NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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July 26, 2016

Ms. Kristin Colberg
H.B. Fuller Company
P.O. Box 64683
St. Paul, MN 55164-0683

RE: Former H.B. Fuller - Monarch Div. Property
Site ID No. V00119, City of Geneva, Ontario County
Decision Document

Dear Ms. Colberg:

Enclosed is a copy of the Department's Decision Document for the site. The remedy is to be implemented in accordance with this Decision Document. Please ensure that a copy of the Decision Document is placed in the document repository.

Please contact the Department's Project Manager, Frank Sowers, at 585-226-5357 or frank.sowers@dec.ny.gov at your earliest convenience to discuss next steps.

Sincerely,

Michael J. Cruden, P.E.
Director
Remedial Bureau E
Division of Environmental Remediation

Enclosure

ec: R. Schick/M. Ryan, NYSDEC
B. Schilling/F. Sowers/J. Mahoney, Region 8
K. Anders/J. Deming/J. Kenney, NYSDOH
K. Rapp, RPs Technical Consultant
J. Spicuzza, Current Owner

DECISION DOCUMENT

Former H.B. Fuller- Monarch Div. Prop.
Voluntary Cleanup Program
Geneva, Ontario County
Site No. V00119
July 2016

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

DECLARATION STATEMENT - DECISION DOCUMENT

Former H.B. Fuller- Monarch Div. Prop.
Voluntary Cleanup Program
Geneva, Ontario County
Site No. V00119
July 2016

Statement of Purpose and Basis

This document presents the remedy for the Former H.B. Fuller- Monarch Div. Prop. site, a voluntary cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and applicable guidance.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the Former H.B. Fuller- Monarch Div. Prop. site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

During the course of the investigation certain actions, known as interim remedial measures (IRMs), were undertaken at the above referenced site. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the remedial investigation (RI) or alternatives analysis (AA). The IRM(s) undertaken at this site are discussed in Section 6.2.

Based on the implementation of the IRM(s), the findings of the investigation of this site indicate that the site no longer poses a threat to human health or the environment; therefore No Further Action is the selected remedy. The remedy may include continued operation of a remedial system if one was installed during the IRM and the implementation of any prescribed institutional controls/engineering controls (ICs/ECs) that have been identified as being part of the proposed remedy for the site.

Declaration

The remedy conforms with promulgated standards and criteria that are directly applicable, or that are relevant and appropriate and takes into consideration Department guidance, as appropriate. The remedy is protective of public health and the environment.

Michael J Cruden

Digitally signed by Michael J Cruden
DN: cn=Michael J Cruden, o=DER, ou=RBE, email=mjcruden@gw.dec.state.ny.us, c=US
Date: 2016.07.21 10:05:01 -04'00'

Date

Michael Cruden, Director
Remedial Bureau E

DECISION DOCUMENT

Former H.B. Fuller- Monarch Div. Prop.
Geneva, Ontario County
Site No. V00119
July 2016

SECTION 1: SUMMARY AND PURPOSE

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

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

The Voluntary Cleanup Program (VCP) is a voluntary program. The goal of the VCP is to enhance private sector cleanup of brownfields by enabling parties to remediate sites using private rather than public funds and to reduce the development pressures on "greenfields." This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repository:

Geneva Public Library
244 Main Street

Geneva, NY 14456
Phone: (315) 789-5303

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The former HB Fuller site is a 1.7-acre site located at 61 Gates Avenue in a mixed commercial/industrial/ residential area of the City of Geneva. The site is approximately 830 feet west of the intersection of State Route 14 and Gates Avenue.

Site Features: The site slopes towards the south and includes a 33,700-square foot manufacturing building, and an above-ground storage tank containment area. The building is surrounded by a parking lot and the northern portion of the site is fenced to control access. The northern tip of the site is covered with vegetation.

Current Zoning and Land Use: The site is currently active and is zoned for industrial use. Properties bordering the site include a furniture manufacturer to the north, railroad tracks to the east, and open lots and vacant manufacturing facilities to the south and west. The nearest residential property is approximately 250 feet east on Gates Avenue.

Past Use of the Site: The facility was reportedly constructed in the 1910's and was improved with additions in the 1930's and 1950's. A boiler and circuit board manufacturer operated the facility until it was purchased in 1979 by Monarch Chemical (Monarch), a former operating division of H.B. Fuller Company. Monarch used the facility to manufacture food grade cleaners/sanitizers used in the dairy and related industries. H.B. Fuller Company sold the property and the business in 1996. Univar, Inc. is the current owner/operator of the site. Univar blends and distributes chemicals for the food industry.

H.B. Fuller Company conducted several environmental assessments of the site as part of the 1996 property sale. The results identified contamination from volatile organic compounds, including tetrachloroethene and associated degradation products. Based on this information, H.B. Fuller Company submitted an application in 2001 to enter into New York State’s Voluntary Cleanup Program.

Site Geology and Hydrogeology: The ground surface at the site generally slopes to the south. The depth to bedrock (limestone) is greater than 24 feet. The overburden consists of fine-grained soils.

The depth to groundwater ranges from approximately three to 13 feet below the ground surface. Groundwater generally flows eastward.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, at a minimum, alternatives (or an alternative) that restrict(s) the use of the site to commercial use (which allows for industrial use) as described in DER-10, Technical Guidance for Site Investigation and Remediation were/was evaluated.

A comparison of the results of the investigation to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is available in the Remedial Investigation (RI) Report.

SECTION 5: ENFORCEMENT STATUS

The Department and H.B. Fuller Company entered into a Voluntary Cleanup Agreement on February 8, 2002. The Order Index No. B8-0524-97-10 obligates the H.B. Fuller Company to implement a full remedial program for site-related contamination both on and off the site.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site, or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for

review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- soil
- indoor air
- sub-slab vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

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

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

6.1.2: RI Results

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

tetrachloroethene (PCE)	1,1,1-TCA
cis-1,2-dichloroethene	1,1-dichloroethane
trichloroethene (TCE)	chloroethane
vinyl chloride	

The contaminant(s) of concern exceed the applicable SCGs for:

- groundwater
- soil

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

6.2: Interim Remedial Measures

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

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

IRM - Enhanced Reductive Dechlorination

In-situ enhanced biodegradation was employed as an IRM in October 2008 to treat chlorinated volatile organic compounds (VOCs), including tetrachloroethene, in groundwater in the source area located just north of the on-site building. The biological breakdown of contaminants through anaerobic reductive dechlorination was enhanced by injecting a total of 2,640 gallons of emulsified vegetable oil (EVO) diluted with 23,361 gallons of water at 106 points at an average concentration of 5.2% EVO plus a total of 95 gallons of zero valent iron (ZVI) diluted with 1,135 gallons of water at 23 points at an average concentration of 8.3% ZVI from 4 to 14 feet.

In the main source area, total chlorinated VOC concentrations in groundwater have dropped from 17,000 ppb before the IRM to 63 ppb in March 2015 and are trending lower. The area of highest remaining groundwater contamination is located outside of the IRM injection grid where total chlorinated VOCs declined from 891 ppb before the IRM to 190 ppb in March 2013.

Sub-slab soil vapor samples were collected two times before the IRM and three times after from four locations throughout the building. Comparing pre-IRM and post IRM sub-slab soil vapor concentrations, tetrachloroethene dropped from 1,000 to 510 micrograms per cubic meter, trichloroethene dropped from 640 to 140 micrograms per cubic meter, and 1,1,1-trichloroethane dropped from 340 to 100 micrograms per cubic meter.

Indoor air samples were collected two times before the IRM and two times after from four locations throughout the building. Comparing pre-IRM and post IRM indoor air concentrations, tetrachloroethene increased from 1.6 to 2.9 micrograms per cubic meter, trichloroethene dropped from 0.37 micrograms per cubic meter to non-detect, and 1,1,1-trichloroethane dropped from 0.4 micrograms per cubic meter to non-detect.

Figure 3 shows the source area location, the sub-slab soil vapor and indoor air sample locations, and summarizes pre-IRM groundwater concentrations and the most recent groundwater concentrations.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The RI report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), and pesticides. Based upon investigations conducted to date, the primary contaminants of concern for the site include tetrachloroethene, 1,1,1-trichloroethane and associated degradation products.

Soil – Tetrachloroethene is found in deep soil, approximately 14 feet under an above ground storage tank containment area located outside the northeast portion of the building (Figure 2). Concentrations of tetrachloroethene found on site (up to 6.7 ppm) exceed the soil cleanup objectives for the protection of groundwater (1.3 ppm), but do not exceed the soil cleanup objectives for commercial use (150 ppm). Data does not indicate any off-site impacts in soil related to this site.

Groundwater – Tetrachloroethene, 1,1,1-trichloroethane and their degradation products are found in groundwater north and east of the building at concentrations exceeding groundwater standards (typically 5 ppb), with a maximum total concentration of 190 ppb at approximately 19 feet below ground surface (Figure 3).

Specific contaminants of concern remaining in groundwater include tetrachloroethene up to 14 ppb, trichloroethene up to 5.9 ppb, cis-1,2-dichloroethene up to 60 ppb, 1,1-dichloroethane up to 87 ppb, chloroethane up to 140 ppb, and vinyl chloride up to 27 ppb. The groundwater standard for these compounds is 5 ppb, except for vinyl chloride which is 2 ppb.

Contaminants from the site have migrated approximately 40 feet down-gradient off-site at 10 feet below ground surface. The primary compounds remaining off-site include cis-1,2-dichloroethene up to 23 ppb, vinyl chloride up to 27 ppb, and chloroethane up to 30 ppb.

Soil Vapor and Indoor Air – In the most recent sub-slab soil vapor and indoor air sampling events, tetrachloroethene was detected in sub-slab soil vapor at concentrations up to 510 micrograms per cubic meter and was also detected in indoor air at concentrations up to 2.9 micrograms per cubic meter. Trichloroethene was detected in sub-slab soil vapor at concentrations up to 140 micrograms per cubic meter and was not detected in indoor air. 1,1,1-Trichloroethane was detected in sub-slab-soil vapor at concentrations up to 100 micrograms per cubic meter and was not detected in indoor air.

Data does not indicate the need to take actions to address soil vapor intrusion for any existing off-site structures.

6.4: Summary of Human Exposure Pathways

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

People are not drinking the contaminated groundwater because the area is served by a public water supply that is not contaminated by the site. People may come into contact with site related

contaminants if they dig below the surface. Volatile organic compounds may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air or buildings, is referred to as soil vapor intrusion. Environmental sampling indicates soil vapor is contaminated on-site and that monitoring of the existing structure is necessary. Soil vapor intrusion is not a concern for existing off-site structures; however, the potential exists for the inhalation of site contaminants due to soil vapor intrusion in any future off-site redevelopment in areas affected by site-related contamination.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

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

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

Soil Vapor

RAOs for Public Health Protection

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

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

Based on the results of the investigations at the site, the IRM that has been performed, and the evaluation presented here, the Department is proposing No Further Action as the remedy for the site. This No Further Action remedy includes continued operation of the in-situ bioremediation IRM and the implementation of ICs/ECs (deed restriction and existing cover system) as the proposed remedy for the site. The Department believes that this remedy is protective of human health and the environment and satisfies the remediation objectives described in Section 6.5.

In-situ enhanced biodegradation IRM was completed in 2008 to treat contaminants in groundwater in the area north of the site building. The biological breakdown of contaminants through anaerobic reductive dechlorination was enhanced by injecting both emulsified vegetable oil and a zero-valent iron solution into the subsurface to promote microbe growth via injection wells screened from 4 to 14 feet. Post-injection groundwater and soil vapor intrusion monitoring was performed to evaluate the performance of the IRM.

The following institutional and engineering controls necessary, in addition to the IRM already completed, are listed below:

1. Green remediation principles and techniques will be implemented to the extent feasible in the 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 gas and other emissions;
- • Increasing energy efficiency and minimizing use of non-renewable energy;
- • Conserving and efficiently managing resources and materials; and
- • Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste.

2. The existing cover system will be managed to restrict excavation below the existing cover system including pavement and buildings. Excavated soil will be tested, properly handled to protect the health and safety of workers and the nearby community, and will be properly managed in a manner acceptable to the Department. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6NYCRR Part 375-6.7(d).

3. Imposition of an institutional control in the form of a deed restriction 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 or industrial 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.

4. A Site Management Plan is required, which includes the following

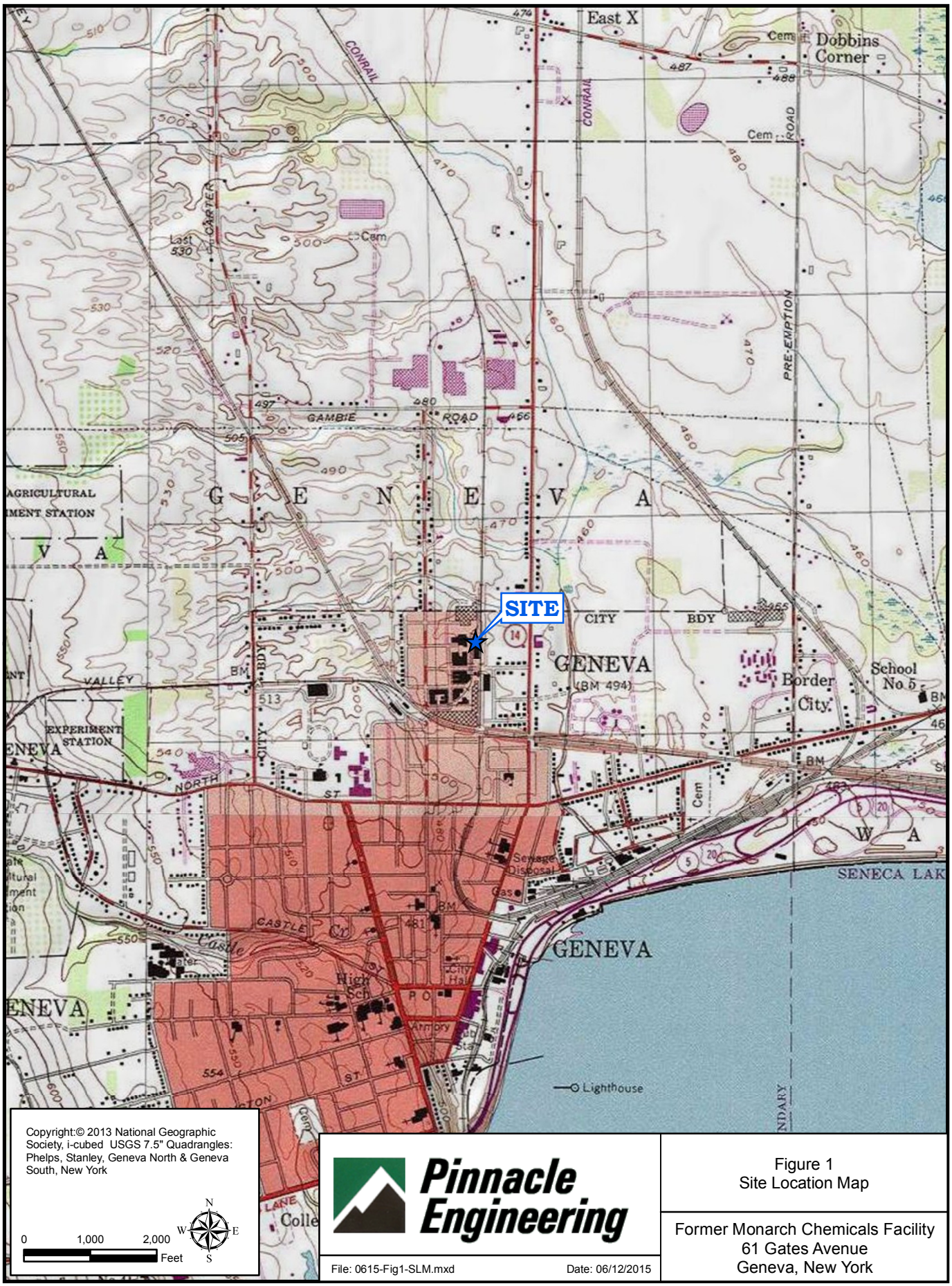
a) an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Deed Restriction discussed in Paragraph 3.
Engineering Controls: The soil cover discussed in Paragraph 2 above.
This plan includes, but may not be limited to:

- o an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- o descriptions of the provisions of the deed restriction including any land use, and groundwater use restrictions;
- o a provision for evaluation of the potential for soil vapor intrusion for future buildings developed on the site or in areas affected by site-related contaminants off-site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- o provisions for the management and inspection of the identified engineering controls;
- o maintaining site access controls and Department notification; and
- o the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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

- o monitoring of groundwater, sub-slab soil vapor, indoor air and ambient air to assess the performance and effectiveness of the remedy;
- o a schedule of monitoring and frequency of submittals to the Department; and
- o monitoring for vapor intrusion for any occupied existing or future buildings developed on the site or in areas affected by site-related contaminants off-site, as may be required by the Institutional and Engineering Control Plan discussed above.



Pinnacle Engineering

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Figure 1
Site Location Map

Former Monarch Chemicals Facility
61 Gates Avenue
Geneva, New York

Former H.B. Fuller- Monarch Div. Prop.
Site No. V00119
61 Gates Ave.
City of Geneva, Ontario County

Property Boundary = VCP Site Boundary

Institutional & Engineering Controls Apply to Entire Site.

Parcel ID	Owner Address
90.20-2-5.10	36 Gates Ave, Geneva, NY 14456
90.15-4-66	47 Castle St, Geneva, NY 14456
90.15-4-67	47 Castle St, Geneva, NY 14456
90.15-4-68.100	525 Seaport Blvd, Redwood City, CA 94063
90.15-4-69	P.O. Box 1099, Geneva, NY 14456
90.16-3-1.110	195 N Exchange, Geneva, NY 14456
90.16-3-1.120	290 Washington St, Geneva, NY 14456
90.16-3-1.130	6567 Kinne Rd, Dewitt, NY 13214
90.16-3-14.100	P.O. Box 1099, Geneva, NY 14456
90.16-3-2	6567 Kinne Rd, Dewitt, NY 13214
90.20-2-13	8 Gates Ave, Geneva, NY 14456
90.20-2-11	8 Gates Ave, Geneva, NY 14456
90.20-2-8	8 Gates Ave, Geneva, NY 14456
90.20-2-9	1246 Route 96 N, Waterloo, NY 13156
90.15-4-65	200 Lehigh St, Geneva, NY 14456

CCN International
90.15-4-65
90.15-4-66
90.15-4-67
90.15-4-68.100
90.15-4-69
90.16-3-1.110
90.16-3-1.120
90.16-3-1.130
90.16-3-14.100
90.16-3-2
90.20-2-5.10
90.20-2-8
90.20-2-9
90.20-2-11
90.20-2-13
Culvert Pipe
Drainage Ditch
Drainage Ditch
VCP Site Boundary
AST-containment
Blacktop
Concrete Pad
Driveway
Building
Blacktop Parking Lot
Buried Culvert Pipe
Gates Avenue

Legend
- Monitoring Well Location
- Soil Boring Location
- Surface Water and Sediment Sampling Location
- Abandoned Wells
- Fence
- Railroad
- AST Containment Area
- Tax Parcels

0 60 120 Feet

N W E S

Sustainable Resources Group
440 Creamery Way, Suite 150 Exton, PA 19341

pointmap incorporated

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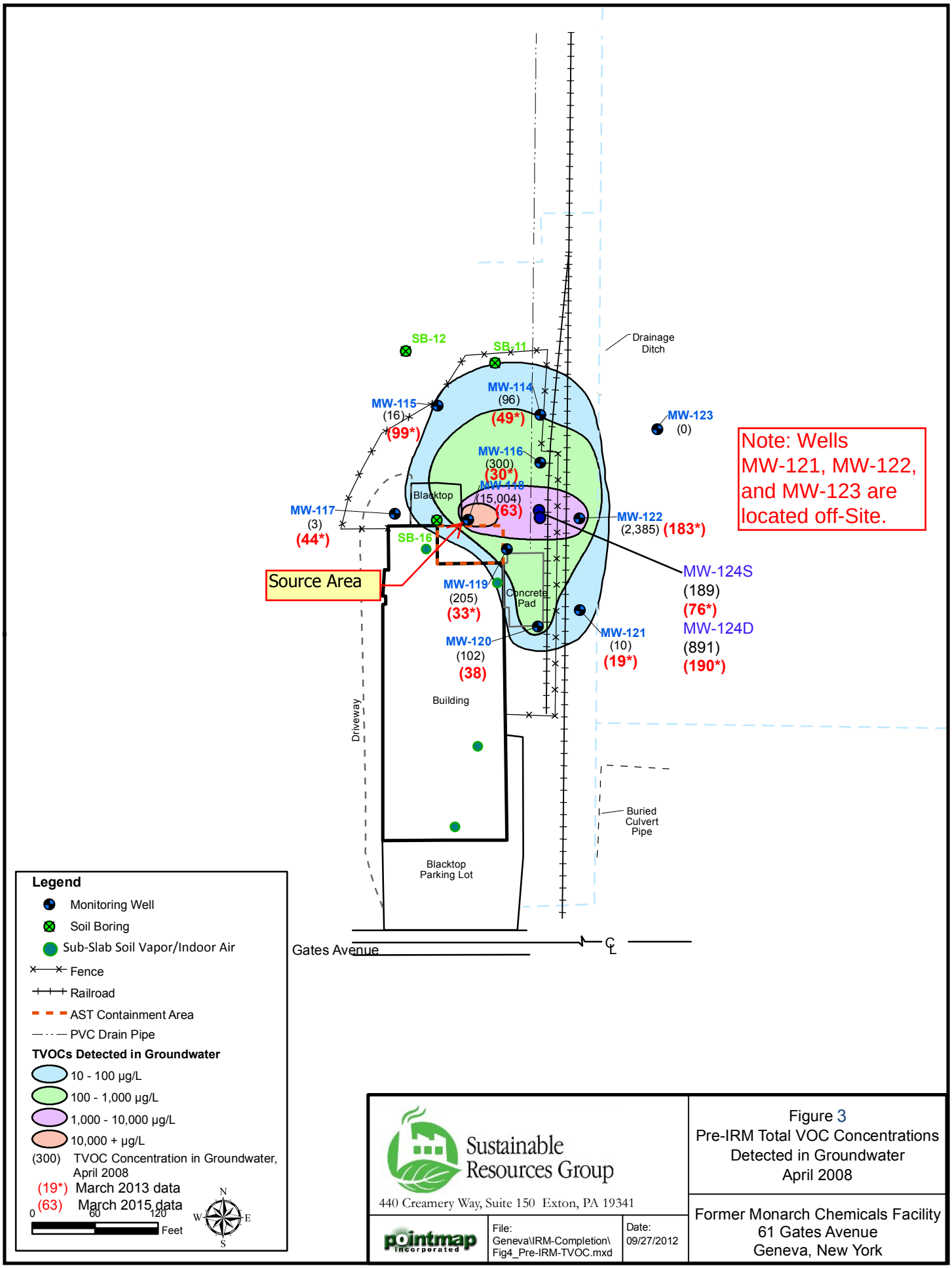
Date: 09/27/2012

Figure 2
Site Map

Former Monarch Chemicals Facility
61 Gates Avenue
Geneva, New York



Sustainable Resources Group
440 Creamery Way, Suite 150 Exton, PA 19341

pointmap incorporated

File: Geneva\IRM-Completion\ Fig4_Pre-IRM-TVOC.mxd

Date: 09/27/2012

Figure 3
Pre-IRM Total VOC Concentrations Detected in Groundwater
April 2008

Former Monarch Chemicals Facility
61 Gates Avenue
Geneva, New York