 11/14/13
PCE | 7.4 | 2.9
SV-G | 10/21/10 | 7/14/11 | 11/14/13
PCE | 1,146 | 900 | 430
SV-D | 7/14/11 | 11/14/13
PCE | 3.5 | 2.1
SV-H | 10/21/10 | 7/14/11 | 11/14/13
PCE | 4,096 | 5,600 | 2,700
TCE | ND | ND | 5.5
SV-J | 10/21/10 | Dup | 11/14/13
PCE | 7.66 | 12,410 | 14,000
TCE | ND | ND | 5.5
Ambient Air | 11/14/13
PCE | ND
SV-1102 | 7/14/2011
PCE | 5.7
SV-1104 | 7/14/2011
PCE | 720
SV-1 | 5/6/09 | 10/21/10 | 7/14/11 | 11/14/13
PCE | 840,867 E | 144,439 | 2,400,000 | 72,000
TCE | ND | ND | ND | 490
cis-1,2-DCE | ND | ND | ND | 11
SV-F | 10/21/10 | 7/14/11 | 11/14/13
PCE | 120 | 84 | 73
SV-L | 7/14/11 | Dup | 11/14/13
PCE | 500,000 | 500,000 | 110,000
TCE | ND | ND | 4,300
cis-1,2-DCE | ND | ND | 570
trans-1,2-DCE | ND | ND | 7.2
SV-P | 7/14/11 | 11/14/13
PCE | 2,100 | 900
TCE | ND | 1.6
SV-1101 | 7/14/11 | 11/14/13
PCE | 32 | 36
SV-2 | 5/6/09 | 10/21/10 | 7/14/11 | 11/14/13
PCE | 82.73 | 228 | 170 | 120
Ambient Air | 5/6/2009 | 10/21/2010 | 7/14/2011
PCE | 34.24 | 1.97 | ND
OUTDOOR AMBIENT
Legend
Soil Vapor Point
Groundwater Monitoring Wells
Buried Sewer (Approx.)
Catch Basins/Manholes
Cleanouts
0 30 60 120 180 240
Feet
N
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
GREENER CLEANERS
SCHENECTADY, NEW YORK
REMEDIAL INVESTIGATION
SUMMARY OF CVOCs IN SOIL VAPOR
ARCADIS
FIGURE
11

Figure 4