FINAL

PRE-DESIGN INVESTIGATION REPORT

Former Damshire Cleaners Site
(NYSDEC Site Number 401059)

NYSDEC STANDBY ENGINEERING CONTRACT

Work Assignment #D007625-46

PREPARED FOR

NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

625 BROADWAY

ALBANY, NEW YORK 12233

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ACRONYMS AND ABBREVIATIONS

amsl	Above mean sea level
AS	Air sparge
AWQS	Ambient Water Quality Standards
bgs	Below ground surface
CoC	Chain of custody
COC	Contaminant of concern
cVOC	Chlorinated volatile organic compound
DCE	Dichloroethene
DUSR	Data Usability Summary Report
EDS	Environmental Data Services, Ltd.
EPA	Environmental Protection Agency
FAP	Field activities plan
FS	Feasibility Study
ft	Foot (feet)
HDR	Henningson, Durham & Richardson, Architecture and Engineering PC
HSA	Hollow-stem auger
IDW	Investigation-derived waste
in.	Inch(es)
mg/kg	Milligrams per kilogram
NAD	North American Datum
NAVD	North American Vertical Datum
ND	Non-detect
No.	Number
Nothnagle	Nothnagle Drilling, Inc.
NYCRR	New York Code of Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PAH	Polycyclic aromatic hydrocarbons
PCB	Polychlorinated biphenyl
PCE	Tetrachloroethene
PDI	Pre-Design Investigation
PFAS	Polyfluoroalkyl substances
PFC	Perfluorinated chemicals
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonic acid
PID	Photoionization detector
PPE	Personal protective equipment
ppm	Parts per million
PVC	Polyvinyl chloride
QA/QC	Quality assurance/quality control
QAPP	Quality assurance project plan
RD	Remedial Design
RI	Remedial Investigation
ROD	Record of Decision
SC	Site Characterization
SCG	Standards, criteria, and guidance
SCO	Soil Cleanup Objective
SVI	Soil vapor intrusion
SVOC	Semi-volatile organic compound
TCE	Trichloroethene
TOGS	Technical & Operational Guidance Series
UU	Unrestricted use
VC	Vinyl chloride

VI	Vapor intrusion
VOC	Volatile organic compound
µg/l	Micrograms per liter

1.0 INTRODUCTION

This Pre-Design Investigation (PDI) Report for the Former Damshire Cleaners Site (New York State Department of Environmental Conversation [NYSDEC] Site No. 401059) has been prepared by Henningson, Durham & Richardson, Architecture and Engineering PC (HDR), in association with HDR Engineering, Inc. as part of NYSDEC Contract D007625, Work Assignment #46. The Former Damshire Cleaners Site (site) is located at 1205 Central Avenue in the Town of Colonie, Albany County, New York. The site is listed as a Class "2" site in the State Registry of Inactive Hazardous Waste Sites (State Superfund sites), which indicates that the site represents a significant threat to public health or the environment and action is required. The materials disposed at the site and the resulting primary contaminants of concern (COCs) are chlorinated solvents related to dry cleaning operations, particularly tetrachloroethene (PCE), and its degradation products trichloroethene (TCE) and cis-1,2-dichloroethene (DCE). The site consists of two areas: the on-site 0.39-acre Former Damshire Cleaners parcel and an off-site area, which was affected by the former dry cleaning operations. This PDI addresses the on-site area, herein referred to as "the site."

This PDI Report has been developed to summarize PDI environmental data along with historical data that exists for on-site areas of the site. PDI field activities were conducted by HDR from May to June 2019 to inform the remedial design (RD) of an air sparge/soil vapor extraction (AS/SVE) system selected as the site remedy per the Record of Decision (ROD) issued in February 2018. The PDI consisted of an on-site soil and groundwater investigation.

All PDI field activities were conducted in accordance with the HDR – NYSDEC Program Field Activities Plan (FAP) and the Program Quality Assurance Project Plan (QAPP).

1.1 Pre-Design Investigation Report

This report contains descriptions and results of the activities performed as part of the PDI. Brief summaries of the remaining sections are presented below.

- **Section 2 – Site Description and History** describes the physical setting of the site and history.
- **Section 3 – Summary of Previous Investigations** summarizes the investigation activities completed to date.
- **Section 4 – Pre-Design Investigation Activities** presents the summary of work completed as part of the PDI.
- **Section 5 – Pre-Design Investigation Results** presents the findings from the work completed as part of the PDI. Also includes a brief description of the usability of the PDI data.
- **Section 6 – Conclusions and Recommendations** discusses the conclusions based on the findings of the PDI in conjunction with data from previous investigations and recommendations for the RD.
- **Section 7 – References** lists references utilized for the PDI report.

2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Location and Description

The Former Damshire Cleaners Site is located at 1205 Central Avenue in the Town of Colonie, Albany County, New York (**Figure 1**). The site is located in a mixed residential and commercial area on a corner lot at the intersection of Rooney Avenue and Central Avenue, and is bordered by Roessleville Presbyterian Church to the southeast, Rooney Avenue and commercial properties to the northwest, a residential area to the northeast, and commercial and residential areas to the southwest across Central Avenue (**Figure 2**). The site is currently inactive and zoned Neighborhood Commercial Office Residential. The former dry cleaning facility would be considered commercial use under the aforementioned zoning designation.

The site is approximately 0.39 acres in size and contains an approximately 3,600-square foot (ft) one-story masonry block building with a concrete slab-on-grade foundation. The building is currently vacant, but it is being used for the storage of furniture and miscellaneous random items by the current owner. Dry cleaning operations were previously conducted in the building, with dry cleaning equipment likely located within the back section (northeast end) of the building. The vacant building is surrounded by an asphalt parking lot to the northwest and southwest, a grassy area and dirt/gravel driveway to the southeast, and a wooded area to the northeast (**Figure 2**).

Pipes and drainage features noted within the building during previous investigations as well as during the 2019 geophysical survey are as follows:

- A sewer line access pit was observed along the southeastern side of the building where a rectangular portion of the floor slab was absent. The pit contains a capped pipe cleanout port and vent for the sewer line, with the sewer vent exhaust located immediately east of the access pit.
- A shallow trench drain was observed along the length of the overhead garage door in the back portion of the building along the southeastern building wall that may have been used to capture rainwater when the garage door was open.
- A recessed drainage pit measuring approximately 2-ft wide by 5-ft long and 1-ft deep was observed along the southeastern building wall, with two 2-inch (in.) diameter pipes entering the southern wall of the pit, and one 3-in. diameter vertical drain in the southeastern corner of the pit floor. The 3-in. diameter drain may have been connected to the sewer line.
- Three 2-in. diameter steel pipes were observed protruding up from the interior floor slab within the back section of the building. Pipe 1 in the western portion of the slab was traced to the pipe entering the westernmost side of the recessed drainage pit and is suspected to have discharged steam condensate to the drainage pit. Pipe 2 in the central portion of the slab and pipe 3 in the eastern portion of the slab were traced to the boiler room and are suspected to have carried steam and/or hot water to the dry cleaning equipment.

2.2 Site History

Based upon a review of historical information, the site appears to have been developed with three small, one-story structures in the mid-1930s. According to a Sanborn image provided by the NYSDEC, the site was originally utilized as a residential property until approximately 1951. The Town of Colonie property description report for the site states the current on-site building was constructed in 1968. The site was utilized as a dry cleaning business for residential customers; however, records do not identify the year in which dry cleaning operations began. PCE (a dry cleaning chemical) was reported to have been leaking on the floor below dry cleaning equipment for as long as a year prior to shut down in 2001. A fuel oil spill at the site was reported to the NYSDEC's Spill Response Program in November of 2001. Chlorinated solvent contamination was discovered in the soil during the response, which caused the spill project to remain open.

The property was transferred to the current owner in September of 2007. The owner conducted a preliminary soil vapor intrusion (SVI) study at the site in 2010. The study detected elevated levels of chlorinated solvent contamination in both the sub-slab vapor and indoor air. The property owner was not willing to conduct further investigation of the on-site soil and groundwater, which resulted in the site being referred to the New York State Superfund Program as a potential site.

On behalf of the NYSDEC, an initial Site Characterization (SC)/Phase I Investigation and a Phase I Supplemental Investigation was completed from January through May 2011, (EA 2011a, 2011b).

Between October 2013 and January 2015, a Remedial Investigation (RI) was conducted to identify a potential on-site source area, define the nature and extent of contamination from historical dry cleaning activities in soil, groundwater, and soil vapor, evaluate the potential for human exposure to COCs, and collect the data necessary to complete a Feasibility Study (FS) for the site. Following the RI, an FS was completed in January 2017. In February 2018, the NYSDEC issued a ROD which outlined an AS/SVE system as the selected remedy for the on-site area of the site.

2.3 Physical Site Characteristics

Topography at the Former Damshire Cleaners site is relatively flat, with a ground surface elevation of approximately 247 ft above mean sea level (amsl). The surface slopes downward to the south and southeast of the site.

There are no surface water bodies at or in the immediate vicinity of the site. Regionally, surface water drainage flows south toward Patroon Creek, located approximately one half mile south of the site. Patroon Creek flows east towards the Hudson River, located approximately four miles southwest of the site.

2.4 Geology and Hydrogeology

Surficial deposits at the site consist of topsoil and organics. Backfill material containing asphalt and brick was observed within the grassy area southeast of the Former Damshire Cleaners building. During advancement of soil borings as part of the RI, a void was encountered at depth ranging from 8-12 ft below ground surface (bgs) in the grassy area approximately 20 ft southeast

and cross gradient of where the sewer connection exits the site building. This void may indicate the location of a former septic system.

Overburden at and in the vicinity of the site consists of glaciofluvial deposits of interbedded coarse to fine sand, silt, and clay. During the RI, coarse-grained lenses of gravel and pebbles were encountered at MW-04D, located immediately downgradient from the site building, at depths of 20-22 ft bgs (medium to fine sand, little silt, and some coarse gravel), and 28-30 ft bgs (fine sand, some silt, and trace pebbles). These coarse-grained lenses may serve as preferential pathways for groundwater and dissolved-phase contaminant migration. The coarse-grained lenses of gravel and pebbles were not encountered in the borings conducted during the 2019 PDI.

The 2016 RI report (EA, 2016) indicated the presence of a clay confining unit observed at 60-61 ft bgs. However, the three soil borings (MW-101D, -102D and -103D) advanced during the 2019 PDI did not encounter any clay confining units within the on-site area.

Bedrock was not encountered during RI or in PDI. However, it was assumed within the findings of the 2016 RI that the clay confining unit overlies weathered shale bedrock based on the site geology encountered at profiling point, GP-01 located several hundred ft southwest of the site. Regional bedrock geologic information indicates that bedrock at the site consists of upper to middle Ordovician shale of the Lorraine, Trenton; and Black River Groups including the Utica Shale, Canajoharie Shale, and Normanskill Shale. These units can be up to 4,500-ft thick.

Shallow groundwater at and immediately downgradient from the site is located at 3-7 ft bgs, with the depth increasing downgradient to 8-12 ft bgs. Groundwater generally flows in a southwesterly direction at and immediately downgradient from the site, and turns in a more westward direction southwest of Central Avenue. An overall horizontal hydraulic gradient of 0.014 ft/ft was calculated across and downgradient of the site. A downward vertical gradient of 0.027 ft/ft was observed at wells MW-04 and MW-04D, located immediately downgradient from the site building.

3.0 SUMMARY OF PREVIOUS INVESTIGATIONS

This section summarizes the environmental impacts at the Former Damshire Cleaners Site as described in the 2016 RI (EA, 2016). Historical data, as well as 2016 RI data for the media of concern, were evaluated to determine nature and extent of contamination at the site.

Media of concern evaluated during the RI are organized by area as follows: on-site surface and subsurface soil, on-site and off-site groundwater, on-site sub-slab soil vapor, and off-site soil vapor. A full analysis of all data collected during the RI is included in the RI Report (EA, 2016). These areas of concern and the impacts associated with the environmental media are based on a comparison of analytical results against the appropriate standards, criteria, and guidance values (SCGs):

- **Soil** – 6 New York Code of Rules and Regulations (NYCRR) Part 375 Environmental Remediation Programs – Restricted Use – Commercial – Soil Cleanup Objectives (SCOs) and/or 6 NYCRR Part 375 Environmental Remediation Programs – Unrestricted Use – SCOs (NYSDEC 2006, as amended).
- **Groundwater** – 6 NYCRR Part 703.5 Class GA Groundwater Quality Regulations, as presented in the Division of Water Technical and Operational Guidance Series 1.1.1 (NYSDEC 1998, as amended).
- **Soil Vapor** – New York State Department of Health (NYSDOH) SVI Guidance (2006) and as amended in 2013 and 2015.
- **Sub-Slab Vapor and Indoor Air** – NYSDOH SVI Guidance (2006) and as amended in 2013 and 2015.

3.1 Former Damshire Cleaners Building Investigation

A building investigation was conducted in October 2013 to identify a potential source of known impacts. During this inspection, the recessed drainage pit (rear sump) and sewer line access pit (cleanout) were observed along the southeastern wall (Figure provided in **Appendix A**). Water was observed within a discharge pipe of the rear sump, and an opening/crack was observed in the base of the sump, indicating that the integrity of the rear sump was compromised.

The results of the building investigation indicated that the primary source of chlorinated solvents associated with the site appeared to be the rear sump within the vacant building. Impacted sediment/debris, soil, and water data at and within the immediate vicinity of the rear sump suggests the opening/crack allowed for discharge of hazardous materials to the subsurface. PCE was detected above the Unrestricted Use (UU) SCO (1.3 milligrams per kilogram [mg/kg]) in sediment/debris collected from the opening/crack in the rear sump (3.4 mg/kg) and in soil collected below the base of the rear sump at 2–4 ft bgs (8.1 mg/kg). In addition, PCE (55,000 micrograms per liter [µg/l]), TCE (4,000 µg/l), and cis-1,2-DCE (69,000 µg/l), were detected in discharge water collected from the pipe at concentrations above Class GA Ambient Water Quality Standards (AWQS) (5 µg/l each).

To further delineate the extent of soil impacts beneath the site building, subsurface soil samples were collected from two locations beneath the building slab in March 2015. These borings were

located approximately 15 ft northwest (ISB-1) and 30 ft west (ISB-2) of the rear sump. PCE was detected above the UU SCO at both locations (6.2 and 12 mg/kg, respectively).

Based on existing data and known depths of soil impacts from directly beneath the building and the rear sump, and assuming impacts extend to 6 ft beneath the slab with an area of 3,600 square ft, the volume of impacted soil exceeding UU SCOs could be estimated at 800 cubic yards. Because the full extent of soil impacts was not defined, this volume of impacted soil may vary significantly, as UU SCOs were exceeded at deeper depth intervals at MW-04 and MW-04D located immediately downgradient from the building.

3.2 On-Site Surface and Subsurface Soil

The on-site surface and subsurface soil investigation was conducted to delineate the nature and extent of impacts to soil at the Former Damshire Cleaners property. RI data were compared to UU and Commercial SCOs selected to identify areas that may require remediation sufficient for the current and future anticipated use of the property, which may also require institutional controls (e.g., land-use restrictions) as applicable to the on-site area.

PCE was the only volatile organic compound (VOC) detected above the UU SCO (1.3 mg/kg), with elevated concentrations in deep subsurface soil samples collected during installation of MW-04D immediately downgradient from the building (1.8 mg/kg at 32-34 ft bgs and 4.7 mg/kg at 54-56 ft bgs). VOCs were not detected above Commercial SCOs in any on-site surface or subsurface soil sample collected during the RI. Figures provided in **Appendix A** depict surface and subsurface VOC soil results, respectively. However, during the 2011 SC/Phase I Investigation, PCE was detected above the Commercial SCO of 150 mg/kg in one subsurface soil collected at 15–20 ft bgs immediately downgradient from the site (MW-04, 830 mg/kg).

Several semi-volatile organic compounds (SVOCs), particularly polycyclic aromatic hydrocarbons (PAHs), were detected above their respective UU and Restricted Use Commercial SCOs at six surface soil sample locations including: Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)-fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene. Indeno(1,2,3-cd)pyrene was the only SVOC detected above the UU SCO (0.5 mg/kg), with a concentration of 0.6 mg/kg detected in shallow subsurface soil collected from SB-04 at 3-4 ft bgs. No SVOCs were detected above the Restricted Use Commercial SCOs. Figures provided in **Appendix A** depict surface and subsurface SVOC soil results, respectively.

3.3 On-Site Groundwater

The RI groundwater program included collection of groundwater grab samples in October 2013, installation of four shallow on-site monitoring wells and one on-site deep monitoring well in December 2014, and completion of a round of groundwater sampling in January 2015.

Groundwater analytical results indicated elevated concentrations of PCE, TCE, and cis-1,2-DCE above Class GA standards (5 µg/l each) in shallow on-site groundwater. The table below provides a summary of the frequency of groundwater concentrations exceeding applicable groundwater quality standards based on the 2016 RI.

Summary of January 2016 RI Groundwater Exceedances

Constituents	Groundwater Standards and Guidance Values[(a)] (µg/l)	No. of Exceedances/ No. of Samples	Concentration Range (µg/l)	Location of Maximum Concentration
January 2014 Sampling Event				
Tetrachloroethene	5	14/27	1.2 - 4,100	MW-15, rear sump (source area)
Trichloroethene	5	10/27	1.2 - 190	SB-06, void (second source area)
Cis-1,2-dichloroethene	5	13/27	1.1 - 630	MW-13, downgradient from void

Notes: (a) NYSDEC 1998, as amended
µg/l = Micrograms per liter
No. = Number
NYSDEC = New York State Department of Environmental Conservation

Based on analytical results of groundwater sampled during previous investigations, a dissolved-phase groundwater plume was determined to extend southwest in the direction of groundwater flow from the rear sump within the site building toward Central Avenue (figure provided in **Appendix A**). The PCE component of the dissolved-phase plume was observed to be the most extensive. In addition, analytical data also suggested a second potential discharge zone at the void area east/southeast of the site building, with elevated concentrations extending south/southwest of the void/former septic area to and beyond MW-13. The on-site portion of the shallow groundwater contaminant plume's lateral thickness was observed to be about 128 ft from the northern edge of the site building to the adjacent southeast property.

The presence of elevated concentrations at the bottom of borings downgradient from the void area indicated downward vertical migration, as would be expected with migration patterns associated with DNAPLs. In addition, the elevated concentration of PCE detected in deep groundwater at monitoring well MW-04D (96 µg/l) suggested minimal vertical migration of the dissolved-phase plume immediately downgradient from the site building (figure provided in **Appendix A**). No other deep monitoring wells were installed in the on-site area. In the RI, the clay confining layer encountered at 60-70.4 ft bgs in off-site downgradient profiling points was assumed to be serving as a barrier for the on-site area to vertical migration and defined the vertical limit of the plume within the 2016 RI Report.

3.4 On-Site Vapor Intrusion Investigation

In January 2010, a limited SVI investigation (C.T. Male Associates, P.C. 2010) was conducted within the site building which was vacant at the time of sampling. The previous report did not identify whether the building was heated during the sampling. During the vapor intrusion (VI) investigation, one indoor air sample and two sub-slab samples were collected in the back (northeast) portion of the building in the area of the former dry cleaning equipment. Sample results

indicated that VI from contaminated soil and/or groundwater is occurring on site, with both PCE and TCE detected in exceedance of the NYSDOH Air Guideline Values (30 and 2 µg/m^3, respectively). PCE was detected in indoor air at a concentration of 57 µg/m^3 and in sub-slab vapor at concentrations up to 130,000 µg/m^3, while TCE was detected in sub-slab vapor at concentrations up to 220 µg/m^3. Additional SVI investigations or mitigation have not been done within the site building since the building is currently vacant.

3.5 Off-Site Vapor Intrusion Investigation

In March 2015 one sub-slab vapor and co-located indoor air sample were collected from a building located upgradient of the site (referred to as "Structure 1"). Elevated concentrations of PCE (350 µg/m^3) and TCE (8.8 µg/m^3) were detected in the indoor air duplicate sample above NYSDOH Air Guideline Values (30 and 2 µg/m^3, respectively); however, PCE and TCE were not detected in sub-slab vapor or in the indoor air parent sample. As a result of the discrepancy between the indoor air parent and duplicate samples, sub-slab vapor and indoor air at Structure 1 were resampled in May 2015. During the second sampling event, PCE and TCE were detected in sub-slab vapor at concentrations of 1.4 and 3.2 µg/m^3, respectively, with TCE slightly above the NYSDOH Air Guideline Value of 2 µg/m^3. PCE and TCE were not detected in the indoor air parent sample; however, PCE was detected in the duplicate sample at 2.4 µg/m^3, which is below the NYSDOH Air Guideline Value of 30 µg/m^3.

VI investigation analytical results suggested that PCE and TCE are volatilizing from shallow groundwater beneath Structure 1. No additional structures were included in the VI evaluation as a result of being unable to obtain access agreements.

3.6 June 2016 Groundwater Sampling Event

Additional groundwater sampling was conducted in June 2016 per request of the NYSDEC, with samples collected from four well locations (MW-04, MW-12, MW-13, and MW-15) for analysis of SVOCs by Environmental Protection Agency (EPA) Method 8270D, polychlorinated biphenyls (PCBs) by EPA method 8082, pesticides by EPA method 8081A, metals by EPA method 6010B, mercury by EPA method 7470A, and cyanide by EPA method 9010B.

Pesticides, PCBs, mercury, and cyanide were not detected in groundwater samples. The SVOC 2,4-dimethylphenol was detected at a concentration of 10 µg/l at MW-13, which is below the NYSDEC AWQS of 50 µg/l. No other SVOCs were detected in groundwater. Sixteen metals were detected in one or more groundwater samples. Iron was detected in all four monitoring wells at concentrations exceeding the NYSDEC AWQS of 300 µg/l, with concentrations ranging from 2,400 to 110,000 µg/l. Lead was detected in MW-04 only, with a concentration of 33 µg/l, which exceeded the NYSDEC AWQS of 25 µg/l. Manganese was detected in all four monitoring wells; the concentration in MW-04 (8,200 µg/l) exceeded the NYSDEC AWQS of 300 µg/l. Sodium was detected in all four monitoring wells at concentrations exceeding the NYSDEC AWQS of 20,000 µg/l, with concentrations ranging from 28,000 to 62,000 µg/l.

3.7 Human Health Exposure Assessment

As part of the 2016 RI, a qualitative assessment of human health exposure pathways for all impacted media was completed by EA using analytical data obtained during the RI. The qualitative human exposure assessment indicated that there were potential pathways through which receptors could be exposed to potentially hazardous materials related to former dry cleaning operations at the site. Analytical results of sub-slab soil beneath the site building, subsurface soil immediately downgradient from the building, on-site and off-site groundwater, and downgradient soil vapor indicate that these media were determined to be impacted from improper management of dry cleaning solvents at the site.

The exposure assessment indicated that current and future on-site construction and utility workers could be exposed to impacted subsurface soil beneath the building slab or downgradient from the building during construction and excavation and utility work/repairs, which could present the potential for dermal contact and incidental ingestion. Current and future commercial and industrial workers, and adult and child visitors/residents both on site and off site were not expected to come into contact with subsurface soil.

Exposure to drinking water was not a viable pathway since impacted downgradient groundwater is not used as a source of potable water. Although the potential for the shallow groundwater to intrude into downgradient buildings with basements and sumps was considered, based on groundwater data from the 2016 RI. Downgradient off-site contaminated groundwater is present at depths that would not impact sumps/basements (i.e., greater than 9 ft below grade [basement depth]).

Sub-slab vapor and indoor air analytical results from previous investigations indicated that historical use of the site (i.e., dry cleaners), improper management of dry cleaning solvents (i.e., PCE leaking from dry cleaning equipment onto the floor of the building), and VI from contaminated groundwater beneath the building has been impacting indoor air quality within the building. The NYSDOH recommended mitigation measures; however, no measures have been implemented to date.

Downgradient soil gas analytical results indicated that soil gas has been impacted and there is a potential for VI into structures within the extent of the groundwater contamination plume. However, due to access restrictions, downgradient VI evaluations were not conducted at commercial/ industrial or residential properties. Another attempt had not been made to obtain access for VI evaluations to determine if the indoor air at these properties is continuing to be impacted.

3.8 Extent of Impact to Environmental Media

The extent of impact to the environment media was estimated in the 2016 RI based on the investigation data collected in 2015. The approximate extent of groundwater that exceeds SCOs had been shown on figures provided in **Appendix A**. The areal extent of the groundwater plume on site was estimated to be approximately 69 percent of the 0.39 acres. The vertical extent of the plume was estimated to be approximately 60 ft bgs.

The approximate extent of soil that exceeds SCOs has also been shown on figure provided in **Appendix A**. A total of 3,014 square ft of soil beneath the site building to a depth of 4 ft bgs was estimated to be above SCOs. Impacted surface soil was determined to cover just over 4,700 square ft. There was a 150-square ft area identified as of impacted subsurface soil to a depth of 6 ft bgs.

3.9 Feasibility Study

Based on the 2016 RI findings, nature and extent of contamination, and identified site risks, Remedial Action Objectives (RAOs) were developed to address the human health risks and environmental concerns at the site. The RAOs were organized into these three categories: groundwater, soil, and soil vapor. To meet RAOs for each category, remediation cleanup goals for soil and groundwater as detailed in the table below were identified to aid in defining the extent of contaminated media requiring remedial action.

Constituents	Soil	Groundwater
	6 NYCRR Part 375 Unrestricted Use (mg/kg)	New York State Ambient Water Quality Standards Guidance Values (µg/l)
cis-1,2-Dichloroethylene	0.25	5
Tetrachloroethylene	1.3	5
Trichloroethylene	0.47	5
Benzo(a)anthracene	1	0.002
Benzo(a)pyrene	1	NA
Benzo(b)fluoranthene	1	0.002
Benzo(k)fluoranthene	0.8	0.002
Chrysene	1	0.002
Dibenz(a,h)anthracene	0.33	NA
Indeno(1,2,3-cd)pyrene	0.5	0.002

Notes: µg/l = Micrograms per liter
mg/kg = milligrams per kilogram
NYCRR = New York Code of Rules and Regulations

Based on the nature and extent of contamination, as well as established RAOs and proposed remedial cleanup goals, a FS was conducted in January 2017 to evaluate suitable alternatives for remediating the site.

3.10 Selected Remedy

Based on the 2017 FS, NYSDEC issued ROD in February 2018 selecting the final remedy of the site. The proposed remedy consists of the following major components and subcomponents:

1. **Remedial Design**

An RD program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green

remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Air Sparge with Soil Vapor Extraction (AS/SVE)

Air sparging will be implemented to address the groundwater plume contaminated by VOCs. VOCs will be physically removed from the groundwater and soil below the water table (saturated soil) by injecting air into the subsurface. The injected air rising through the groundwater will volatilize and transfer the VOCs from the groundwater and/or soil into the injected air. The VOCs are carried with the injected air into the vadose zone (the area below the ground surface but above the water table) where a soil vapor extraction (SVE) system designed to remove the injected air will be installed. The SVE system will apply a vacuum to a network of perforated pipes installed into the vadose zone to remove the VOCs along with the air introduced by the sparging process. The air extracted from the SVE wells will be treated as necessary prior to being discharged to the atmosphere.

It is estimated that 15 air injection wells will be installed in the area of the site to be treated. Installation will occur at a 30-ft spacing throughout the plume footprint, as depicted on Figure 12 (provided in **Appendix A**), to a depth of approximately 55 to 60 ft, which is 45 ft below the water table. To capture the volatilized contaminants, a network of perforated pipes will be installed in the vadose zone at a depth of approximately 5 to 10 ft bgs. The air containing VOCs extracted from the SVE wells will be treated by passing the air stream through activated carbon, which removes the VOCs from the air prior to it being discharged to the atmosphere.

3. Cover System

A site cover will be required to allow for commercial use of the site in areas where the upper one ft of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). The site cover may consist of paved surface parking areas, sidewalks, or a soil cover. Where a soil cover is to be used it will be a minimum of one ft of soil placed over a demarcation layer, with the upper six in. of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d). In areas where building foundations or building slabs preclude contact with the soil, the requirements for a site cover will be deferred until such time that they are removed.

4. Vapor Mitigation

Any on-site buildings will be required to have a sub-slab depressurization system, or other acceptable measures, to mitigate the migration of vapors into the building from soil and/or groundwater. It is anticipated that the SVE system discussed in remedial element 2 will serve to mitigate VI until such time that its operation is discontinued.

5. Institutional Controls

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 commercial use 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.

6. Site Management Plan

A Site Management Plan is required, which includes the following:

6.1 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 in paragraph 4.

Engineering Controls: The Air Sparge with Soil Vapor Extraction system discussed above in Item # 2.

This plan includes, but may not be limited to:

- an Excavation Plan 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 groundwater use restrictions;
- a provision for evaluation of the potential for SVI for any new buildings developed on the site or for buildings in off-site areas of contamination, including
- a provision for implementing actions recommended to address exposures related to SVI;
- a provision that should the owners of properties where sampling was previously declined request to have their properties sampled in the future, the NYSDEC, in consultation with the NYSDOH, shall assess the need for SVI sampling and take appropriate action;
- 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.

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

- monitoring of groundwater to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department;
- monitoring for VI for any buildings, as may be required by the Institutional and Engineering Control Plan discussed above.

6.3 An Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:

- procedures for operating and maintaining the remedy;
- compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
- maintaining site access controls and Department notification; and
- providing the Department access to the site and O&M records.

4.0 PRE-DESIGN INVESTIGATION ACTIVITIES

To facilitate the RD and to determine the source area related to site contamination and possible preferential pathways of sub-surface utilities serving the site, the PDI was conducted to obtain additional parameters, including groundwater elevations, and deeper groundwater analytical and geophysical parameters. The PDI began in May 2019 with a geophysical survey for buried utility clearance, followed by hollow-stem auger (HSA) soil boring with split-spoon sampling and monitoring well installation into June 2019. Once intrusive activities were completed, groundwater elevation data and groundwater samples were collected from the three newly installed wells and nine existing monitoring wells from June to July 2019. The three newly-installed and 11 existing monitoring wells were surveyed in July 2019 and all Investigation-derived waste (IDW) was transported off site for disposal in August 2019.

HDR mobilized to the site on May 23, 2019 to begin subsurface investigation with on-site soil boring and monitoring well installation. All intrusive work was performed by Nothnagle Drilling, Inc. (Nothnagle). Prior to drilling, each location was cleared for utilities using surface geophysics, performed by Clean Globe Environmental LLC on May 22, 2019, and subsurface hand-clearing by Nothnagle. Site photos from the subsurface investigation are provided in **Appendix B**, and field notes are included in **Appendix C**.

4.1 Soil Boring Installation

Three soil borings, MW-101D, MW-102D, and MW-103D, were installed on site, as listed in **Table 1** and shown on **Figure 2**. The 4.25-in. diameter borings were installed via HSA and were sampled using the split-spoon method for logging and VOC-screening via Photoionization detector (PID). The soil cores were assessed by a geologist for soil type and evidence of impairment. Elevated PID readings (i.e., greater than 1 part per million [ppm]) were observed in all three soil borings, with the highest readings at each location being 122.9 ppm at MW-101D 9-11 ft bgs, 4.2 ppm at MW-102D 40-42 ft bgs, and 23.2 ppm at MW-103D 10-12 ft bgs. Soil boring logs are provided in **Appendix C**.

Two to three soil samples were collected per drilling location at intervals of interest: at the surface, at intervals coincident with high PID readings, immediately above the groundwater table, and/or immediately above the bedrock. A total of eight soil samples plus one duplicate sample, one MS/MSD volume, and one equipment blank were collected. All samples were analyzed for VOCs. The three surface samples (plus the duplicate sample) were also analyzed for SVOCs. A summary of soil samples collected during this mobilization is provided in **Table 2**, and sample chain of custody (CoCs) forms are provided in **Appendix C**.

Continuous air monitoring of VOCs and particulates was performed during all intrusive activities during the subsurface investigation. Air monitoring data are provided in **Appendix D**. VOCs and particulates levels did not exceed action levels during the course of the investigation.

Deviations from Work Plan:

- A clay layer was previously encountered at 60-70 ft bgs during installation of off-site location GP-01. It was planned that the depth to the clay layer would be confirmed during

installation of the deep boreholes at MW-101D, -102D, and -103D. However, while drilling at the first location (MW-103D), the clay layer was not encountered from 60-72 ft bgs. The driller was unable to advance the MW-103D boring beyond 72 ft bgs using the HSA drilling method. Due to the limitations of HSA at this depth, it was decided to forgo confirmation of the clay layer depth, with the possibility of returning to the task in the future using a different drilling method. The final two borings (MW-101D and -102D) were advanced only to 60 ft bgs and the clay layer was not encountered at either location.

- After conducting continuous split-spoon sampling for the entirety of the MW-103D boring, it was decided that the split-spoon sampling rate would be modified for the remaining borings in order to substantially increase productivity. For MW-101D and -102D, split-spoon sampling was performed continuously from grade to 35 ft bgs, and then switched to a standard rate (one 2-ft sample every five ft) to 60 ft bgs.

4.2 Monitoring Well Completion

From May 23, 2019 to June 3, 2019, three deep monitoring wells were installed on site: MW-101D, -102D, and -103D. Each well was installed to a depth of 60 ft bgs, with MW-102D positioned in the grass area to the southwest of the site building and MW-101D and MW-103D positioned on the paved area along Central Avenue to the southwest of the site building.

All wells were constructed in 4.25-in. diameter borings with two-in. polyvinyl chloride (PVC) risers and a 10-ft 0.01-in. PVC slot screen set at 50-60 ft bgs. Sand pack was installed to approximately two ft above the top of the screen and topped with a minimum of two ft of a bentonite seal. After the bentonite seal, bentonite/Portland cement grout was poured to one ft below the ground surface. All wells were finished with a flush mount casing and concrete skirt.

Monitoring well installation logs are provided in **Appendix C**. Surveyed well locations are shown on **Figure 2** and well construction details are summarized in **Table 3**.

4.3 Monitoring Well Development

Beginning on June 4, 2019, the newly installed monitoring wells were developed. In addition, the existing wells selected for sampling (MW-02, -03, -04, -04D, 07, -12, -13, and -16) were also redeveloped, as they were found to contain appreciable silt during site reconnaissance. MW-15 could not be developed, since the site building was inaccessible at the time. Development was performed using either a ProActive Monsoon pump, bailer, or tubing with a foot valve, depending on the well diameter. Perfluorinated chemicals (PFC)-free equipment was used at the locations identified for Polyfluoroalkyl substance (PFAS)/Perfluorooctanoic acid (PFOA) analysis (MW-04, MW-07, and MW-12). A water quality meter and separate turbidity meter were used to measure stabilization criteria of the development water at regular intervals. Development continued until stable criteria were achieved over three successive readings or three full well volumes were removed, whichever occurred first. Well development logs are provided in **Appendix C**.

4.4 Groundwater Sampling

Groundwater sampling of the three new wells and nine existing wells began on June 26, 2019. Prior to sampling, a synoptic round of groundwater level measurements was collected from the wells to be sampled using a depth to water indicator (certified PFC-free). Synoptic data are presented in **Table 4** and **Figure 3**. Low flow purging was then performed at each well, followed by sampling. A bladder pump was used to purge the deep wells (MW-101D, -102D, -103D, and -04D), and a peristaltic pump was used to purge the shallow wells. A water quality meter and a turbidity meter were used to measure water quality parameters of the purge water at regular intervals. Purging continued until stable criteria were achieved over three successive readings.

A PFCs checklist (included in **Appendix C**) was completed to ensure that no PFAS-containing materials were present on the day samples were collected for PFAS analysis (June 27, 2019). All equipment, supplies, and blank water used to collect samples for PFAS analysis (from MW-04, -07, and -12) were PFC-free.

A total of 12 parent groundwater samples were collected from 12 monitoring wells for the following analyses:

- All 12 samples were analyzed for VOCs.
- Three samples (from MW-04, -07, and -102D) were also analyzed for SVOCs.
- Three samples (from MW-04, -07, and -12) were also analyzed for 1,4-dioxane and PFAS/PFOA.

Two sets of quality assurance/quality control (QA/QC) samples were collected:

- One QA/QC set was collected for VOCs analysis only:
    - A field duplicate was collected from MW-103D.
    - An equipment blank was collected by running lab-provided blank water over a decontaminated bladder pump.
    - MS/MSD volumes were collected from MW-13.
- One QA/QC set was collected for full-suite analysis (VOCs, SVOCs, 1,4-dioxane, and PFAS/PFOA):
    - A field duplicate was collected from MW-04.
    - An equipment blank was collected by running lab provided blank water through the sample tubing via a peristaltic pump; PFC-free water was used.
    - MS/MSD volumes were collected from MW-07.

The following samples were collect for additional lab QA/QC:

- Three trip blanks were collected for VOCs analysis.
- One field blank was collected for PFAS/PFOA analysis.

Samples were sent to TestAmerica for VOCs and SVOCs analyses and to Con-Test for PFAS/PFOA and 1,4-dioxane analyses.

A summary of groundwater samples collected during this mobilization provided in **Table 5**, and well sampling logs and sample CoCs are provided in **Appendix C**.

Deviations from Work Plan:

- The site building rear sump was found to be dry and could not be sampled. In addition, MW-05 was filled in with sand/silt to well over its screen interval and was not sampled.

- Several wells exhibited high turbidity throughout purging. Of these wells, MW-02, -03, and -04 were sampled after purging three full well volumes; MW-101D, -102D, and -103D were sampled after achieving stabilization of all water quality parameters other than turbidity.

4.5 Site Survey

A geophysical survey was conducted by Clean Glob Environmental LLC on May 22, 2019 for buried utility clearance and to determine the possible preferential pathways of sub-surface utilities serving the site for RD.

A site survey was also conducted on July 18, 2019 by C.T. Male Associates and included the site building corners, surface utilities, surface types (i.e., grass, gravel, and asphalt), the three new monitoring wells (MW-101D, -102D, and -103D), and eight existing monitoring wells (MW-02, -03, -04, -04D, -07, -12, -13, and -16). MW-15 was not included, as access to the site building was not possible on the survey date. The north orientation is Grid North based on the New York State Plane Coordinate System, East Zone, North American Datum (NAD) 83/2011. The Vertical datum used was North American Vertical Datum (NAVD) 88 (Geoid 12A) and was obtained from GPS observations.

Survey documents are provided in **Appendix E.**

4.6 Investigation-Derived Waste Handling

IDW from the subsurface investigation was stored in fifteen 55-gallon drums staged along the northwestern edge of the site building: one drum of personal protective equipment (PPE) and debris, five drums of soil, and nine drums of wastewater. During demobilization, all drums were placed on wooden pallets, their lids were properly sealed, and the staging area was cordoned off with traffic cones and caution tape.

One soil sample and one aqueous sample were collected by MC Environmental Services, Inc. on July 1, 2019 for waste characterization analysis. The analytical results for both samples were in accordance with the disposal facility requirements. On August 13, 2019, MC Environmental transported all 15 IDW drums from the site to Veolia ES Technical Solutions, LLC at 126 Morris Road, Albany, NY 12205 for off-site disposal as non-hazardous waste.

IDW handling documents are contained in **Appendix F**.

5.0 PRE-DESIGN INVESTIGATION RESULTS

This section presents the results of the 2019 PDI sampling and laboratory analysis. The investigation results are presented below by the media of concern, including soil and groundwater. The sample locations, sampling method, and analytical methods conducted for the 2019 PDI were completed in accordance with the HDR – NYSDEC Program QAPP. The data are summarized, with corresponding figures and tables illustrating the sampling locations, sample identification numbers, and laboratory analytical results. An evaluation of these data and screening criteria comparisons are discussed in the sections below.

5.1 Applicable Criteria

The applicable criteria selected for comparison to the analyte concentrations detected in soil and groundwater are listed below:

Soil

Soil sample analytical results were compared to NYCRR Part 375 Environmental Remediation Programs – Restricted Use – Commercial – Soil Cleanup Objectives (SCOs) and/or NYCRR Part 375 Environmental Remediation Programs – UU – SCOs (NYSDEC 2006, as amended).

Groundwater

Groundwater sample analytical results were compared to NYSDEC Technical & Operational Guidance Series (TOGS) 1.1.1 Groundwater Standards.

5.2 Data Validation

Soil and groundwater analytical data from Chemtech and TestAmerica were submitted to Environmental Data Services, Ltd. (EDS) for data validation. Data validation included a review of pertinent QA/QC data such as sample extraction and analysis, holding times, calibration, a review of laboratory blanks and QA/QC sample results, and a review of the analytical case narrative.

Upon receipt of the analytical laboratory reports (provided in **Appendix G**), a preliminary review of the data was performed by HDR to verify that all of the necessary paperwork, such as chain-of-custodies, traffic reports, analytical reports, and deliverable packages, were present. HDR then sent the sample delivery groups to EDS which verified the qualitative and quantitative reliability of the data as the laboratory provided it and then performed a detailed QA review.

EDS prepared detailed Data Usability Summary Reports (DUSRs) after conducting the data validation. A separate DUSR was prepared for each of the sample delivery groups associated with this PDI. The DUSRs consist of a review of the laboratory deliverables, followed by a section that describes, on an item-by-item basis, the analytical results and any qualifications that were considered when evaluating the data. The qualifications were made by assessing the results submitted by the laboratory in terms of the technical requirements of the analytical methods (including QA/QC criteria) and data validation requirements. The DUSRs highlighted the data results that did not meet QC limits and therefore, may have required data qualification. The reports

also indicated the data qualification actions taken as a result of these criteria. DUSRs are provided in **Appendix H**.

The analytical results for samples collected as part of the investigation are valid and usable with qualifications as noted in each DUSR. Data qualifiers were taken into account during the interpretation of the analytical results. Qualifier flags were limited to "U" for non-detects (NDs), "J" for estimated values based upon results of the validation, "UJ" for ND values that were estimated based on the validation, and "R" for values that were deemed as unusable during the validation process based on QC deficiencies. Overall, there was no significant impact regarding the usability of the data set.

5.3 Groundwater Sampling Results

Groundwater sampling locations for the 2019 PDI are shown on **Figure 2**. In total, twelve (12) groundwater samples were collected from eight (8) shallow monitoring wells and four (4) deep monitoring wells. All groundwater samples were analyzed for VOCs. Three (3) of 12 samples were also analyzed for SVOCs, 1,4-Dioxane, and PFAS/PFOA. The laboratory analytical results were compared to the NYSDEC TOGS 1.1.1 Groundwater Standards to evaluate nature and extent of groundwater impacts in this PDI. The groundwater contaminants of concern (COCs) included Cis-1,2-DCE, PCE, and TCE. Concentrations exceeding the groundwater standards for these analytes are summarized on **Figure 4**, and discussed below. Groundwater analytical results with validated result qualifiers are summarized in **Tables 6A**, **6B**, and **6C**.

5.3.1 Site Specific Geology and Hydrogeology

Similar to the 2016 RI findings, surficial deposits at the site consist of topsoil and organics. During advancement of soil borings as part of the PDI, interbedded coarse to fine sand, silt, and clay were observed in the overburden layer to a depth of approximately 72 ft bgs at MW-103D. During the RI, coarse-grained lenses of gravel and pebbles were encountered at MW-04D, located immediately downgradient from the site building, at depths of 20-22 ft bgs (medium to fine sand, little silt, and some coarse gravel), and 28-30 ft bgs (fine sand, some silt, and trace pebbles). The coarse-grained lenses of gravel and pebbles were not encountered in the borings (MW-101D, -102D, and -103D) conducted during the 2019 PDI.

The 2016 RI report (EA, 2016) indicated the presence of a clay confining unit observed at 60-61 ft bgs. However, the three soil borings (MW-101D, -102D and -103D) advanced during the 2019 PDI did not encounter any clay confining units within the on-site area.

Bedrock was not encountered during the 2019 PDI.

Shallow groundwater at and immediately downgradient from the site was observed at 3.9-6.37 ft bgs. Groundwater generally flows in a southwesterly direction at and immediately downgradient from the site. An overall horizontal hydraulic gradient of 0.014 ft/ft was calculated across and downgradient of the site.

5.3.2 Volatile Organic Compounds:

A total of eight (8) different VOCs were detected in the groundwater samples collected at the site. Of the eight (8) detected VOCs, only Cis-1,2-DCE, PCE, and/or TCE were detected at concentrations greater than the NYSDEC TOGS 1.1.1 Groundwater Standards at all locations except for two upgradient monitoring wells, MW-12 and MW-16, and one deep side gradient monitoring well, MW-102D.

Shallow Monitoring Wells:

Groundwater samples collected in June 2019 indicated that cis-1,2-DCE, PCE, and/or TCE exceeded the NYSDEC TOGS 1.1.1 Groundwater Standards (5 µg/l each) at the following wells:

- MW-15 installed within the Former Damshire Cleaners building in the rear sump location;
- MW-04 located immediately downgradient from the Former Damshire Cleaners property;
- MW-07 located along Highland Street and serving as the furthest downgradient monitoring well; and
- Wells MW-03, MW-13 and MW-02, located southeast/side gradient of the site building, and downgradient of the potential historical source area east of the building (**Figure 4**).

The highest PCE (12,000 ug/l), TCE (780 µg/l), and cis-1,2-DCE (160 µg/l) concentrations were observed at MW-04, located immediately downgradient from the Former Damshire Cleaners property. Only cis-1,2-DCE (16 µg/l) was detected at concentration greater than the NYSDEC TOGS 1.1.1 Groundwater Standards in MW-13, located southeast/side gradient of the site building. Only PCE (100 µg/l) was detected at concentration greater than the NYSDEC TOGS 1.1.1 Groundwater Standards in MW-07, which is located along Highland Street and serves as the furthest downgradient monitoring well.

The elevated concentrations observed in shallow monitoring wells are consistent with concentrations detected at these locations during previous sampling events conducted in January 2014 and/or January/May 2011. In monitoring wells, MW-15, MW-13, MW-02, MW-03, and MW-04, overall VOCs concentrations appears to be trending down while the PCE concentrations in MW-07, the furthest downgradient monitoring well, appears to be trending up. This upward trend of PCE concentrations in MW-07 indicates that the dissolved-phase plume is migrating to downgradient shallow monitoring well MW-07 located along Highland Street.

The June 2019 shallow groundwater analytical data also indicate that the dissolved-phase plume still extends southwest across Central Avenue to downgradient shallow monitoring well MW-07, located approximately 290 ft from the site building. An increase in concentration of PCE from 52 µg/l to 100 µg/l in MW-07 also indicates that the downgradient edge of the plume extends beyond this monitoring well location.

The June 2019 analytical data also indicates that the lateral extent of cVOCs (chlorinated volatile organic compounds) contamination (> 100 µg/l) in shallow groundwater is now narrower and extends approximately 70 ft from Rooney Avenue to monitoring well MW-03 located at southeast corner of the site. Decreasing trends of TCE, and/or cis-1,2-DCE contamination observed multiple sampling events in MW-02, MW-03, and MW-13 located southeast of the site building

also indicate that any upgradient source of contamination that might have happened in past, is naturally degrading over the time.

Deep Monitoring Wells:

Groundwater samples collected in June 2019 indicated that PCE, and/or TCE exceeded the NYSDEC TOGS 1.1.1 Groundwater Standards (5 µg/l each) at deep monitoring wells, MW-04D, MW-101D, and MW-103D. The highest PCE (330 µg/l) and TCE (6.5 µg/l) concentrations were observed at MW-101D (screened at 50-60 ft bgs) located immediately downgradient from the site building and closer to MW-05. Low concentration of TCE (6.2 µg/l) was also detected in MW-103D. Deep monitoring wells in the vicinity of the on-site area were sampled during the June 2019 sampling event. January 2014 analytical results show that VOCs were not detected in downgradient well MW-14D, also screened from 54.5 to 59.5 ft bgs.

Deep groundwater analytical results in samples collected from MW-04D, MW-101D, and MW-103D indicate vertical migration of the dissolved-phase plume immediately downgradient from the site building, as would be expected with migration patterns associated with DNAPLS. A vertical extent of plume contamination is unknown within the on-site area since the confining clay unit, which likely serves as a barrier to vertical migration, was not encountered during the 2019 PDI.

5.3.3 Emerging Contaminants

Analysis of the PFAS/PFOA samples was provided by Con-Test Analytical Laboratory, Massachusetts. Groundwater samples were analyzed for United States EPA modified Method 537 (a list of 21 PFAS analytes). The EPA Health Advisory Limit (HAL) of 70 nanograms/liter (ng/l), or part per thousand (ppt), applies to perfluorooctane sulfonic acid (PFOS) and PFOA individually as well as to their sum and was used for comparison purposes. PFOA was detected at concentration 2.3 ng/l (0.0023 µg/l) in groundwater samples collected from monitoring well MW-04 (located downgradient from the site building). PFOS and PFOA were ND at 2 ng/l (0.002 µg/l) in groundwater samples collected from monitoring wells MW-04 (field duplicate sample), MW-07, and MW-12. Overall, the three groundwater monitoring wells sampled, concentrations of PFOA, PFOS, and the respective sums were either below the HAL or ND.

1,4-Dioxane was ND at 0.033 µg/l in groundwater samples collected from monitoring wells MW-04 and MW-12. 1,4-Dioxane was detected at concentration 0.063 µg/l in groundwater sample collected from monitoring well MW-07, which is below the EPA health-based guidance value 0.35 µg/l.

SVOCs were not detected at concentrations greater than NYSDEC TOGS 1.1.1 Groundwater Standards in any of the groundwater samples collected from MW-04, MW-07, or MW-102D.

5.4 Soil Sample Results

The surface and subsurface soil sampling locations for the 2019 PDI are shown on **Figure 2**. In total, eight (8) soil samples soil samples were collected from a total of 3 locations. All soil samples were analyzed for VOCs. Three (3) of 8 samples were also analyzed for SVOCs. The laboratory analytical results from this PDI were compared to the Part 375 Environmental Remediation

Programs – Restricted Use – Commercial SCOs and UU – SCOs to evaluate the nature and extent of potential soil impacts. The soil COCs include cis-1,2 DCE, PCE, TCE, and selected SVOCs, and concentrations exceeding the soil criteria for these analytes are summarized on **Figures 5**, **6**, and **7**, and discussed below. Soil analytical results with validated result qualifiers are summarized in **Table 7A** and **7B**.

A total of six (6) different VOCs including 1,2-DCE, PCE, and TCE were detected in the surface and/or subsurface soil samples collected at the site. Of the 6 detected VOCs, only PCE and TCE were detected at concentrations greater than the NYCRR Part 375 Environmental Remediation Programs – UU – SCOs. Of these two VOCs (PCE and TCE), PCE was detected at a concentration of 170 mg/kg, which is slightly greater than the NYCRR Restricted Use SCO – Commercial criteria of 150 mg/kg at location MW-101D from 9 to 11 ft bgs. MW-101D is located immediately downgradient from the site building.

Overall, the VOCs soil sampling results show that relative to the NYCRR Restricted Use SCO – Commercial Criteria, the VOC concentrations detected in the site soil are relatively low in magnitude, and limited to the area immediately downgradient of the site building.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

The 2019 PDI was conducted to collect data to facilitate RD of AS/SVI system selected as the site remedy as per the ROD issued in February 2018. The PDI targeted a limited on-site soil and on-site groundwater investigation that included the installation of three deep monitoring wells and sampling of selected monitoring wells within and surrounding the on-site area where the AS/SVE system was proposed in the 2018 ROD. Based on the 2019 PDI conducted at the site, conclusions and the current understanding of on-site conditions are summarized below:

- Depth to groundwater within the on-site area is as shallow as approximately 4 ft bgs.
- The on-site geophysical survey (**Figure 8**) conducted outside of the building indicated multiple underground anomalies including a potential buried Underground Storage Tank (UST) in northeast corner of the site building and suspected unknown underground utilities (water and gas).
- VOCs soil sampling results show that relative to the NYCRR Restricted Use SCO – Commercial Criteria, the VOC concentrations detected in the site soil are relatively low in magnitude, and limited to the area immediately downgradient of the site building. However, the full extent of impacted soil beneath the building was not defined either in RI or in 2019 PDI. Therefore, the volume of impacted soil may vary significantly.
- Results from on-site groundwater samples obtained upgradient of the site building and east of the site building (formerly identified as the septic area) did not detect any cVOC contaminants.
- Groundwater directly downgradient (southwest) of the site exhibited significant site-related contamination both in shallow (~10 to 30 ft bgs) and in deep zones (~50 to 60 ft bgs) with the highest concentration of PCE at 12,000 µg/l, TCE at 780 µg/l, and cic-1,2-DCE at 160 µg/l. The groundwater standard for each of these compounds is 5 µg/l .
- The lateral extent of cVOCs contamination (> 100 µg/l) in shallow groundwater previously identified as 128 ft wide is now narrower and extends approximately 70 ft from Rooney Avenue to monitoring well MW-03, located at southeast corner of the site.
- Vertical migration of the dissolved-phase plume immediately downgradient from the site building continues as indicated by the presence of elevated concentrations in deep monitoring wells. The vertical extent of plume contamination is unknown within the on-site area since the confining clay unit, which likely serves as a barrier to vertical migration, was not encountered during the 2019 PDI.
- Similar to RI findings, the chlorinated solvent plume is migrating southwesterly off site under Central Avenue. The downgradient off-site groundwater data at MW-07 show an increase in contaminant concentrations, indicating that the plume is slowly migrating.
- The decreasing trend of PCE concentrations in MW-02, MW-03, and MW-13, as well as the presence of its degradation products TCE and cis-1,2-DCE, in groundwater east of building (downgradient of the potential source in the septic area) indicates that there is no longer a potential continuous source on the site and that limited natural attenuation is occurring within the shallow aquifer in this area.

- Vinyl chloride (VC) was not detected in any of the groundwater samples collected as part of the 2019 PDI, suggesting that limited biodegradation is occurring within the shallow aquifer. In addition, the 2019 RI natural attenuation parameter results for groundwater indicate that conditions necessary for natural degradation are not currently viable and reductive dechlorination is limited. Also, the presence of elevated DO concentrations in groundwater indicated inadequate to limited potential for anaerobic biodegradation.

6.2 Recommendations

This section presents recommendations for Former Damshire Cleaners site's RD in the immediate future. Based on the 2019 PDI findings, as well as historical data that exists for on-site areas of the site, HDR has identified the following technical challenges associated with the proposed selected remedy for the site, AS/SVE.

- The proposed remedy of an SVE system involves application of a vacuum to a network of perforated pipes installed within the vadose zone to remove the VOCs, along with the air introduced by the sparging process. To capture the volatilized contaminants, these perforated pipes were proposed to be installed in the vadose zone at a depth of approximately 5 to 10 ft bgs; however, on-site depth to groundwater was observed to be approximately 4 ft bgs. Based on the high groundwater elevation, it would be necessary to either incorporate dual-phase extraction techniques or incorporate groundwater extraction using submersible pumps to depress the groundwater table sufficiently to permit AS/SVE to be effective. Installing vapor extraction wells within the top 3-4 ft of the soil column may also be problematic due to potential impacts from frost/freeze.
- Geophysical survey identified multiple underground anomalies that will prove problematic during sparge well installation, and will also provide possible preferential pathways for soil vapor, causing potential issues with SVI in nearby properties' buildings.
- The size of the building will limit an installation of air sparge wells deeper than 20 ft inside the building which is necessary for AS/SVE to work effectively at the site.

For these technical reasons, HDR does not recommend implementation of AS/SVE system to address the groundwater plume contaminated by cVOCs within the on-site area.

Instead, HDR recommends evaluating in-situ chemical oxidation (ISCO) to address the cVOCs-contaminated groundwater plume at the site. Direct-push methods can be used to inject amendments/reagents (peroxide followed by sodium permanganate) into the contaminated aquifer and/or push-pull/circulation methods can be used in the vadose zone beneath the building under this alternative. A combination of temporary points throughout the site and permanent injection points in the area directly downgradient (southwest) of the site where significant site related contamination is present, can be further evaluated during a pilot test under this alternative.

7.0 REFERENCES

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Tables

Table 1 - Surveyed Sampling Locations
Former Damshire Cleaners Site, NYSDEC Site Number 401059
Town of Colonie, Albany County, New York

Well ID	NYSPCS Western Zone		Geographic Coordinates (NAD 83/2011)		Top of PVC Casing Elevation (ft amsl)
	Northing	Easting	Latitude	Longitude	
MW-02	1407549.1744'	678516.6466'	N042° 41' 41.86"	W073° 48' 23.83"	247.6
MW-03	1407559.2776'	678453.0879'	N042° 41' 41.97"	W073° 48' 24.68"	245.81
MW-04	1407589.1856'	678429.8940'	N042° 41' 42.27"	W073° 48' 24.98"	245.85
MW-04D	1407597.2668'	678435.7708'	N042° 41' 42.34"	W073° 48' 24.91"	247.12
MW-07	1407477.6170'	678254.4478'	N042° 41' 41.18"	W073° 48' 27.35"	244.88
MW-12	1407682.4930'	678524.0300'	N042° 41' 43.18"	W073° 48' 23.71"	248.02
MW-13	1407563.3325'	678479.3654'	N042° 41' 42.01"	W073° 48' 24.33"	246.35
MW-15*	1407626.93'	678501.28'	N/A	N/A	249.04
MW-16	1407661.9133'	678487.1059'	N042° 41' 42.98"	W073° 48' 24.21"	247.56
MW-101D	1407605.7690'	678423.8199'	N042° 41' 42.43"	W073° 48' 25.06"	246.8
MW-102D	1407605.4693'	678507.6424'	N042° 41' 42.42"	W073° 48' 23.94"	247.72
MW-103D	1407581.4094'	678446.5054'	N042° 41' 42.19"	W073° 48' 24.76"	246.78

Notes:

ft	Feet
amsl	Above mean sea level
BTOC	Below top of PVC casing
N/A	Not available
NAD	North American Datum
NYSPCS	New York State Plane Coordinate System
1.	Survey performed July 18, 2019
*	MW-15 was not included in the 2019 survey, as the site building was inaccessible on the survey date; data for this location are taken from base file provided by NYSDEC

Table 2 - Soil Sampling Summary
Former Damshire Cleaners Site, NYSDEC Site Number 401059
Town of Colonie, Albany County, New York

								Analytical Method	SW8260C	SW8270D
Location ID	**Sample ID**	**Sample Type**	**Easting**	**Northing**	**Date Sampled**	**Start Depth (ft bgs)**	**End Depth (ft bgs)**		**VOCs**	**SVOCs**
MW-101D	MW-101D (0-1)-20190528	Normal	1407605.7690'	678423.8199'	5/28/2019	0	1		X	X
MW-101D	DUP-1-20190528	Field Duplicate	1407605.7690'	678423.8199'	5/28/2019	0	1		X	X
MW-101D	MW-101D (9-11)-20190530	Normal	1407605.7690'	678423.8199'	5/30/2019	9	11		X	
MW-101D	MW-101D (60-62)-20190530	Normal	1407605.7690'	678423.8199'	5/30/2019	60	62		X	
MW-102D	MW-102D (0.5-1.5)-20190528	Normal	1407605.4693'	678507.6424'	5/28/2019	0.5	1.5		X	X
MW-102D	MW-102D (15-17)-20190603	Normal	1407605.4693'	678507.6424'	6/3/2019	15	17		X	
MW-102D	MW-102D (60-62)-20190603	Normal	1407605.4693'	678507.6424'	6/3/2019	60	62		X	
MW-103D	MW-103D (0-1)-20190528	Normal	1407581.4094'	678446.5054'	5/28/2019	0	1		X	X
MW-103D	MW-103D (60-62)-20190529	Normal	1407581.4094'	678446.5054'	5/29/2019	60	62		X	

Notes:

ft bgs	Feet below ground surface
SVOCs	Semi-volatile organic compounds
VOCs	Volatile organic compounds

Table 3 - Monitoring Well Construction Details
Former Damshire Cleaners Site, NYSDEC Site Number 401059
Town of Colonie, Albany County, New York

Well ID	Well Diameter (inches)	Top of PVC Casing Elevation (ft amsl)	Well Depth (ft BTOC)	Screen Interval (ft BTOC)
MW-02	1	247.6	20	10-20
MW-03	1	245.81	20	10-20
MW-04	1	245.85	20	10-20
MW-04D	2	247.12	59.5	54.5-59.5
MW-07	1.5	244.88	30	10-30
MW-12	2	248.02	20	10-20
MW-13	2	246.35	20	10-20
MW-15	2	249.04*	15	5-15
MW-16	2	247.56	20	10-20
MW-101D	2	246.8	60	50-60
MW-102D	2	247.72	60	50-60
MW-103D	2	246.78	60	50-60

Notes:

ft	Feet
amsl	Above mean sea level
BTOC	Below top of PVC casing
N/A	Not available
*	MW-15 was not included in the 2019 survey, as the site building was inaccessible on the survey date; data for this location are taken from base file provided by NYSDEC

Table 4 - Groundwater Elevation Data
Former Damshire Cleaners Site, NYSDEC Site Number 401059
Town of Colonie, Albany County, New York

Well ID	NYSPCS Western Zone		Geographic Coordinates (NAD 83/2011)		Top of PVC Casing Elevation (ft amsl)	Depth to Water (ft BTOC)	Water Elevation (ft amsl)
	Northing	Easting	Latitude	Longitude		June 2019	June 2019
MW-02	1407549.1744'	678516.6466'	N042° 41' 41.86"	W073° 48' 23.83"	247.6	5.09	242.51
MW-03	1407559.2776'	678453.0879'	N042° 41' 41.97"	W073° 48' 24.68"	245.81	3.99	241.82
MW-04	1407589.1856'	678429.8940'	N042° 41' 42.27"	W073° 48' 24.98"	245.85	4.00	241.85
MW-04D	1407597.2668'	678435.7708'	N042° 41' 42.34"	W073° 48' 24.91"	247.12	5.22	241.90
MW-07	1407477.6170'	678254.4478'	N042° 41' 41.18"	W073° 48' 27.35"	244.88	6.37	238.51
MW-12	1407682.4930'	678524.0300'	N042° 41' 43.18"	W073° 48' 23.71"	248.02	3.90	244.12
MW-13	1407563.3325'	678479.3654'	N042° 41' 42.01"	W073° 48' 24.33"	246.35	4.18	242.17
MW-16	1407661.9133'	678487.1059'	N042° 41' 42.98"	W073° 48' 24.21"	247.56	4.03	243.53
MW-101D	1407605.7690'	678423.8199'	N042° 41' 42.43"	W073° 48' 25.06"	246.8	4.85	241.95
MW-102D	1407605.4693'	678507.6424'	N042° 41' 42.42"	W073° 48' 23.94"	247.72	5.52	242.20
MW-103D	1407581.4094'	678446.5054'	N042° 41' 42.19"	W073° 48' 24.76"	246.78	4.92*	241.86

Notes:

ft	Feet
amsl	Above mean sea level
BTOC	Below top of PVC casing
NA	Not Applicable
NAD	North American Datum
NYSPCS	New York State Plane Coordinate System
1.	Survey performed July 18, 2019
2.	Groundwater elevations are based on data from a synoptic round of depth to water measurements conducted on June 26, 2019. MW-15 was not included, as the site building was inaccessible on the date of the measurements.
*	Depth to water measurement for MW-103D revised from 9.92 ft BTOC to 4.92 ft BTOC, with the assumption that an error was made when recording the measurement.

Table 5 - Groundwater Sampling Summary
Former Damshire Cleaners Site, NYSDEC Site Number 401059
Town of Colonie, Albany County, New York

								Analytical Method	SW8260C	SW8270D	SW-846 8270D	SOP 434-PFAAS
Location ID	**Sample ID**	**Sample Type**	**Northing**	**Easting**	**Date Sampled**	**Start Depth (ft bgs)**	**End Depth (ft bgs)**		**VOCs**	**SVOCs**	**1,4-Dioxane**	**PFAS/PFOA**
MW-02	MW-02-20190626	Normal	1407549.1744'	678516.6466'	6/26/2019	10	20		X			
MW-03	MW-03-20190626	Normal	1407559.2776'	678453.0879'	6/26/2019	10	20		X			
MW-04	MW-04-20190627	Normal	1407589.1856'	678429.8940'	6/27/2019	10	20		X	X	X	X
MW-04	MW-04-20190627-1	Field Duplicate	1407589.1856'	678429.8940'	6/27/2019	10	20		X	X	X	X
MW-04D	MW-04D-20190701	Normal	1407597.2668'	678435.7708'	7/1/2019	54.5	59.5		X			
MW-07	MW-07-20190627	Normal	1407477.6170'	678254.4478'	6/27/2019	10	20		X	X	X	X
MW-101D	MW-101D-20190701	Normal	1407605.7690'	678423.8199'	7/1/2019	50	60		X			
MW-102D	MW-102D-20190627	Normal	1407605.4693'	678507.6424'	6/27/2019	50	60		X	X		
MW-103D	MW-103D-20190628-1	Field Duplicate	1407581.4094'	678446.5054'	6/28/2019	50	60		X			
MW-103D	MW-103D-20190628	Normal	1407581.4094'	678446.5054'	6/28/2019	50	60		X			
MW-12	MW-12-20190627	Normal	1407682.4930'	678524.0300'	6/27/2019	10	20		X		X	X
MW-13	MW-13-20190628	Normal	1407563.3325'	678479.3654'	6/28/2019	10	20		X			
MW-15	MW-15-20190701	Normal	1407626.93'*	678501.28'*	7/1/2019	5	15		X			
MW-16	MW-16-20190626	Normal	1407661.9133'	678487.1059'	6/26/2019	10	20		X			

Notes:

ft bgs	Feet below ground surface
PCBs	Polychlorinated biphenyls
PFAS	Perfluoroalkyl substances
PFOA	Perfluorooctanoic acid
SVOCs	Semi-volatile organic compounds
VOCs	Volatile organic compounds
*	MW-15 was not included in the 2019 survey, as the site building was inaccessible on the survey date; Northing/Easting data for this location are taken from base file provided by NYSDEC

Table 6A - Groundwater Sample Results Summary - VOCs
Former Damshire Cleaners Site, NYSDEC Site Number 401059
Town of Colonie, Albany County, New York

			Location ID	MW-02		MW-03		MW-04		MW-04		MW-04D		MW-07		MW-101D		MW-102D		MW-103D	
			Sample ID	MW-02-20190626		MW-03-20190626		MW-04-20190627		MW-04-20190627-1		MW-04D-20190701		MW-07-20190627		MW-101D-20190701		MW-102D-20190627		MW-103D-20190628	
			Sample Type	Normal		Normal		Normal		Field Duplicate		Normal		Normal		Normal		Normal		Normal	
			Sample Depth (ft BTOC)	10-20		10-20		10-20		10-20		54.5-59.5		10-30		50-60		50-60		50-60	
			Sample Date	6/26/2019		6/26/2019		6/27/2019		6/27/2019		7/1/2019		6/27/2019		7/1/2019		6/27/2019		6/28/2019	
Analyte	**Cas No.**	**NYS GW Criteria (ug/l)**	**Result (ug/l)**	**Qua.**	**Result (ug/l)**	**Qua.**	**Result (ug/l)**	**Qua.**	**Result (ug/l)**	**Qua.**	**Result (ug/l)**	**Qua.**	**Result (ug/l)**	**Qua.**	**Result (ug/l)**	**Qua.**	**Result (ug/l)**	**Qua.**	**Result (ug/l)**	**Qua.**
1,1,1-Trichloroethane	71-55-6	5	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	5	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
1,1,2-Trichloroethane	79-00-5	1	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
1,1-Dichloroethane	75-34-3	5	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
1,1-Dichloroethene	75-35-4	5	< 1.0	U	0.54	J	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
1,2,4-Trichlorobenzene	120-82-1		< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	0.04	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
1,2-Dibromoethane	106-93-4	0.0006	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
1,2-Dichlorobenzene	95-50-1	3	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
1,2-Dichloroethane	107-06-2	0.6	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
1,2-Dichloropropane	78-87-5	1	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
1,3-Dichlorobenzene	541-73-1	3	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
1,4-Dichlorobenzene	106-46-7	3	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
2-Butanone	78-93-3	50	< 5.0	U	< 5.0	U	< 250	UJ	< 130	UJ	< 5.0	U	< 5.0	U	< 5.0	U	< 5.0	U	< 5.0	U
2-Hexanone	591-78-6	50	< 5.0	U	< 5.0	U	< 250	UJ	< 130	UJ	< 5.0	U	< 5.0	U	< 5.0	U	< 5.0	U	< 5.0	U
4-Methyl-2-Pentanone	108-10-1		< 5.0	U	< 5.0	U	< 250	UJ	< 130	UJ	< 5.0	U	< 5.0	U	< 5.0	U	< 5.0	U	< 5.0	U
Acetone	67-64-1	50	7.9		< 5.0	U	< 250	UJ	< 130	UJ	< 5.0	U	< 5.0	U	< 5.0	U	< 5.0	U	< 5.0	U
Benzene	71-43-2	1	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Bromodichloromethane	75-27-4	50	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Bromoform	75-25-2	50	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Bromomethane	74-83-9	5	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Carbon Disulfide	75-15-0	60	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Carbon Tetrachloride	56-23-5	5	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Chlorobenzene	108-90-7	5	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Chlorodibromomethane	124-48-1	50	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Chloroethane	75-00-3	5	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Chloroform	67-66-3	7	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	1.2		1.8		1.4	
Chloromethane	74-87-3	5	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Cis-1,2-Dichloroethene	156-59-2	**5**	**67**		**37**		**160**	**J**	**150**	**J**	0.86	J	0.53	J	0.97	J	0.66	J	1.5	
Cis-1,3-Dichloropropene	10061-01-5		< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Cyclohexane	110-82-7		< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Dichlorodifluoromethane	75-71-8	5	< 1.0	UJ	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	UJ	< 1.0	U	< 1.0	UJ	< 1.0	U	< 1.0	UJ
Dichloromethane	75-09-2	5	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	0.61	J	< 1.0	U	1.1	
Ethylbenzene	100-41-4	5	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Freon 113	76-13-1	5	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Isopropyl benzene	98-82-8	5	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Methyl acetate	79-20-9		< 5.0	U	< 5.0	U	< 250	UJ	< 130	UJ	< 5.0	U	< 5.0	UJ	< 5.0	U	< 5.0	U	< 5.0	U
Methyl T-Butyl Ether	1634-04-4	10	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Methylcyclohexane	108-87-2		< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Styrene	100-42-5	5	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Tetrachloroethene	127-18-4	**5**	**13**		**21**		**11000**	**J**	**12000**	**J**	**9.4**		**100**		**330**		2.7		**140**	
Toluene	108-88-3	5	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Total Xylenes	1330-20-7	5	< 2.0	U	< 2.0	U	< 100	UJ	< 50	UJ	< 2.0	U	< 2.0	U	< 2.0	U	< 2.0	U	< 2.0	U
Trans-1,2-Dichloroethene	156-60-5	5	1.2		0.67	J	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Trans-1,3-Dichloropropene	10061-02-6		< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Trichloroethylene	79-01-6	**5**	**21**		**24**		**780**	**J**	**740**	**J**	0.33	J	4.1		**6.5**		0.7	J	**5.9**	
Trichlorofluoromethane	75-69-4	5	< 1.0	UJ	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U
Vinyl Chloride	75-01-4	2	< 1.0	U	< 1.0	U	< 50	UJ	< 25	UJ	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U	< 1.0	U

Notes:

ft BTOC - Feet below top of casing
ID - Identification
N/A - Not available
No. - Number
NYS GW - New York State Groundwater
Qua. - Qualifier
J - Estimated value
R - Result rejected
U - Not detected
67 - Bold result exceeds NYS GW Criteria

Table 6A - Groundwater Sample Results Summary - VOCs
Former Damshire Cleaners Site, NYSDEC Site Number 401059
Town of Colonie, Albany County, New York

		Location ID	MW-103D		MW-12		MW-13		MW-15		MW-16	
		Sample ID	MW-103D-20190628-1		MW-12-20190627		MW-13-20190628		MW-15-20190701		MW-16-20190626	
		Sample Type	Field Duplicate		Normal		Normal		Normal		Normal	
		Sample Depth (ft BTOC)	50-60		10-20		10-20		5-15		10-20	
		Sample Date	6/28/2019		6/27/2019		6/28/2019		7/1/2019		6/26/2019	
Analyte	**Cas No.**	**NYS GW Criteria (ug/l)**	**Result (ug/l)**	**Qua.**	**Result (ug/l)**	**Qua.**	**Result (ug/l)**	**Qua.**	**Result (ug/l)**	**Qua.**	**Result (ug/l)**	**Qua.**
1,1,1-Trichloroethane	71-55-6	5	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
1,1,2,2-Tetrachloroethane	79-34-5	5	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
1,1,2-Trichloroethane	79-00-5	1	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
1,1-Dichloroethane	75-34-3	5	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
1,1-Dichloroethene	75-35-4	5	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
1,2,4-Trichlorobenzene	120-82-1		< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
1,2-Dibromo-3-chloropropane	96-12-8	0.04	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
1,2-Dibromoethane	106-93-4	0.0006	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
1,2-Dichlorobenzene	95-50-1	3	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
1,2-Dichloroethane	107-06-2	0.6	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
1,2-Dichloropropane	78-87-5	1	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
1,3-Dichlorobenzene	541-73-1	3	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
1,4-Dichlorobenzene	106-46-7	3	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
2-Butanone	78-93-3	50	< 5.0	U	< 5.0	U	< 5.0	U	< 10	U	< 5.0	U
2-Hexanone	591-78-6	50	< 5.0	U	< 5.0	U	< 5.0	U	< 10	U	< 5.0	U
4-Methyl-2-Pentanone	108-10-1		< 5.0	U	< 5.0	U	< 5.0	U	< 10	U	< 5.0	U
Acetone	67-64-1	50	< 5.0	U	< 5.0	U	< 5.0	U	< 10	U	< 5.0	U
Benzene	71-43-2	1	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Bromodichloromethane	75-27-4	50	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Bromoform	75-25-2	50	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Bromomethane	74-83-9	5	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Carbon Disulfide	75-15-0	60	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Carbon Tetrachloride	56-23-5	5	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Chlorobenzene	108-90-7	5	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Chlorodibromomethane	124-48-1	50	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Chloroethane	75-00-3	5	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Chloroform	67-66-3	7	1.4		< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Chloromethane	74-87-3	5	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Cis-1,2-Dichloroethene	156-59-2	**5**	1.6		< 1.0	U	**16**		**11**		0.43	J
Cis-1,3-Dichloropropene	10061-01-5		< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Cyclohexane	110-82-7		< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Dichlorodifluoromethane	75-71-8	5	< 1.0	UJ	< 1.0	UJ	< 1.0	UJ	< 2.0	UJ	< 1.0	UJ
Dichloromethane	75-09-2	5	1.2		< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Ethylbenzene	100-41-4	5	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Freon 113	76-13-1	5	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Isopropyl benzene	98-82-8	5	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Methyl acetate	79-20-9		< 5.0	U	< 5.0	U	< 5.0	U	< 10	U	< 5.0	U
Methyl T-Butyl Ether	1634-04-4	10	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Methylcyclohexane	108-87-2		< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Styrene	100-42-5	5	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Tetrachloroethene	127-18-4	**5**	**140**		< 1.0	U	0.91	J	**420**		< 1.0	U
Toluene	108-88-3	5	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Total Xylenes	1330-20-7	5	< 2.0	U	< 2.0	U	< 2.0	U	< 4.0	U	< 2.0	U
Trans-1,2-Dichloroethene	156-60-5	5	< 1.0	U	< 1.0	U	0.68	J	< 2.0	U	< 1.0	U
Trans-1,3-Dichloropropene	10061-02-6		< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U
Trichloroethylene	79-01-6	**5**	**6.2**		< 1.0	U	0.71	J	**17**		< 1.0	U
Trichlorofluoromethane	75-69-4	5	< 1.0	U	< 1.0	UJ	< 1.0	U	< 2.0	U	< 1.0	UJ
Vinyl Chloride	75-01-4	2	< 1.0	U	< 1.0	U	< 1.0	U	< 2.0	U	< 1.0	U

Notes:

ft BTOC - Feet below top of casing
ID - Identification
N/A - Not available
No. - Number
NYS GW - New York State Groundwater
Qua. - Qualifier
J - Estimated value
R - Result rejected
U - Not detected
67 - Bold result exceeds NYS GW Criteria

Table 6B - Groundwater Sample Results Summary - SVOCs
Former Damshire Cleaners Site, NYSDEC Site Number 401059
Town of Colonie, Albany County, New York

		Location ID	MW-04		MW-04	
		Sample ID	MW-04-20190627		MW-04-20190627-1	
		Sample Type	Normal		Field Duplicate	
		Sample Depth (ft BTOC)	10-20		10-20	
		Sample Date	6/27/2019		6/27/2019	
Analyte	**Cas No.**	**NYS GW Crieria (ug/l)**	**Result (ug/l)**	**Qua.**	**Result (ug/l)**	**Qua.**
1,1-Biphenyl	92-52-4	5	< 10	U	< 10	U
2,4,5-Trichlorophenol	95-95-4	N/A	< 10	U	< 10	U
2,4,6-Trichlorophenol	88-06-2	N/A	< 10	U	< 10	U
2,4-Dichlorophenol	120-83-2	1	< 10	U	< 10	U
2,4-Dimethylphenol	105-67-9	1	< 10	U	< 10	U
2,4-Dinitrophenol	51-28-5	1	< 20	U	< 20	U
2,4-Dinitrotoluene	121-14-2	5	< 2.0	U	< 2.0	U
2,6-Dinitrotoluene	606-20-2	5	< 2.0	U	< 2.0	U
2-Chloronaphthalene	91-58-7	10	< 10	U	< 10	U
2-Chlorophenol	95-57-8	N/A	< 10	U	< 10	U
2-Methylnaphthalene	91-57-6	N/A	< 10	U	< 10	U
2-Methylphenol	95-48-7	N/A	< 10	U	< 10	U
2-Nitroaniline	88-74-4	5	< 10	U	< 10	U
2-Nitrophenol	88-75-5	N/A	< 10	U	< 10	U
3,3`-Dichlorobenzidine	91-94-1	5	< 10	U	< 10	U
3-Nitroaniline	99-09-2	5	< 10	U	< 10	U
4,6-Dinitro-2-Methylphenol	534-52-1	N/A	< 20	U	< 20	U
4-Bromophenyl Phenyl Ether	101-55-3	N/A	< 10	U	< 10	U
4-Chloro-3-Methylphenol	59-50-7	N/A	< 10	U	< 10	U
4-Chloroaniline	106-47-8	5	< 10	U	< 10	U
4-Chlorophenyl Phenylether	7005-72-3	N/A	< 10	U	< 10	U
4-Methylphenol	106-44-5	N/A	< 10	U	< 10	U
4-Nitroaniline	100-01-6	5	< 10	U	< 10	U
4-Nitrophenol	100-02-7	N/A	< 20	U	< 20	U
Acenaphthene	83-32-9	20	< 10	U	< 10	U
Acenaphthylene	208-96-8	N/A	< 10	U	< 10	U
Acetophenone	98-86-2	N/A	< 10	U	< 10	U
Anthracene	120-12-7	50	< 10	U	< 10	U
Atrazine	1912-24-9	7.5	< 2.0	U	< 2.0	U
Benzaldehyde	100-52-7	N/A	< 10	U	< 10	U
Benzo(A)Anthracene	56-55-3	0.002	< 1.0	U	< 1.0	U
Benzo(A)Pyrene	50-32-8	N/A	< 1.0	U	< 1.0	U
Benzo(B)Fluoranthene	205-99-2	0.002	< 2.0	U	< 2.0	U
Benzo(G,H,I)Perylene	191-24-2	N/A	< 10	U	< 10	U
Benzo(K)Fluoranthene	207-08-9	0.002	< 1.0	U	< 1.0	U
Bis(2-Chloroethoxy) Methane	111-91-1	5	< 10	U	< 10	U
Bis(2-Chloroethyl) Ether	111-44-4	1	< 1.0	U	< 1.0	U
Bis(2-Ethylhexyl) Phthalate	117-81-7	5	< 2.0	U	< 2.0	U
Bis-Chloroisopropyl Ether	108-60-1	5	< 10	U	< 10	U
Butyl Benzyl Phthalate	85-68-7	50	< 10	U	< 10	U
Caprolactam	105-60-2	N/A	< 10	UJ	< 10	UJ
Carbazole	86-74-8	N/A	< 10	U	< 10	U
Chrysene	218-01-9	0.002	< 2.0	U	< 2.0	U
Dibenzo(A,H)Anthracene	53-70-3	N/A	< 1.0	U	< 1.0	U
Dibenzofuran	132-64-9	N/A	< 10	U	< 10	U
Diethylphthalate	84-66-2	50	< 10	U	< 10	U
Dimethylphthalate	131-11-3	50	< 10	U	< 10	U
Di-N-Butylphthalate	84-74-2	50	< 10	U	< 10	U
Di-N-Octyl Phthalate	117-84-0	N/A	< 10	U	< 10	U
Fluoranthene	206-44-0	50	< 10	U	< 10	U
Fluorene	86-73-7	50	< 10	U	< 10	U
Hexachlorobenzene	118-74-1	0.04	< 1.0	U	< 1.0	U
Hexachlorobutadiene	87-68-3	0.5	< 1.0	U	< 1.0	U
Hexachlorocyclopentadiene	77-47-4	5	< 10	UJ	< 10	UJ
Hexachloroethane	67-72-1	5	< 2.0	U	< 2.0	U
Indeno(1,2,3-Cd)Pyrene	193-39-5	0.002	< 2.0	U	< 2.0	U
Isophorone	78-59-1	50	< 10	U	< 10	U
Naphthalene	91-20-3	10	< 10	U	< 10	U
Nitrobenzene	98-95-3	0.4	< 1.0	U	< 1.0	U
N-Nitroso-Di-N-Propylamine	621-64-7	N/A	< 1.0	U	< 1.0	U
N-Nitrosodiphenylamine	86-30-6	50	< 10	U	< 10	U
Pentachlorophenol	87-86-5	1	< 20	U	< 20	U
Phenanthrene	85-01-8	50	< 10	U	< 10	U
Phenol	108-95-2	1	< 10	U	< 10	U
Pyrene	129-00-0	50	< 10	U	< 10	U

Notes:

ft BTOC - Feet below top of casing
ID - Identification
N/A - Not available
No. - Number
NYS GW - New York State Groundwater
Qua. - Qualifier
J - Estimated value
U - Not detected

Table 6B - Groundwater Sample Results Summary - SVOCs
Former Damshire Cleaners Site, NYSDEC Site Number 401059
Town of Colonie, Albany County, New York

			Location ID	MW-07		MW-102D	
			Sample ID	MW-07-20190627		MW-102D-20190627	
			Sample Type	Normal		Normal	
			Sample Depth (ft BTOC)	10-30		50-60	
			Sample Date	6/27/2019		6/27/2019	
Analyte	**Cas No.**	**NYS GW Crieria (ug/l)**		**Result (ug/l)**	**Qua.**	**Result (ug/l)**	**Qua.**
1,1-Biphenyl	92-52-4	5		< 10	U	< 10	U
2,4,5-Trichlorophenol	95-95-4	N/A		< 10	U	< 10	U
2,4,6-Trichlorophenol	88-06-2	N/A		< 10	U	< 10	U
2,4-Dichlorophenol	120-83-2	1		< 10	U	< 10	U
2,4-Dimethylphenol	105-67-9	1		< 10	U	< 10	U
2,4-Dinitrophenol	51-28-5	1		< 20	U	< 20	U
2,4-Dinitrotoluene	121-14-2	5		< 2.0	U	< 2.0	U
2,6-Dinitrotoluene	606-20-2	5		< 2.0	U	< 2.0	U
2-Chloronaphthalene	91-58-7	10		< 10	U	< 10	U
2-Chlorophenol	95-57-8	N/A		< 10	U	< 10	U
2-Methylnaphthalene	91-57-6	N/A		< 10	U	< 10	U
2-Methylphenol	95-48-7	N/A		< 10	U	< 10	U
2-Nitroaniline	88-74-4	5		< 10	UJ	< 10	U
2-Nitrophenol	88-75-5	N/A		< 10	U	< 10	U
3,3`-Dichlorobenzidine	91-94-1	5		< 10	UJ	< 10	U
3-Nitroaniline	99-09-2	5		< 10	UJ	< 10	U
4,6-Dinitro-2-Methylphenol	534-52-1	N/A		< 20	U	< 20	U
4-Bromophenyl Phenyl Ether	101-55-3	N/A		< 10	U	< 10	U
4-Chloro-3-Methylphenol	59-50-7	N/A		< 10	U	< 10	U
4-Chloroaniline	106-47-8	5		< 10	UJ	< 10	U
4-Chlorophenyl Phenylether	7005-72-3	N/A		< 10	U	< 10	U
4-Methylphenol	106-44-5	N/A		< 10	U	< 10	U
4-Nitroaniline	100-01-6	5		< 10	UJ	< 10	U
4-Nitrophenol	100-02-7	N/A		< 20	U	< 20	U
Acenaphthene	83-32-9	20		< 10	U	< 10	U
Acenaphthylene	208-96-8	N/A		< 10	U	< 10	U
Acetophenone	98-86-2	N/A		< 10	U	< 10	U
Anthracene	120-12-7	50		< 10	U	< 10	U
Atrazine	1912-24-9	7.5		< 2.0	UJ	< 2.0	U
Benzaldehyde	100-52-7	N/A		< 10	U	< 10	U
Benzo(A)Anthracene	56-55-3	0.002		< 1.0	U	< 1.0	U
Benzo(A)Pyrene	50-32-8	N/A		< 1.0	U	< 1.0	U
Benzo(B)Fluoranthene	205-99-2	0.002		< 2.0	U	< 2.0	U
Benzo(G,H,I)Perylene	191-24-2	N/A		< 10	U	< 10	U
Benzo(K)Fluoranthene	207-08-9	0.002		< 1.0	U	< 1.0	U
Bis(2-Chloroethoxy) Methane	111-91-1	5		< 10	U	< 10	U
Bis(2-Chloroethyl) Ether	111-44-4	1		< 1.0	U	< 1.0	U
Bis(2-Ethylhexyl) Phthalate	117-81-7	5		< 2.0	U	< 2.0	U
Bis-Chloroisopropyl Ether	108-60-1	5		< 10	U	< 10	U
Butyl Benzyl Phthalate	85-68-7	50		< 10	U	< 10	U
Caprolactam	105-60-2	N/A		< 10	UJ	< 10	UJ
Carbazole	86-74-8	N/A		< 10	U	< 10	U
Chrysene	218-01-9	0.002		< 2.0	U	< 2.0	U
Dibenzo(A,H)Anthracene	53-70-3	N/A		< 1.0	U	< 1.0	U
Dibenzofuran	132-64-9	N/A		< 10	U	< 10	U
Diethylphthalate	84-66-2	50		< 10	U	< 10	U
Dimethylphthalate	131-11-3	50		< 10	U	< 10	U
Di-N-Butylphthalate	84-74-2	50		< 10	U	< 10	U
Di-N-Octyl Phthalate	117-84-0	N/A		< 10	U	< 10	U
Fluoranthene	206-44-0	50		< 10	U	< 10	U
Fluorene	86-73-7	50		< 10	U	< 10	U
Hexachlorobenzene	118-74-1	0.04		< 1.0	U	< 1.0	U
Hexachlorobutadiene	87-68-3	0.5		< 1.0	U	< 1.0	U
Hexachlorocyclopentadiene	77-47-4	5		< 10	UJ	< 10	UJ
Hexachloroethane	67-72-1	5		< 2.0	U	< 2.0	U
Indeno(1,2,3-Cd)Pyrene	193-39-5	0.002		< 2.0	U	< 2.0	U
Isophorone	78-59-1	50		< 10	U	< 10	U
Naphthalene	91-20-3	10		< 10	U	< 10	U
Nitrobenzene	98-95-3	0.4		< 1.0	U	< 1.0	U
N-Nitroso-Di-N-Propylamine	621-64-7	N/A		< 1.0	U	< 1.0	U
N-Nitrosodiphenylamine	86-30-6	50		< 10	U	< 10	U
Pentachlorophenol	87-86-5	1		< 20	U	< 20	U
Phenanthrene	85-01-8	50		< 10	U	< 10	U
Phenol	108-95-2	1		< 10	U	< 10	U
Pyrene	129-00-0	50		< 10	U	< 10	U

Notes:

ft BTOC - Feet below top of casing
ID - Identification
N/A - Not available
No. - Number
NYS GW - New York State Groundwater
Qua. - Qualifier
J - Estimated value
U - Not detected

Table 6C - Groundwater Sample Results Summary - Emerging Contaminants
Former Damshire Cleaners Site, NYSDEC Site Number 401059
Town of Colonie, Albany County, New York

		Location ID	MW-04		MW-04		MW-07		MW-12	
		Sample ID	MW-04-20190627		MW-04-20190627-1		MW-07-20190627		MW-12-20190627	
		Sample Type	Normal		Field Duplicate		Normal		Normal	
		Sample Depth (ft BTOC)	10-20		10-20		10-30		10-20	
		Sample Date	6/27/2019		6/27/2019		6/27/2019		6/27/2019	
Analyte	**Cas No.**	**NYS GW Crieria (ug/l)**	**Result (ug/l)**	**Qua.**	**Result (ug/l)**	**Qua.**	**Result (ug/l)**	**Qua.**	**Result (ug/l)**	**Qua.**
1,4-Dioxane	123-91-1	N/A	< 0.033	U	< 0.033	U	0.063	J	< 0.033	U
Analyte	**Cas No.**	**NYS GW Crieria (ng/l)**	**Result (ng/l)**	**Qua.**	**Result (ng/l)**	**Qua.**	**Result (ng/l)**	**Qua.**	**Result (ng/l)**	**Qua.**
N-deuterioethylperfluoro-1-octanesulfonamidoacetic acid	D5-NETFOSAA	N/A	< 2	R	< 2	U	< 2	UJ	< 2	UJ
N-deuteriomethylperfluoro-1-octanesulfonamidoacetic acid	D3-NMEFOSAA	N/A	< 2	R	6.9		< 2	UJ	< 2	UJ
Perfluorobutanesulfonic Acid (PFBS)	375-73-5	N/A	< 2	U	< 2	U	< 2	U	< 2	UJ
Perfluorobutyric Acid (PFBA)	375-22-4	N/A	4.9	J	4.0		< 2	UJ	< 2	UJ
Perfluorodecane Sulfonic Acid	335-77-3	N/A	< 2	R	< 2	U	< 2	R	< 2	UJ
Perfluorodecanoic Acid (PFDA)	335-76-2	N/A	< 2	U	< 2	U	< 2	U	< 2	UJ
Perfluorododecanoic Acid (PFDoA)	307-55-1	N/A	< 2	R	< 2	U	< 2	UJ	< 2	UJ
Perfluoroheptane Sulfonate (PFHpS)	375-92-8	N/A	< 2	U	< 2	U	< 2	U	< 2	UJ
Perfluoroheptanoic Acid (PFHpA)	375-85-9	N/A	< 2	U	< 2	U	< 2	U	< 2	UJ
Perfluorohexanesulfonic Acid	355-46-4	N/A	< 2	U	< 2	U	< 2	U	< 2	UJ
Perfluorohexanoic Acid (PFHxA)	307-24-4	N/A	4.4	J	5.6		< 2	U	< 2	UJ
Perfluorononanoic Acid (PFNA)	375-95-1	N/A	< 2	U	< 2	U	< 2	U	< 2	UJ
Perfluorooctane Sulfonamide (FOSA)	754-91-6	N/A	< 2	R	< 2	U	< 2	R	< 2	UJ
Perfluorooctane Sulfonic Acid (PFOS)	1763-23-1	N/A	< 2	U	< 2	U	< 2	U	< 2	UJ
Perfluorooctanoic acid (PFOA)	335-67-1	N/A	2.3	J	< 2	U	< 2	U	< 2	UJ
Perfluoropentanoic Acid (PFPeA)	2706-90-3	N/A	12	J	9.9		< 2	UJ	< 2	UJ
Perfluorotetradecanoic Acid (PFTeA)	376-06-7	N/A	< 2	R	< 2	U	< 2	UJ	< 2	UJ
Perfluorotridcanoic Acid (PFTriA)	72629-94-8	N/A	< 2	R	< 2	U	< 2	UJ	< 2	UJ
Perfluoroundecanoic Acid (PFUnA)	2058-94-8	N/A	< 2	R	< 2	U	< 2	U	< 2	UJ
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-decane sulfonate (6:2)	M2-8:2FTS	N/A	< 2	U	< 2	U	< 2	U	< 2	UJ
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-octane sulfonate (6:2)	M2-6:2FTS	N/A	< 2	UJ	< 2	UJ	< 2	UJ	< 2	UJ

Notes:

ft BTOC - Feet below top of casing
ID - Identification
N/A - Not available
No. - Number
NYS GW - New York State Groundwater
Qua. - Qualifier
J - Estimated value
R - Result rejected
U - Not detected

Table 7A - Soil Sample Results Summary - VOCs
Former Damshire Cleaners Site, NYSDEC Site Number 401059
Town of Colonie, Albany County, New York

				Location ID	MW-101D		MW-101D		MW-101D		MW-101D		MW-102D		MW-102D		MW-102D		MW-103D		MW-103D	
				Sample ID	MW-101D (0-1)-20190528		DUP-1-20190528		MW-101D (9-11)-20190530		MW-101D (60-62)-20190530		MW-102D (0.5-1.5)-20190528		MW-102D (15-17)-20190603		MW-102D (60-62)-20190603		MW-103D (0-1)-20190528		MW-103D (60-62)-20190529	
				Sample Type	Normal		Field Duplicate		Normal		Normal		Normal		Normal		Normal		Normal		Normal	
				Sample Depth (ft bgs)	0-1		0-1		9-11		60-62		0.5-1.5		15-17		60-62		0-1		60-62	
				Sample Date	5/28/2019		5/28/2019		5/30/2019		5/30/2019		5/28/2019		6/3/2019		6/3/2019		5/28/2019		5/29/2019	
Analyte	**Cas No.**	**Restricted Commercial Use SCG (mg/kg)**	**Unrestricted SCG (mg/kg)**	**Result (mg/kg)**	**Qua.**	**Result (mg/kg)**	**Qua.**	**Result (mg/kg)**	**Qua.**	**Result (mg/kg)**	**Qua.**	**Result (mg/kg)**	**Qua.**	**Result (mg/kg)**	**Qua.**	**Result (mg/kg)**	**Qua.**	**Result (mg/kg)**	**Qua.**	**Result (mg/kg)**	**Qua.**
1,1,1-Trichloroethane	71-55-6	500	0.68	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
1,1,2,2-Tetrachloroethane	79-34-5	N/A	N/A	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
1,1,2-Trichloroethane	79-00-5	N/A	N/A	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
1,1-Dichloroethane	75-34-3	240	0.27	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
1,1-Dichloroethene	75-35-4	500	0.33	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
1,2,4-Trichlorobenzene	120-82-1	N/A	N/A	< 0.0013	UJ	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
1,2-Dibromo-3-chloropropane	96-12-8	N/A	N/A	< 0.0013	UJ	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
1,2-Dibromoethane	106-93-4	N/A	N/A	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
1,2-Dichlorobenzene	95-50-1	500	1.1	< 0.0013	UJ	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
1,2-Dichloroethane	107-06-2	30	0.02	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
1,2-Dichloropropane	78-87-5	N/A	N/A	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
1,3-Dichlorobenzene	541-73-1	280	2.4	< 0.0013	UJ	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
1,4-Dichlorobenzene	106-46-7	130	1.8	< 0.0013	UJ	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
2-Butanone	78-93-3	500	0.12	< 0.0064	U	< 0.0053	U	< 3.1	U	< 0.0063	U	< 0.0061	U	< 0.0075	U	< 0.0071	U	< 0.0059	U	< 0.0063	U
2-Hexanone	591-78-6	N/A	N/A	< 0.0064	U	< 0.0053	U	< 3.1	U	< 0.0063	U	< 0.0061	U	< 0.0075	U	< 0.0071	U	< 0.0059	U	< 0.0063	U
4-Methyl-2-Pentanone	108-10-1	N/A	N/A	< 0.0064	U	< 0.0053	U	< 3.1	U	< 0.0063	U	< 0.0061	U	< 0.0075	U	< 0.0071	U	< 0.0059	U	< 0.0063	U
Acetone	67-64-1	500	0.05	< 0.0077	U	0.012		< 3.1	U	< 0.0076	U	< 0.0073	U	< 0.0090	U	< 0.0085	U	< 0.0070	U	0.0098	
Benzene	71-43-2	44	0.06	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Bromodichloromethane	75-27-4	N/A	N/A	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Bromoform	75-25-2	N/A	N/A	< 0.0013	UJ	< 0.0011	UJ	< 0.62	U	< 0.0013	U	< 0.0012	UJ	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Bromomethane	74-83-9	N/A	N/A	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Carbon Disulfide	75-15-0	N/A	N/A	< 0.0013	UJ	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Carbon Tetrachloride	56-23-5	22	0.76	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Chlorobenzene	108-90-7	500	1.1	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Chlorodibromomethane	124-48-1	N/A	N/A	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Chloroethane	75-00-3	N/A	N/A	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Chloroform	67-66-3	350	0.37	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Chloromethane	74-87-3	N/A	N/A	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	UJ	< 0.0012	UJ	< 0.0013	U
Cis-1,2-Dichloroethene	156-59-2	500	0.25	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	0.0011	J	< 0.0014	U	< 0.0012	U	0.00049	J
Cis-1,3-Dichloropropene	10061-01-5	N/A	N/A	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Cyclohexane	110-82-7	N/A	N/A	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Dichlorodifluoromethane	75-71-8	N/A	N/A	< 0.0013	UJ	< 0.0011	UJ	< 0.62	U	< 0.0013	U	< 0.0012	UJ	< 0.0015	UJ	< 0.0014	UJ	< 0.0012	UJ	< 0.0013	U
Dichloromethane	75-09-2	500	0.05	< 0.0013	U	< 0.0011	U	< 0.62	U	0.0006	J	0.00076	J	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Ethylbenzene	100-41-4	390	1	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Freon 113	76-13-1	N/A	N/A	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Isopropyl benzene	98-82-8	N/A	N/A	< 0.0013	UJ	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Methyl acetate	79-20-9	N/A	N/A	< 0.0064	U	< 0.0053	U	< 3.1	U	< 0.0063	U	< 0.0061	U	< 0.0075	U	< 0.0071	U	< 0.0059	U	< 0.0063	U
Methyl T-Butyl Ether	1634-04-4	500	0.93	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	UJ	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	UJ
Methylcyclohexane	108-87-2	N/A	N/A	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Styrene	100-42-5	N/A	N/A	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Tetrachloroethene	127-18-4	**150**	**1.3**	0.0059		0.0048		**170**		0.016		0.0036		0.024		< 0.0014	U	0.0031		0.0024	
Toluene	108-88-3	500	0.7	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Trans-1,2-Dichloroethene	156-60-5	500	0.19	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Trans-1,3-Dichloropropene	10061-02-6	N/A	N/A	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Trichloroethylene	79-01-6	200	**0.47**	< 0.0013	U	< 0.0011	U	**1.8**		0.00042	J	< 0.0012	U	0.0023		< 0.0014	U	< 0.0012	U	0.00036	J
Trichlorofluoromethane	75-69-4	N/A	N/A	< 0.0013	U	< 0.0011	U	< 0.62	U	< 0.0013	U	< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Vinyl Chloride	75-01-4	13	0.02	< 0.0013	U	< 0.0011	U	< 0.62	U	0.0016		< 0.0012	U	< 0.0015	U	< 0.0014	U	< 0.0012	U	< 0.0013	U
Xylenes, Total	XYLENES	N/A	N/A	< 0.0026	U	< 0.0021	U	< 1.2	U	< 0.0025	U	< 0.0024	U	< 0.0030	U	< 0.0028	U	< 0.0023	U	< 0.0025	U

Notes:

ft bgs - Feet below ground surface
ID - Identification
N/A - Not available
No. - Number
Qua. - Qualifier
SCG - Soil cleanup goal
J - Estimated value
R - Result rejected
U - Not detected
1.8 - Bold result exceeds Unrestricted SCG
170 - Bold and highlighted result exceeds Restricted Commercial Use SCG

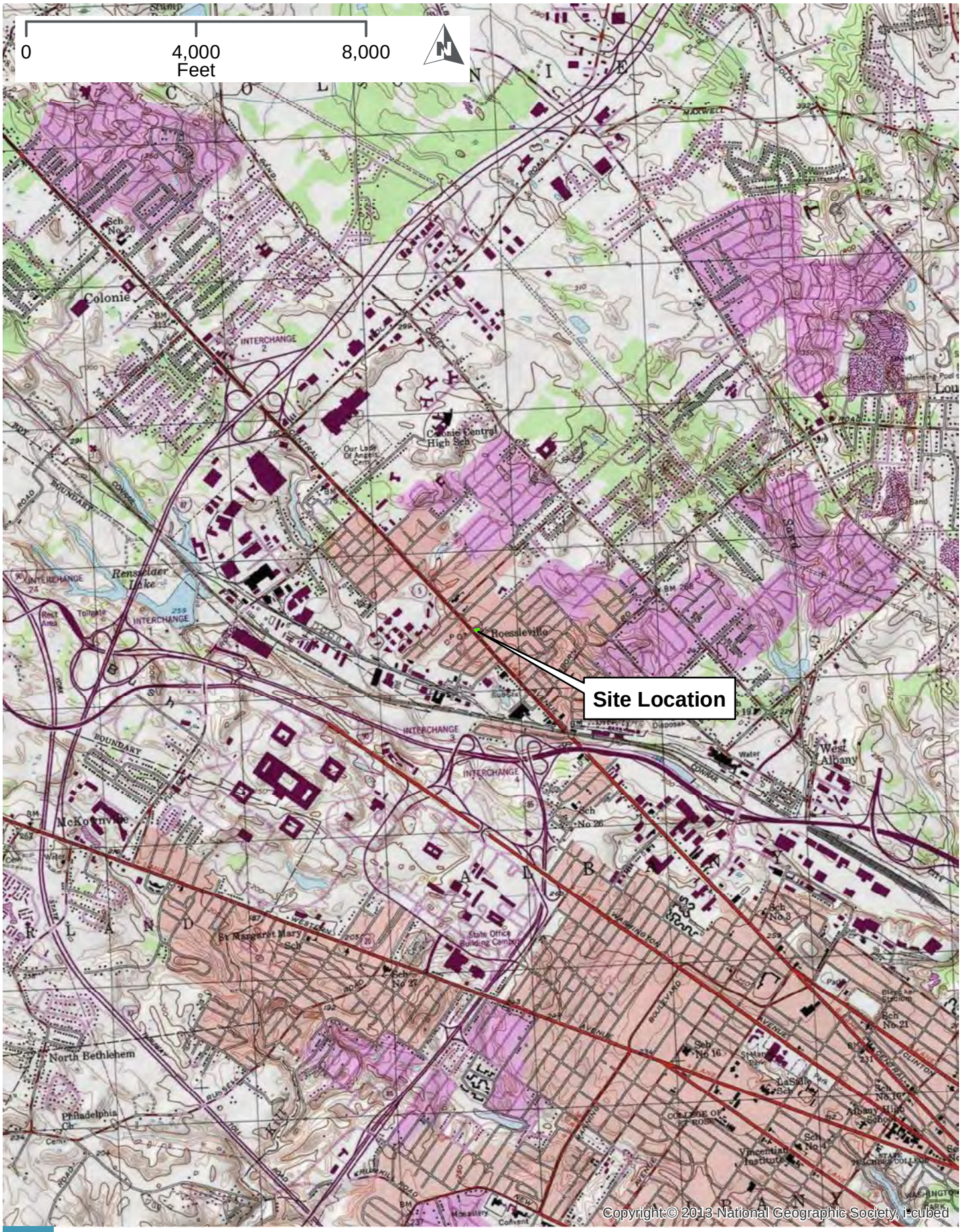
Table 7B - Soil Sample Results Summary - SVOCs
Former Damshire Cleaners Site, NYSDEC Site Number 401059
Town of Colonie, Albany County, New York

				Location ID	MW-101D	MW-101D	MW-102D	MW-103D
				Sample ID	MW-101D (0-1)-20190528	DUP-1-20190528	MW-102D (0.5-1.5)-20190528	MW-103D (0-1)-20190528
				Sample Type	Normal	Field Duplicate	Normal	Normal
				Sample Depth (ft bgs)	0-1	0-1	0.5-1.5	0-1
				Sample Date	5/28/2019	5/28/2019	5/28/2019	5/28/2019
Analyte	**Cas No.**	**Restricted Commercial Use SCG (mg/kg)**	**Unrestricted SCG (mg/kg)**	**Result (mg/kg)**	**Qua.**	**Result (mg/kg)**	**Qua.**	**Result (mg/kg)**	**Qua.**	**Result (mg/kg)**	**Qua.**
1,1-Biphenyl	92-52-4	N/A	N/A	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
2,4,5-Trichlorophenol	95-95-4	N/A	N/A	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
2,4,6-Trichlorophenol	88-06-2	N/A	N/A	< 0.18	UJ	< 0.15	U	< 0.18	U	< 0.16	U
2,4-Dichlorophenol	120-83-2	N/A	N/A	< 0.18	UJ	< 0.15	U	< 0.18	U	< 0.16	U
2,4-Dimethylphenol	105-67-9	N/A	N/A	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
2,4-Dinitrophenol	51-28-5	N/A	N/A	< 0.35	R	< 0.31	U	< 0.37	U	< 0.32	U
2,4-Dinitrotoluene	121-14-2	N/A	N/A	< 0.089	UJ	< 0.077	U	< 0.092	U	< 0.08	U
2,6-Dinitrotoluene	606-20-2	N/A	N/A	< 0.089	UJ	< 0.077	U	< 0.092	U	< 0.08	U
2-Chloronaphthalene	91-58-7	N/A	N/A	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
2-Chlorophenol	95-57-8	N/A	N/A	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
2-Methylnaphthalene	91-57-6	N/A	N/A	< 0.44	UJ	< 0.38	U	0.018	J	< 0.39	U
2-Methylphenol	95-48-7	500	0.33	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
2-Nitroaniline	88-74-4	N/A	N/A	< 0.44	U	< 0.38	U	< 0.45	U	< 0.39	U
2-Nitrophenol	88-75-5	N/A	N/A	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
3,3`-Dichlorobenzidine	91-94-1	N/A	N/A	< 0.18	U	< 0.15	U	< 0.18	U	< 0.16	U
3-Nitroaniline	99-09-2	N/A	N/A	< 0.44	U	< 0.38	U	< 0.45	U	< 0.39	U
4,6-Dinitro-2-Methylphenol	534-52-1	N/A	N/A	< 0.35	R	< 0.31	U	< 0.37	U	< 0.32	U
4-Bromophenyl Phenyl Ether	101-55-3	N/A	N/A	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
4-Chloro-3-Methylphenol	59-50-7	N/A	N/A	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
4-Chloroaniline	106-47-8	N/A	N/A	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
4-Chlorophenyl Phenylether	7005-72-3	N/A	N/A	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
4-Methylphenol	106-44-5	500	0.33	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
4-Nitroaniline	100-01-6	N/A	N/A	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
4-Nitrophenol	100-02-7	N/A	N/A	< 0.89	UJ	< 0.77	U	< 0.92	UJ	< 0.8	U
Acenaphthene	83-32-9	500	20	< 0.44	UJ	< 0.38	U	0.059	J	< 0.39	U
Acenaphthylene	208-96-8	500	100	< 0.44	UJ	< 0.38	U	0.052	J	< 0.39	U
Acetophenone	98-86-2	N/A	N/A	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
Anthracene	120-12-7	500	100	< 0.44	UJ	< 0.38	U	0.23	J	< 0.39	U
Atrazine	1912-24-9	N/A	N/A	< 0.18	U	< 0.15	U	< 0.18	U	< 0.16	U
Benzaldehyde	100-52-7	N/A	N/A	< 0.44	U	< 0.38	U	< 0.45	U	< 0.39	U
Benzo(A)Anthracene	56-55-3	5.6	1	0.024	J	< 0.038	U	0.83		< 0.039	U
Benzo(A)Pyrene	50-32-8	1	1	0.027	J	0.021	J	0.86		0.025	J
Benzo(B)Fluoranthene	205-99-2	5.6	**1**	0.028	J	0.031	J	**1.3**		0.039	
Benzo(G,H,I)Perylene	191-24-2	500	100	0.015	J	0.021	J	0.39	J	0.016	J
Benzo(K)Fluoranthene	207-08-9	56	0.8	0.013	J	0.0078	J	0.39		0.015	J
Bis(2-Chloroethoxy) Methane	111-91-1	N/A	N/A	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
Bis(2-Chloroethyl) Ether	111-44-4	N/A	N/A	< 0.044	UJ	< 0.038	U	< 0.045	U	< 0.039	U
Bis(2-Ethylhexyl) Phthalate	117-81-7	N/A	N/A	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
Bis-Chloroisopropyl Ether	108-60-1	N/A	N/A	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
Butyl Benzyl Phthalate	85-68-7	N/A	N/A	< 0.44	UJ	< 0.38	U	0.031	J	< 0.39	U
Caprolactam	105-60-2	N/A	N/A	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
Carbazole	86-74-8	N/A	N/A	< 0.44	UJ	< 0.38	U	0.12	J	< 0.39	U
Chrysene	218-01-9	56	1	0.037	J	0.03	J	0.98		0.035	J
Dibenzo(A,H)Anthracene	53-70-3	0.56	0.33	< 0.044	UJ	< 0.038	U	0.11		< 0.039	U
Dibenzofuran	132-64-9	350	7	< 0.44	UJ	< 0.38	U	0.041	J	< 0.39	U
Diethylphthalate	84-66-2	N/A	N/A	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
Dimethylphthalate	131-11-3	N/A	N/A	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
Di-N-Butylphthalate	84-74-2	N/A	N/A	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
Di-N-Octyl Phthalate	117-84-0	N/A	N/A	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
Fluoranthene	206-44-0	500	100	< 0.44	UJ	0.028	J	1.7		0.038	J
Fluorene	86-73-7	500	30	< 0.44	UJ	< 0.38	U	0.089	J	< 0.39	U
Hexachlorobenzene	118-74-1	6	0.33	< 0.044	UJ	< 0.038	U	< 0.045	U	< 0.039	U
Hexachlorobutadiene	87-68-3	N/A	N/A	< 0.089	UJ	< 0.077	U	< 0.092	U	< 0.08	U
Hexachlorocyclopentadiene	77-47-4	N/A	N/A	< 0.44	R	< 0.38	UJ	< 0.45	UJ	< 0.39	UJ
Hexachloroethane	67-72-1	N/A	N/A	< 0.044	UJ	< 0.038	U	< 0.045	U	< 0.039	U
Indeno(1,2,3-Cd)Pyrene	193-39-5	5.6	0.5	< 0.044	UJ	< 0.038	U	0.42	J	0.017	J
Isophorone	78-59-1	N/A	N/A	< 0.18	UJ	< 0.15	U	< 0.18	U	< 0.16	U
Naphthalene	91-20-3	500	12	< 0.44	UJ	< 0.38	U	0.062	J	< 0.39	U
Nitrobenzene	98-95-3	N/A	N/A	< 0.044	UJ	< 0.038	U	< 0.045	U	< 0.039	U
N-Nitroso-Di-N-Propylamine	621-64-7	N/A	N/A	< 0.044	UJ	< 0.038	U	< 0.045	U	< 0.039	U
N-Nitrosodiphenylamine	86-30-6	N/A	N/A	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
Pentachlorophenol	87-86-5	6.7	0.8	< 0.35	UJ	< 0.31	UJ	< 0.37	U	< 0.32	UJ
Phenanthrene	85-01-8	500	100	< 0.44	UJ	0.021	J	0.92		0.02	J
Phenol	108-95-2	500	0.33	< 0.44	UJ	< 0.38	U	< 0.45	U	< 0.39	U
Pyrene	129-00-0	500	100	0.029	J	0.04	J	1.4		0.044	J

Notes:

ft bgs	-	Feet below ground surface
ID	-	Identification
N/A	-	Not available
No.	-	Number
Qua.	-	Qualifier
SCG	-	Soil cleanup goal
J	-	Estimated value
R	-	Result rejected
U	-	Not detected
1.3	-	Bold result exceeds Unrestricted SCG

Figures



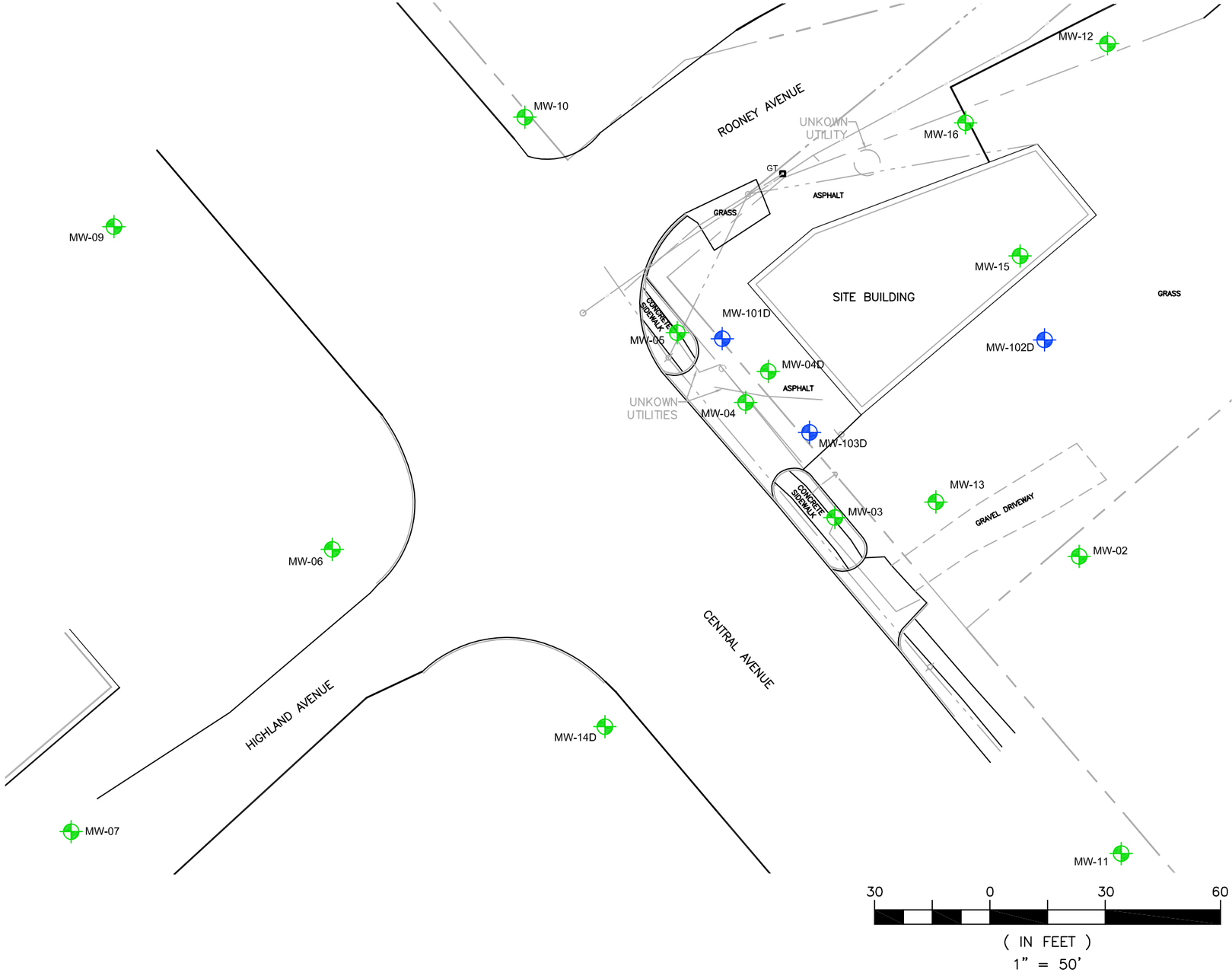
FORMER DAMSHIRE CLEANERS SITE (SITE NO. 401059)

TOWN OF COLONIE, ALBANY COUNTY, NEW YORK

FIGURE 1 - SITE LOCATION MAP

PATH: C:\USERS\APATEL\DESKTOP\MY DOCUMENTS\ARCGIS\NYSDEC-DEMSHIRE\SITE LOCATION MAP.MXD - USER: APATEL - DATE: 1/28/2019

REMEDIAL DESIGN



LEGEND:

- HYDRANT
- SEWER MANHOLE
- UTILITY POLE
- GT GAS TEST
- PROPERTY LINE
- EDGE OF PAVEMENT
- POWER LINE
- SANITARY SEWER LINE
- GAS LINE
- WATER LINE
- NEWLY INSTALLED MONITORING WELL (2019)
- EXISTING MONITORING WELL

NOTES:

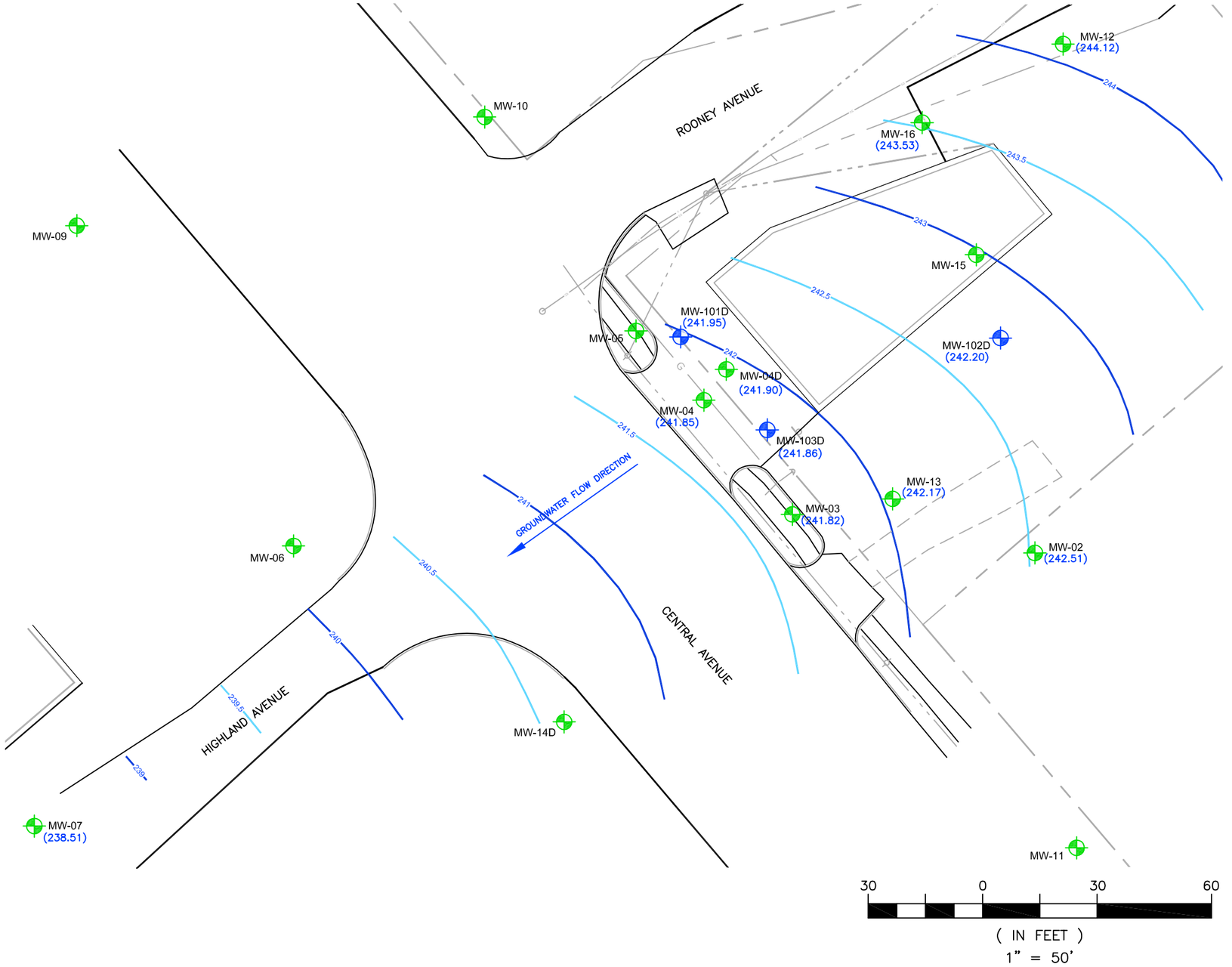
1. LOCATIONS FOR MW-15 AND MONITORING WELLS NOT SAMPLED WERE TAKEN FROM BASE FILE PROVIDED BY NYSDEC.
2. ALL SAMPLE LOCATIONS (EXCEPT FOR MW-15), SITE BUILDING, SURFACE UTILITIES, AND SURFACE COVER SURVEYED ON JULY 18, 2019 BY C.T. MALE ASSOCIATES. NORTH ORIENTATION IS GRID NORTH: NEW YORK STATE PLANE COORDINATE SYSTEM, EAST ZONE, NAD 83/2011. VERTICAL DATUM: NAVD 88 (GEOID 12A).
3. THE LOCATIONS OF UNDERGROUND IMPROVEMENTS OR ENCROACHMENTS ARE DRAWN AS MARKED BY CLEAN GLOBE ENVIRONMENTAL LLC ON MAY 22, 2019.
4. PROPERTY LINES ARE APPROXIMATE AND FOR ORIENTATION PURPOSES ONLY.

SAMPLE LOCATION MAP

FORMER DAMSHIRE CLEANERS SITE
PRE-DESIGN INVESTIGATION REPORT
NYSDEC SITE #401059
TOWN OF COLONIE, NEW YORK

DATE
OCTOBER 2019

FIGURE
2



N

LEGEND:

- HYDRANT
- SEWER MANHOLE
- UTILITY **POLE**
- PROPERTY LINE
- EDGE OF PAVEMENT
- POWER LINE
- NEWLY INSTALLED MONITORING WELL (2019)
- EXISTING MONITORING WELL
- (242.20) GROUNDWATER ELEVATION (ft AMSL)
- 243.0 MAJOR GROUNDWATER CONTOUR LINE (ft AMSL)
- 243.5 MINOR GROUNDWATER CONTOUR LINE (ft AMSL)

BTOC	BELOW TOP OF CASING
ft	FEET
AMSL	ABOVE MEAN SEA LEVEL

NOTES:

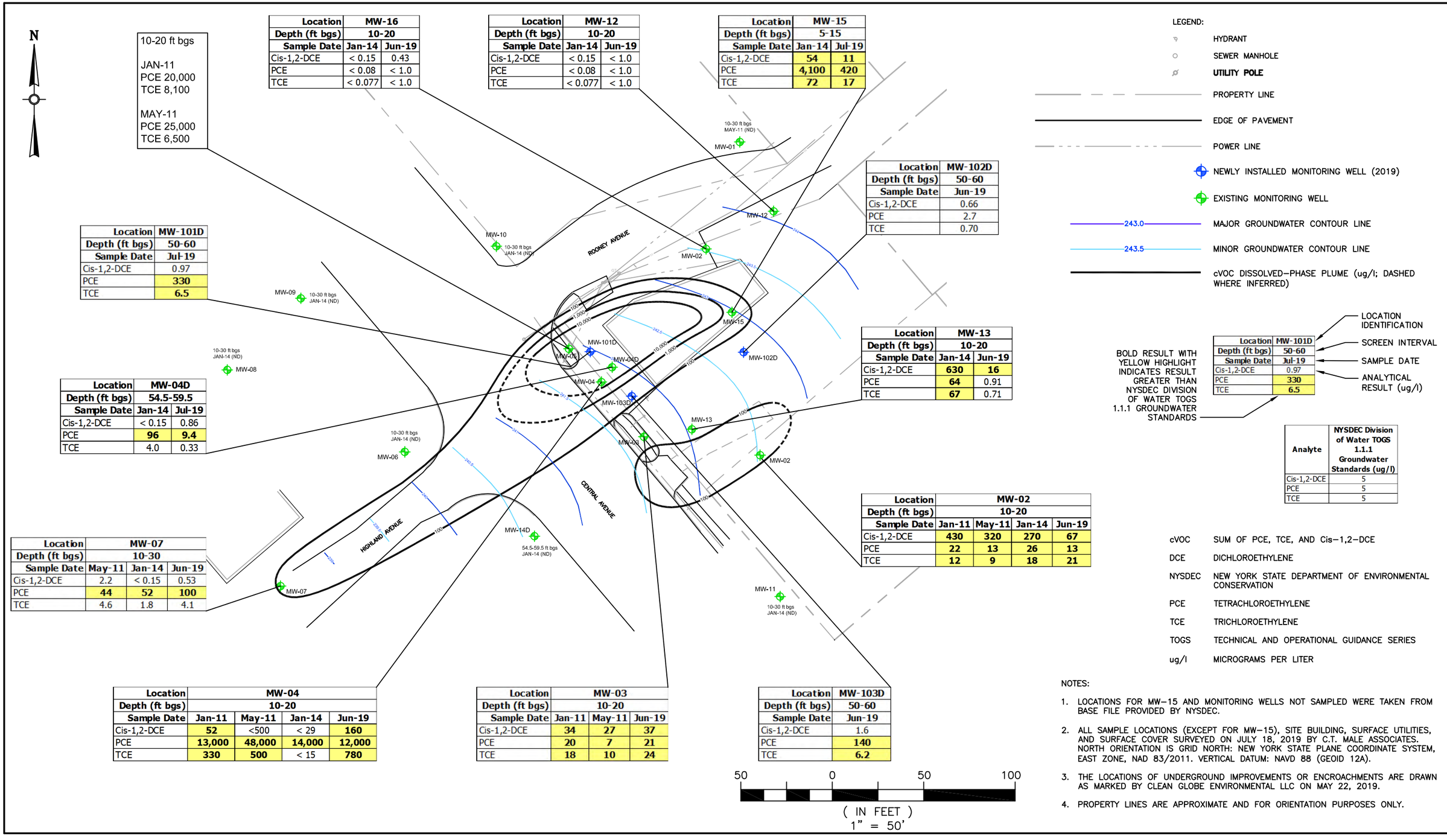
1. LOCATIONS FOR MW-15 AND MONITORING WELLS NOT SAMPLED WERE TAKEN FROM BASE FILE PROVIDED BY NYSDEC.
2. ALL SAMPLE LOCATIONS (EXCEPT FOR MW-15), SITE BUILDING, SURFACE UTILITIES, AND SURFACE COVER SURVEYED ON JULY 18, 2019 BY C.T. MALE ASSOCIATES. NORTH ORIENTATION IS GRID NORTH: NEW YORK STATE PLANE COORDINATE SYSTEM, EAST ZONE, NAD 83/2011. VERTICAL DATUM: NAVD 88 (GEOID 12A).
3. THE LOCATIONS OF UNDERGROUND IMPROVEMENTS OR ENCROACHMENTS ARE DRAWN AS MARKED BY CLEAN GLOBE ENVIRONMENTAL LLC ON MAY 22, 2019.
4. PROPERTY LINES ARE APPROXIMATE AND FOR ORIENTATION PURPOSES ONLY.
5. GROUNDWATER ELEVATIONS ARE BASED ON DATA FROM A SYNOPTIC ROUND OF DEPTH TO WATER MEASUREMENTS CONDUCTED ON JUNE 26, 2019. MW-15 WAS NOT INCLUDED, AS THE SITE BUILDING WAS INACCESSIBLE ON THE DATE OF THE MEASUREMENTS. THE DEPTH TO WATER MEASUREMENT FOR MW-103D REVISED FROM 9.92 FT BTOC TO 4.92 FT BTOC, WITH THE ASSUMPTION THAT AN ERROR WAS MADE WHEN RECORDING THE MEASUREMENT. GROUNDWATER ELEVATION DATA FROM DEEP MONITORING WELLS WERE OMITTED IN PREPARING THE GROUNDWATER ELEVATION CONTOURS.

GROUNDWATER ELEVATION MAP

FORMER DAMSHIRE CLEANERS SITE
PRE-DESIGN INVESTIGATION REPORT
NYSDEC SITE #401059
TOWN OF COLONIE, NEW YORK

DATE
OCTOBER 2019

FIGURE
3



cVOC SUM OF PCE, TCE, AND Cis–1,2–DCE

DCE DICHLOROETHYLENE

NYSDEC NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

PCE TETRACHLOROETHYLENE

TCE TRICHLOROETHYLENE

TOGS TECHNICAL AND OPERATIONAL GUIDANCE SERIES

ug/l MICROGRAMS PER LITER

NOTES:

1. LOCATIONS FOR MW–15 AND MONITORING WELLS NOT SAMPLED WERE TAKEN FROM BASE FILE PROVIDED BY NYSDEC.
2. ALL SAMPLE LOCATIONS (EXCEPT FOR MW–15), SITE BUILDING, SURFACE UTILITIES, AND SURFACE COVER SURVEYED ON JULY 18, 2019 BY C.T. MALE ASSOCIATES. NORTH ORIENTATION IS GRID NORTH: NEW YORK STATE PLANE COORDINATE SYSTEM, EAST ZONE, NAD 83/2011. VERTICAL DATUM: NAVD 88 (GEOID 12A).
3. THE LOCATIONS OF UNDERGROUND IMPROVEMENTS OR ENCROACHMENTS ARE DRAWN AS MARKED BY CLEAN GLOBE ENVIRONMENTAL LLC ON MAY 22, 2019.
4. PROPERTY LINES ARE APPROXIMATE AND FOR ORIENTATION PURPOSES ONLY.

SUMMARY OF GROUNDWATER VOCs ANALYTICAL RESULTS

FORMER DAMSHIRE CLEANERS SITE
PRE-DESIGN INVESTIGATION REPORT
NYSDEC SITE #401059
TOWN OF COLONIE, NEW YORK

DATE
OCTOBER 2019

FIGURE
4

Legend

- Approximate Property Boundary
- Approximate Building Outline
- Surface Soil Sampling Location
- Newly Installed Monitoring Well (2019)

Analyte	SS-03
cis-1,2-DCE	(<0.00083 U)
PCE	(<0.0013 U)
TCE	(<0.00093 U)

Analyte	SS-04
cis-1,2-DCE	(<0.0013 U)
PCE	(<0.0021 U)
TCE	(<0.0014 U)

Analyte	SS-08
cis-1,2-DCE	(<0.0008 U)
PCE	0.0068
TCE	(<0.0009 U)

Analyte	SS-02
cis-1,2-DCE	(<0.00083 U)
PCE	0.011
TCE	(<0.00093 U)

Analyte	MW-101D 0-1	Duplicate 0-1
cis-1,2-DCE	(< 0.0011 U)	(< 0.0013 U)
PCE	0.0048	0.0059
TCE	(< 0.0011 U)	(< 0.0013 U)

Analyte	SS-05
cis-1,2-DCE	(<0.00097 U)
PCE	(<0.0016 U)
TCE	(<0.0011 U)

Analyte	SS-01	Duplicate
cis-1,2-DCE	(<0.00084 U)	(<0.00098 U)
PCE	0.0041	0.004
TCE	(<0.00095 U)	(<0.0011 U)

Analyte	SS-06
cis-1,2-DCE	(<0.00083 U)
PCE	(<0.0014 U)
TCE	(<0.00094 U)

Analyte	MW-103D 0-1
cis-1,2-DCE	(< 0.0012 U)
PCE	0.0031
TCE	(< 0.0012 U)

Analyte	SS-07
cis-1,2-DCE	(<0.00083 U)
PCE	(<0.0013 U)
TCE	(<0.00093 U)

Analyte	MW-102D 0.5-1.5
cis-1,2-DCE	(< 0.0012 U)
PCE	0.0036
TCE	(< 0.0012 U)

Analyte	6 NYCRR Part 375 Guidance Unrestricted Use (mg/kg)	6 NYCRR Part 375 Guidance Commercial Use (mg/kg)
cis-1,2-Dichloroethene (DCE)	0.25	500
Tetrachloroethene (PCE)	1.3	150
Trichloroethene (TCE)	0.47	200

Note: All concentrations reported in milligrams per kilogram (mg/kg).
U = The concentration was not detected. The associated value is the method detection limit.

Concentrations that are bolded were detected above the 6 NYCRR Environmental Remediation Programs – Unrestricted Use – SCGs.

50 0 50 100

(IN FEET)

1" = 50'

NOTES:

1. 2019 PRE-DESIGN INVESTIGATION SAMPLE LOCATIONS AND DATA ARE SUPERIMPOSED ON FIGURE 3-4a FROM THE FEBRUARY 2016 REMEDIAL INVESTIGATION REPORT FOR FORMER DAMSHIRE CLEANERS, PREPARED BY EA ENGINEERING, P.C. AND ITS AFFILIATE EA SCIENCE AND TECHNOLOGY.
2. SAMPLE LOCATIONS MW-101D, MW-102D, AND MW-103D SURVEYED ON JULY 18, 2019 BY C.T. MALE ASSOCIATES. NORTH ORIENTATION IS GRID NORTH: NEW YORK STATE PLANE COORDINATE SYSTEM, EAST ZONE, NAD 83/2011. VERTICAL DATUM: NAVD 88 (GEOID 12A).

HDR

SUMMARY OF SURFACE SOIL VOCs ANALYTICAL RESULTS

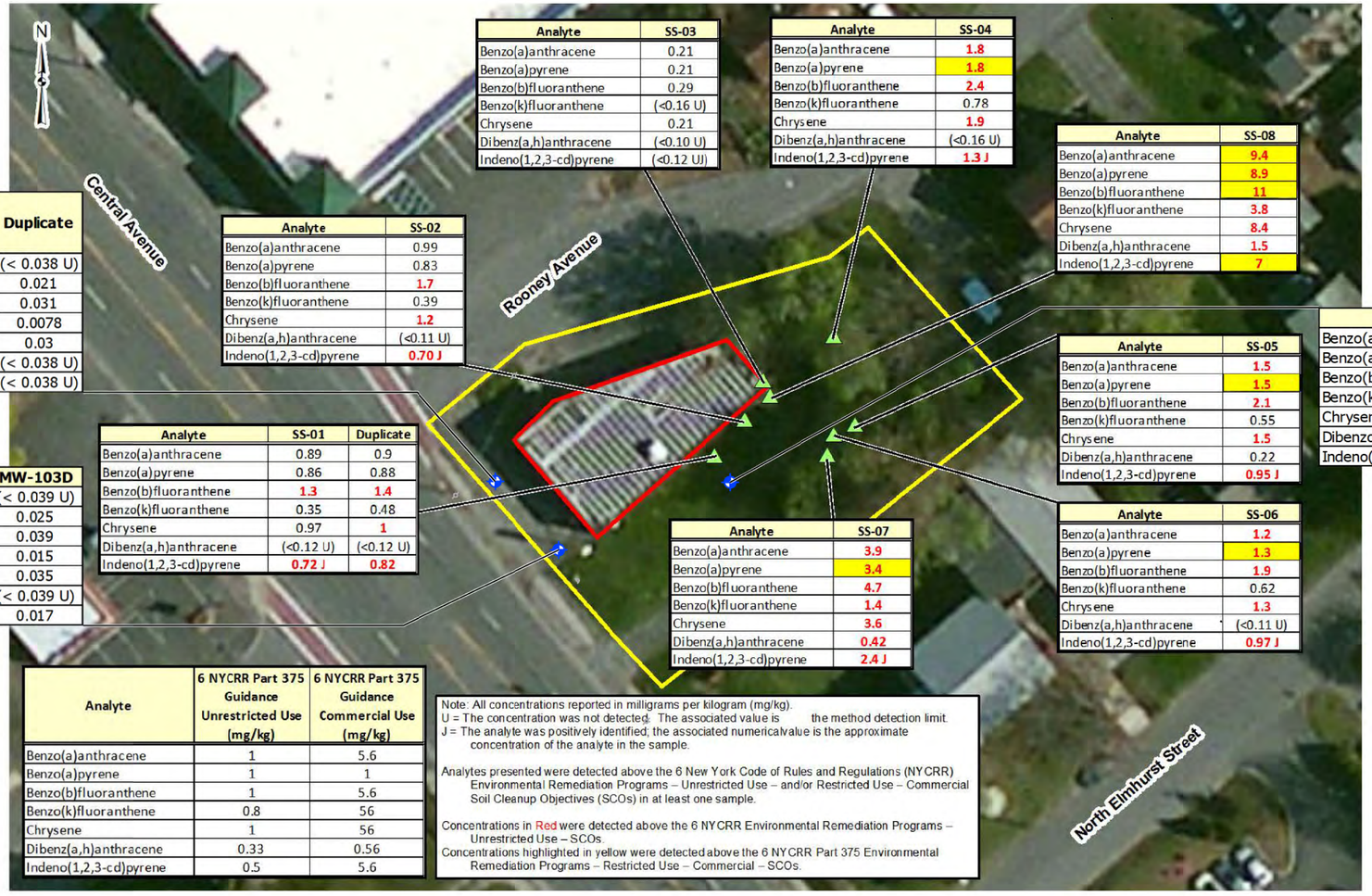
FORMER DAMSHIRE CLEANERS SITE
PRE-DESIGN INVESTIGATION REPORT
NYSDEC SITE #401059
TOWN OF COLONIE, NEW YORK

DATE
OCTOBER 2019

FIGURE
5

Legend

- Approximate Property Boundary
- Approximate Building Outline
- Surface Soil Sampling Location
- Newly Installed Monitoring Well (2019)



Analyte	MW-101D	Duplicate
Benzo(a)anthracene	0.024	(< 0.038 U)
Benzo(a)pyrene	0.027	0.021
Benzo(b)fluoranthene	0.028	0.031
Benzo(k)fluoranthene	0.013	0.0078
Chrysene	0.037	0.03
Dibenzo(a,h)anthracene	(< 0.044 UJ)	(< 0.038 U)
Indeno(1,2,3-cd)pyrene	(< 0.044 UJ)	(< 0.038 U)

Analyte	SS-03
Benzo(a)anthracene	0.21
Benzo(a)pyrene	0.21
Benzo(b)fluoranthene	0.29
Benzo(k)fluoranthene	(<0.16 U)
Chrysene	0.21
Dibenz(a,h)anthracene	(<0.10 U)
Indeno(1,2,3-cd)pyrene	(<0.12 UJ)

Analyte	SS-04
Benzo(a)anthracene	1.8
Benzo(a)pyrene	1.8
Benzo(b)fluoranthene	2.4
Benzo(k)fluoranthene	0.78
Chrysene	1.9
Dibenz(a,h)anthracene	(<0.16 U)
Indeno(1,2,3-cd)pyrene	1.3 J

Analyte	SS-08
Benzo(a)anthracene	9.4
Benzo(a)pyrene	8.9
Benzo(b)fluoranthene	11
Benzo(k)fluoranthene	3.8
Chrysene	8.4
Dibenz(a,h)anthracene	1.5
Indeno(1,2,3-cd)pyrene	7

Analyte	SS-02
Benzo(a)anthracene	0.99
Benzo(a)pyrene	0.83
Benzo(b)fluoranthene	1.7
Benzo(k)fluoranthene	0.39
Chrysene	1.2
Dibenz(a,h)anthracene	(<0.11 U)
Indeno(1,2,3-cd)pyrene	0.70 J

Analyte	SS-05
Benzo(a)anthracene	1.5
Benzo(a)pyrene	1.5
Benzo(b)fluoranthene	2.1
Benzo(k)fluoranthene	0.55
Chrysene	1.5
Dibenz(a,h)anthracene	0.22
Indeno(1,2,3-cd)pyrene	0.95 J

Analyte	MW-102D
Benzo(a)anthracene	0.83
Benzo(a)pyrene	0.86
Benzo(b)fluoranthene	**1.3**
Benzo(k)fluoranthene	0.39
Chrysene	0.98
Dibenzo(a,h)anthracene	0.11
Indeno(1,2,3-cd)pyrene	0.42

Analyte	SS-01	Duplicate
Benzo(a)anthracene	0.89	0.9
Benzo(a)pyrene	0.86	0.88
Benzo(b)fluoranthene	1.3	1.4
Benzo(k)fluoranthene	0.35	0.48
Chrysene	0.97	1
Dibenz(a,h)anthracene	(<0.12 U)	(<0.12 U)
Indeno(1,2,3-cd)pyrene	0.72 J	0.82

Analyte	SS-07
Benzo(a)anthracene	3.9
Benzo(a)pyrene	3.4
Benzo(b)fluoranthene	4.7
Benzo(k)fluoranthene	1.4
Chrysene	3.6
Dibenz(a,h)anthracene	0.42
Indeno(1,2,3-cd)pyrene	2.4 J

Analyte	SS-06
Benzo(a)anthracene	1.2
Benzo(a)pyrene	1.3
Benzo(b)fluoranthene	1.9
Benzo(k)fluoranthene	0.62
Chrysene	1.3
Dibenz(a,h)anthracene	(<0.11 U)
Indeno(1,2,3-cd)pyrene	0.97 J

Analyte	MW-103D
Benzo(a)anthracene	(< 0.039 U)
Benzo(a)pyrene	0.025
Benzo(b)fluoranthene	0.039
Benzo(k)fluoranthene	0.015
Chrysene	0.035
Dibenzo(a,h)anthracene	(< 0.039 U)
Indeno(1,2,3-cd)pyrene	0.017

Analyte	6 NYCRR Part 375 Guidance Unrestricted Use (mg/kg)	6 NYCRR Part 375 Guidance Commercial Use (mg/kg)
Benzo(a)anthracene	1	5.6
Benzo(a)pyrene	1	1
Benzo(b)fluoranthene	1	5.6
Benzo(k)fluoranthene	0.8	56
Chrysene	1	56
Dibenz(a,h)anthracene	0.33	0.56
Indeno(1,2,3-cd)pyrene	0.5	5.6

Note: All concentrations reported in milligrams per kilogram (mg/kg).
U = The concentration was not detected. The associated value is the method detection limit.
J = The analyte was positively identified; the associated numericalvalue is the approximate concentration of the analyte in the sample.

Analytes presented were detected above the 6 New York Code of Rules and Regulations (NYCRR) Environmental Remediation Programs – Unrestricted Use – and/or Restricted Use – Commercial Soil Cleanup Objectives (SCOs) in at least one sample.

Concentrations in Red were detected above the 6 NYCRR Environmental Remediation Programs – Unrestricted Use – SCOs.
Concentrations highlighted in yellow were detected above the 6 NYCRR Part 375 Environmental Remediation Programs – Restricted Use – Commercial – SCOs.

50 0 50 100

(IN FEET)
1" = 50'

NOTES:

1. 2019 PRE-DESIGN INVESTIGATION SAMPLE LOCATIONS AND DATA ARE SUPERIMPOSED ON FIGURE 3-4b FROM THE FEBRUARY 2016 REMEDIAL INVESTIGATION REPORT FOR FORMER DAMSHIRE CLEANERS, PREPARED BY EA ENGINEERING, P.C. AND ITS AFFILIATE EA SCIENCE AND TECHNOLOGY.
2. SAMPLE LOCATIONS MW-101D, MW-102D, AND MW-103D SURVEYED ON JULY 18, 2019 BY C.T. MALE ASSOCIATES. NORTH ORIENTATION IS GRID NORTH: NEW YORK STATE PLANE COORDINATE SYSTEM, EAST ZONE, NAD 83/2011. VERTICAL DATUM: NAVD 88 (GEOID 12A).

SUMMARY OF SURFACE SOIL SVOCS ANALYTICAL RESULTS

FORMER DAMSHIRE CLEANERS SITE
PRE-DESIGN INVESTIGATION REPORT
NYSDEC SITE #401059
TOWN OF CO_ONIE, NEW YORK

DATE
OCTOBER 2019

FIGURE
6

Legend

- Approximate Property Boundary
- Approximate Building Outline
- Soil Boring
- Newly Installed Monitoring Well (2013)
- Newly Installed Monitoring Well (2019)

Analyte	SB-06 3-4'
cis-1,2-DCE	(<0.0011 U)
PCE	(<0.0017 U)
TCE	(<0.0012 U)

Analyte	SB-10 3-4'
cis-1,2-DCE	(<0.00085 U)
PCE	(<0.0014 U)
TCE	(<0.00095 U)

Analyte	SB-11 3-5'
cis-1,2-DCE	(<0.00091 U)
PCE	(<0.0015 U)
TCE	(<0.001 U)

Analyte	SB-02 3-5'	Duplicate
cis-1,2-DCE	(<0.00086 U)	(<0.00084 U)
PCE	0.012	0.016
TCE	(<0.00096 U)	(<0.00095 U)

Analyte	SB-01 3-4'
cis-1,2-DCE	(<0.00075 U)
PCE	0.024
TCE	(<0.00084 U)

Analyte	SB-08 3-4'
cis-1,2-DCE	(<0.00091 U)
PCE	0.0032
TCE	(<0.001 U)

Analyte	MW-102D 15-17	MW-102D 60-62
cis-1,2-DCE	0.0011	(< 0.0014 U)
PCE	0.024	(< 0.0014 U)
TCE	0.0023	(< 0.0014 U)

Analyte	MW-101D 9-11	MW-101D 60-62
cis-1,2-DCE	(< 0.62 U)	(< 0.0013 U)
PCE	**170**	0.016
TCE	**1.8**	0.00042

Analyte	SB-03 3-4'
cis-1,2-DCE	(<0.00081 U)
PCE	(<0.0013 U)
TCE	(<0.00091 U)

Analyte	SB-04 3-4'
cis-1,2-DCE	0.0047
PCE	0.069
TCE	0.0062

Analyte	MW-04D Dec 2013 32-34'	MW-04D Dec 2013 54-56'
cis-1,2-DCE	(<0.00095 U)	(<0.0010 U)
PCE	**1.8**	**4.7**
TCE	0.015 J	0.014

Analyte	SB-07 3-4'
cis-1,2-DCE	(<0.00085 U)
PCE	0.007
TCE	(<0.00096 U)

Analyte	MW-103D 60-62
cis-1,2-DCE	0.00049
PCE	0.0024
TCE	0.00036

Analyte	SB-05 3-6'
cis-1,2-DCE	(<0.00089 U)
PCE	(<0.0014 U)
TCE	(<0.001 U)

Analyte	SB-09 3-4'
cis-1,2-DCE	(<0.00091 U)
PCE	(<0.0015 U)
TCE	(<0.001 U)

Analyte	6 NYCRR Part 375 Guidance Unrestricted Use (mg/kg)	6 NYCRR Part 375 Guidance Commercial Use (mg/kg)
cis-1,2-Dichloroethene (DCE)	0.25	500
Tetrachloroethene (PCE)	1.3	150
Trichloroethene (TCE)	0.47	200

Note: All concentrations reported in milligrams per kilogram (mg/kg).
U = The concentration was not detected. The associated value is the method detection limit.

Concentrations in Red were detected above the 6 New York Code of Rules and Regulations (NYCRR) Environmental Remediation Programs – Unrestricted Use – Soil Cleanup Objectives (SCOs).

Concentrations that are highlighted were detected above the 6 NYCRR Environmental Remediation Programs – Commercial Use – SCGs.

50 0 50 100

(IN FEET)

1" = 50'

NOTES:

1. 2019 PRE-DESIGN INVESTIGATION SAMPLE LOCATIONS AND DATA ARE SUPERIMPOSED ON FIGURE 3-5a FROM THE FEBRUARY 2016 REMEDIAL INVESTIGATION REPORT FOR FORMER DAMSHIRE CLEANERS, PREPARED BY EA ENGINEERING, P.C. AND ITS AFFILIATE EA SCIENCE AND TECHNOLOGY.
2. SAMPLE LOCATIONS MW-101D, MW-102D, AND MW-103D SURVEYED ON JULY 18, 2019 BY C.T. MALE ASSOCIATES. NORTH ORIENTATION IS GRID NORTH: NEW YORK STATE PLANE COORDINATE SYSTEM, EAST ZONE, NAD 83/2011. VERTICAL DATUM: NAVD 88 (GEOID 12A).

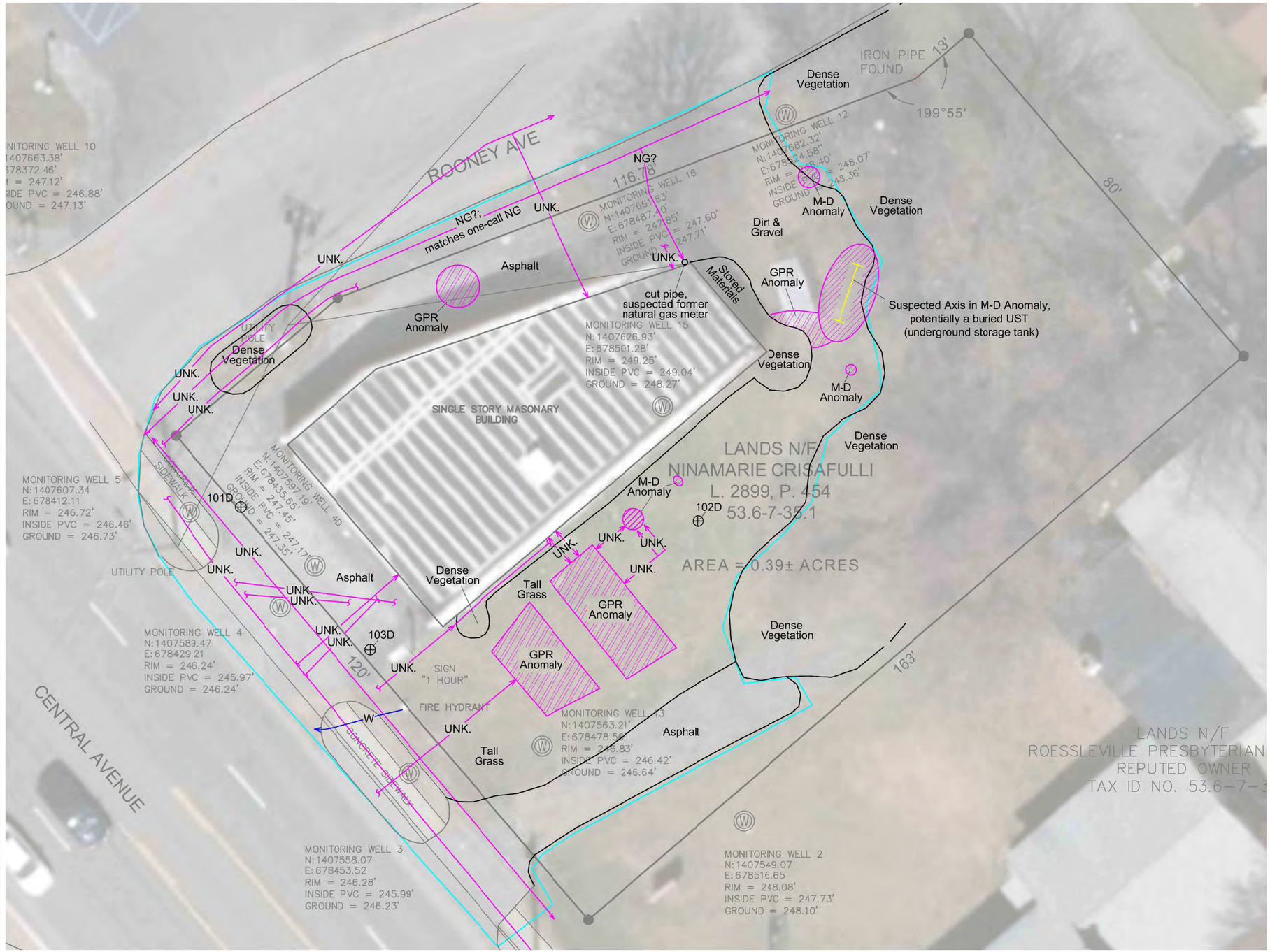
HDR

SUMMARY OF SUBSURFACE SOIL VOCs ANALYTICAL RESULTS

FORMER DAMSHIRE CLEANERS SITE
PRE-DESIGN INVESTIGATION REPORT
NYSDEC SITE #401059
TOWN OF CO_ONIE, NEW YORK

DATE
OCTOBER 2019

FIGURE
7



N

LEGEND:

- Area Of Investigation
- UNK. — suspected utility line of undetermined use (unknown)
- W — water line
- NG? — suspected natural gas line, matched one-call mark; no visible evidence besides suspected former meter
- arrow indicates line expected to continue
- End Of Information; tilda indicates suspected line not detectable beyond this poirt
- Metal-Detector (M-D) Anomaly
- Gound Penetrating Radar (GPR) Anomaly
- 10#-D — tentative proposed boring location (101D-103D); check overhead wire restrictions

20 0 20 40

(IN FEET)
1" = 20'

NOTES:

1. FIGURE BASE FROM THE FEBRUARY 2016 REMEDIAL INVESTIGATION REPORT FOR FORMER DAMSHIRE CLEANERS, PREPARED BY EA ENGINEERING, P.C. AND ITS AFFILIATE EA SCIENCE AND TECHNOLOGY.

HDR

SITE GEOPHYSICAL SURVEY (MAY 2019)

FORMER DAMSHIRE CLEANERS SITE
PRE-DESIGN INVESTIGATION REPORT
NYSDEC SITE #401059
TOWN OF COLONIE, NEW YORK

DATE
OCTOBER 2019

FIGURE
8