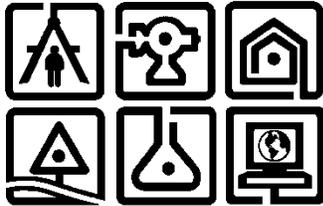


January 3, 2013



NYS Brownfield Cleanup Program

Remedial Action Work Plan

Former Miron Pre-Cast Site
Town of Ulster
Ulster County, New York

Prepared for:

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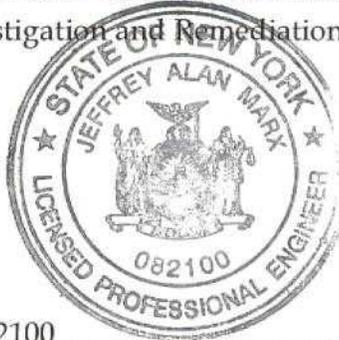
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CERTIFICATIONS

I, Jeffrey A. Marx, P.E., certify that I am a NYS registered professional engineer and that this Remedial Action Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) dated May 3, 2010.



082100

NYS Professional Engineer #

JAN. 8th, 2013

Date

Jeffrey A. Marx

Signature

**ENVIRONMENTAL RESTORATION PROJECT
REMEDIAL ACTION WORK PLAN
FORMER MIRON PRE-CAST SITE
1561 ULSTER AVENUE SITE
TOWN OF ULSTER, NEW YORK**

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- Figure 1: Site Location Map
- Figure 2: Existing Conditions Map
- Figure 3: Site Investigation Plan

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1561 ULSTER AVENUE SITE
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FIGURES (Continued)

- Figure 4: Parameters in Soils Exceeding Restricted Residential SCOs & Summary of TICs
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- Figure 6: Remedial Action Implementation Plan

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- Appendix A: Table 375-6.8(b) - (6 NYCRR Part 375)
- Appendix B: Allowable Constituent Levels for Imported Fill or Soil (Appendix 5 NYSDEC DER 10)

1.0 INTRODUCTION & PURPOSE

1.1 Introduction

On behalf of MHMG - KM KINGSTON LLC (the “Applicant”), C.T. Male Associates Engineering, Surveying, Architecture & Landscape Architecture, P.C. (C.T. Male Associates) has prepared this Remedial Action Work Plan (RAWP) pursuant to the New York State Department of Environmental Conservation (DEC) Brownfield Cleanup Program (BCP) in relationship to the property known as the Former Miron Pre-Cast Site located at 1561 Ulster Avenue in the Town of Ulster, Ulster County, New York (herein “the Site”). A Site Location Map is presented as Figure 1. An Existing Site Conditions map is presented as Figure 2.

The Applicant is submitting this Draft RAWP together with the Draft Remedial Investigation Report (RIR), Draft Alternatives Analysis Report (AAR) and Brownfield Cleanup Program (BCP) Application for concurrent regulatory and public review with the intent of being accepted into the BCP as a Volunteer to remediate the Former Miron Pre-Cast Site. The proposed remedy will allow for the Site to be used for Restricted Residential Use, consistent with local Zoning. Current plans to develop the site include a medical office building, but future construction efforts could include additional commercial space, assisted living, a nursing home, and multi-family residential units all of which are complementary to the medical office development. Refer to the BCP application for additional details. Upon acceptance into the BCP, the Applicant intends to enter into a Brownfield Cleanup Agreement (BCA) to remediate the property as a Volunteer.

1.2 Purpose and Goal

The purpose of the RAWP is to provide a conceptual plan for the selected remedy for the Site. No hazardous waste has been identified on the property so a formal remedial design work plan is not warranted. The proposed remedial action (surface cover system, subsurface vapor mitigation and institutional controls) is a presumptive/proven remedial technology commonly implemented on these types of sites. The selected remedy is based on the Site’s highest and best intended future use for Restricted Residential.

The goal of this RAWP is to provide guidance to the Applicant’s design and construction team for its preparation of technical specifications and construction documents for this specific project. This guidance shall provide the means for incorporating the proposed remedial action requirements into the overall construction documents.

1.3 Remedial Action Approach

1.3.1 Applicable NYS Standards, Criteria and Guidance (SCGs)

The contemplated use for the Site is Restricted Residential Use. The applicable SCGs for each media subject to remedial action are summarized as follows:

Media	Regulation	SCGs
Soil	6NYCRR Part 375 (December 14, 2007)	Table 375-6.8(b) Restricted-Residential Use Soil Cleanup Objectives (SCOs)
Groundwater	NYSDEC Division of Water TOGS 1.1.1	Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (June 1998)
Soil Vapor	None	Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, dated October 2006

A copy of the December 14, 2007 6 NYCRR Part 375 Table 375-6.8(b) is included in Appendix A for reference. The SCOs (a.k.a. SCGs) for Restricted Residential Use Sites are identified under the column heading “Protection of Public Health - Restricted-Residential”. The DEC Division of Water TOGS 1.1.1 document is not included, but the standard or guidance values for the remedial action will be the GA class values. Currently, there is no regulation that establishes SCGs for soil vapor investigation or mitigation. In lieu of a regulation, the NYSDOH prepared guidance document listed in the Table above which will be used for applicable SCGs, if necessary.

There are no surface water bodies on the Site. Therefore applicable SCGs for surface water are not included in this RAWP.

1.3.2 Nature and Extent of Contamination

The nature and extent of Site contaminants were identified by the Remedial Investigation (RI) conducted in Spring 2012. Previous environmental investigations have been conducted by others which have also been reviewed for characterizing the site contamination. Results and findings of the RI are incorporated in the RIR, which is being submitted to DEC for review and acceptance along with this RAWP. The RI included the collection of surface soil, subsurface soil and groundwater samples across the Site for subjective and laboratory analysis. The locations where the samples were collected are presented in Figure 3: Site Investigation Plan. Sampling locations where parameters were detected above their corresponding SCGs are identified in Figure 4: Parameters in Soils Exceeding Restricted Residential Use SCOs & Summary of TICS and Figure 5: Parameters in Groundwater Exceeding SCGs & Summary of TICs.

Based on the findings of the RI, the remedial action will need to be implemented over the entire Site, up to the limits established by the property lines.

1.3.3 Remedy Selection

The proposed remedy for the Site is based on the contemplated potential use of Restricted Residential incorporating engineering and institutional controls consistent with Track 4 cleanup levels promulgated at 6 NYCRR 375-3.8(e)(4). The remedy was selected as the most appropriate and cost effective remedy for the Site as discussed in the Draft Alternative Analysis Report (AAR), submitted under separate cover. Refer to the Draft AAR for detailed discussion regarding the selection of the Site remedy.

1.3.4 Engineering and Institutional Controls

The Track 4 engineering and institutional controls for the Site will be outlined in an Environmental Easement to be prepared and recorded for the Site. The controls include the following:

Engineering Controls

- The installation/placement of a surface cover system over the entire Site. The surface cover system will be constructed of a two (2)-foot soil and/or crushed concrete and masonry generated from demolition of on-Site buildings and pre-

cast structures; imported asphalt/subbase (i.e., parking and driveways of future construction) generally 16 inches; or poured in-place concrete (i.e., sidewalks and utility foundations of future construction) generally 10 inches. The surface cover system would be underlain by a demarcation layer to identify the difference between clean soils/processed concrete and existing Site soils. Refer to Figure 6 - Remedial Action Implementation Plan for a distinction of where each of these materials may be placed.

- Installation, operation and maintenance of a soil vapor mitigation system for any building developed on the Site. In lieu of such system, investigative sampling of the soil vapor within the footprint of any proposed building would need to be completed and presented to NYSDOH to support a petition to not install such system due to the absence of impacted soil vapor.
- Excavation and off-site disposal of petroleum contaminated soil (i.e., hot spots), if any is encountered during construction activities and site development. This work will be performed in compliance with the Soil Cleanup Objectives listed in 6 NYCRR Part 375-6 and the nuisance conditions specified in Commissioners Policy (CP) 51.

Institutional Controls

- Restrict the use of groundwater as a source of potable water and other uses without necessary water quality treatment as determined by NYSDOH.
- Restrict usage of the Site to Restricted Residential Use, which will also allow for Commercial and Industrial Use consistent with local zoning.
- Develop a DEC approved Site Management Plan (SMP) to ensure that the use of the Site does not disturb remaining contamination or the required engineering controls, or otherwise compromise the protectiveness of the Site remedy. The SMP will be attached to, and become a part of, the Environmental Easement.
- Periodic certification by the property owner, prepared and submitted by a professional engineer or such other expert acceptable to the DEC, until the DEC notifies the property owner in writing that this certification is no longer needed. The submittal will contain certification that the institutional controls and

engineering controls are still in place, allow the DEC access to the site, and that nothing has occurred that would impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the SMP.

1.4 Remedial Action Implementation

The following sections provide the conceptual detail for the Site's proposed remedial action. Generally, the remedial action includes site clearing, building demolition, disposal of solid wastes, monitoring well decommissioning, Site grading, placement of a surface cover system, and installation of vapor mitigation systems.

1.4.1 Site Clearing and Grubbing

Prior to any site clearing and grubbing, the site will need to be observed for the presence of asbestos containing materials on the ground surface. Given the condition and age of the buildings, there is potential for building materials such as roofing, exterior paneling, etc. to be present on the ground. A formal asbestos survey will be completed of the buildings prior to demolition (See Section 1.4.4), but this survey shall include an assessment of the ground surface in and around buildings or where building debris is present for suspect asbestos containing materials. If any asbestos containing materials are identified, they will be properly abated in accordance with NYS Department of Labor (DOL) 12 NYCRR Part 56 (Industrial Code Rule 56).

Existing Site vegetation and trees will need to be cleared and grubbed prior to construction and after asbestos materials are mitigated, if necessary. Vegetation situated at and/or above the ground surface will be cleared and disposed of off-site at an approved disposal facility. Vegetation situated below the ground surface (i.e. roots) will be removed and the vegetation will be vigorously shaken and rolled over the ground surface to dislodge bulk soils clinging to the vegetation. Upon approval of satisfactory soil removal by the environmental engineer or designated representative, the subsurface vegetation will then be disposed of off-site along with the above grade vegetation at an approved disposal facility.

1.4.2 Surface Placed Solid Waste Materials

There are solid waste materials strewn across the surface of the Site as a result of materials not used by the former site business. Non-concrete and non-masonry solid wastes will be assembled, categorized, characterized and disposed of off-Site at a DEC approved disposal facility permitted to accept this type of waste. Drums, containers or any other containment vessels containing known wastes (i.e., oil, grease, etc) will be segregated and staged atop 12-mil thick poly and protected from environmental elements (i.e., rain, snow, freeze, etc) until properly removed from the Site. The wastes will be characterized by the contractor under the Applicant's direction and the environmental engineer's review in accordance with the target disposal facility's permit requirements. Waste profile paperwork shall be reviewed by C.T. Male Associates and signed by an authorized representative of the Applicant. Waste manifests shall also be reviewed and signed by an authorized representative at the time of waste pickup.

Unused pre-cast concrete and masonry structures (i.e., catch basins, dry wells, septic tanks) that are staged on the ground surface will be cleaned of existing soils that may be adhered to the bottom of them, and crushed as Site backfill. The concrete-masonry backfill will either be placed on-site prior to installation of the surface cover system and/or may be a component of the surface cover system if analytical testing per Section 5.4(e) of DER-10 yields acceptable results. Section 1.4.8 further discusses the analytical testing requirements and sampling frequency.

Non-impacted soils cleaned from the structures will be spread over the existing ground surface prior to installation of the surface cover system. Impacted soils cleaned from the unused structures, although not expected, would be separated and properly disposal off-site.

1.4.3 Monitoring Well Decommissioning

Site monitoring wells will be decommissioned in accordance with the procedures outlined in DEC CP-43 Commissioner's Policy on Groundwater Monitoring Well Decommissioning. There are 20 monitoring wells which are identified as CTM-GW-1 to CTM-GW-10 and MW-A to MW-K and are shown on Figure 3.

Upon completion of Site development, and per consultation with the DEC Project Manager, new monitoring wells may be installed at select locations across the Site for long-term groundwater monitoring, if deemed necessary by DEC.

1.4.4 Building Demolition

The Site's buildings and structures are primarily constructed of concrete and masonry. Due to the age of the buildings (constructed in the 1950' and 1960's) there is a potential for asbestos containing building materials to be present as components of the buildings. A pre-demolition asbestos building survey will be required to be conducted prior to building demolition in accordance with NYS Department of Labor (DOL) 12 NYCRR Part 56 (Industrial Code Rule 56). If the survey identifies the presence of asbestos, asbestos abatement will be performed as an element of building demolition. Asbestos project monitoring will be completed by C.T. Male Associates, as required by Industrial Code Rule 56, prior to and/or during the demolition activities.

Non-concrete and non-masonry building components will be segregated and disposed of off-Site at a permitted facility. Concrete and masonry building components including, but not limited to, floor slabs, above ground and below ground foundation walls and footers will be segregated, scraped of adhered soils, and crushed as Site backfill. The backfill will either be placed on-site prior to installation of the surface cover system and/or may be a component of the surface cover system if analytical testing per Section 5.4(e) of DER-10 yields acceptable results. Section 1.4.8 further discusses the analytical testing requirements and sampling frequency.

Concrete/masonry appearing visually impacted, as evidenced by staining and discoloration will be staged atop 12-mil poly and protected from the environmental elements (i.e., rain, snow, freeze, etc) until removed from the site. The concrete/masonry will then be characterized via sampling and laboratory analysis, and disposed of at a facility permitted to accept the wastes being generated.

1.4.5 Initial Site Grading and Surveying

The Site will be rough graded in preparation for the placement of the surface cover system whereby some areas of the Site will need to be cut to provide the necessary fill for low areas of the Site. Crushed concrete and masonry from unused pre-cast structures and asbestos-cleared building demolition may also be utilized in part to fill in

low lying areas. Because impacted soils will be disturbed during Site grading, a NYSDOH community air monitoring plan (CAMP) will need to be developed and adhered to. Section 3.0 provides detail for the elements of the CAMP.

After completion of Site rough grading and prior to the placement of the surface cover system, a professional surveyor licensed to practice in New York State will conduct an elevation survey of existing Site grades. The purpose of the survey will be to establish survey points for preparing as-built drawings showing the elevations where impacted soils will be encountered during future Site development and/or disturbances. The same survey points will be utilized to re-survey the Site after placement of the surface cover system to confirm the required surface cover system thickness was achieved. The frequency of survey data points shall be no less than a 50 by 50 foot grid across the site, but may require more survey points on critical slopes or other variable topography (not flat).

Any fill imported onto the Site for grading purposes and placement beneath the surface cover system will require analytical testing as promulgated in Section 5.4(e) of DER-10. Section 1.4.9 further discusses the analytical testing requirements and sampling frequency.

1.4.6 Surface Cover Systems

The surface cover system will consist of imported fill, processed building and pre-cast structure demolition concrete and masonry (if analytical testing meets DER-10 sampling requirements and the results meets Part 375 soil cleanup objectives), imported asphalt/subbase (i.e., parking and driveways of future construction) to a thickness of generally 16 inches; or poured in-place concrete (i.e., sidewalks and utility foundations of future construction) to a thickness of generally 10 inches. Refer to Figure 6 - Remedial Action Implementation Plan for a distinction of where each of these materials may be placed.

Prior to placement of the surface cover system, a demarcation layer (i.e., woven or non-woven filter fabric, or other material that is pre-approved by DEC) will be installed over existing soils to serve as a visual barrier between the bottom of the surface cover system and top of the existing soils.

After placement of the surface cover system, a licensed surveyor will conduct an elevation survey utilizing the similar survey points generated during the elevation survey conducted after rough grading (see Section 1.5.4) to document the surface cover system thickness.

Fill and topsoil imported onto the Site for placement for the surface cover system will require analytical testing as promulgated in Section 5.4(e) of DER-10. Section 1.4.9 further discusses the analytical testing requirements and sampling frequency.

1.4.7 Vapor Mitigation Systems

Buildings developed on the Site will require the installation and operation of soil vapor mitigation systems in general conformance with *Section 4: Soil Vapor Intrusion Mitigation* of the NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, dated October 2006, unless otherwise determined by NYSDOH to not be required. The soil vapor mitigation system may consist of a passive or active ventilation system or vapor barrier.

1.4.8 Characterization of Concrete and Masonry Backfill

Concrete and masonry generated from demolition of the Site's buildings and pre-cast structures may be crushed and spread on-site prior to installation of the surface cover system provided no visual evidence of contamination is observed. As an option, concrete and masonry generated from demolition of the Site's buildings and pre-cast structures could be used as a component of the surface cover system, but requires characterization via analytical testing. One (1) representative composite sample each will be collected for laboratory analysis from the building concrete and pre-cast structures after crushed and staged in approximately 1,000 cubic yard stockpiles. Each composite sample will consist of three (3) grab samples collected at discrete locations from the stockpile. The samples will be analyzed for the same parameters identified in the table entitled *Allowable Constituent Levels for Imported Fill or Soil* promulgated in Appendix 5 of DER-10. The table is presented in Appendix B for reference purposes. The analytical results for the concrete and masonry will need to be at or below the concentration standards identified in the table column heading identified as Restricted Residential Use.

1.4.9 Characterization of Imported Fill

Fill (including topsoil) imported onto the Site for use as backfill or component of the surface cover system will need to be characterized.

The source of the fill (i.e., physical location, virgin vs. non-virgin source, DOT approved, etc.) and the analytical data will be provided to the DEC for review and approval prior to importing the fill to the site. The sampling and analysis requirements for fill imported to the site are set forth in 5.4(e)10 of DER-10. The following language will be included in construction specifications.

- All materials proposed for import onto the Site will be approved by the qualified environmental professional/and or Project Engineer and will be in compliance with provisions in Part 375 and DER-10 prior to receipt at the Site.
- Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the Site.
- All imported soils will meet the backfill and cover soil quality standards established in 6 NYCRR 375-6.7(d). Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards are listed under the Restricted Residential Use column heading in the table presented in Appendix B. Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this Site, will not be imported onto the Site without prior approval by DEC. Solid waste will not be imported onto the Site.
- Trucks entering the Site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

1.4.10 Discovery of Impacted Soils

Petroleum-impacted soils were identified beneath the Site in the vicinity of the southeast corner of the one (1)-story masonry building occupying the southeastern portion of the Site (see Figure 2). Should impacted soils be encountered at this location

or at other locations across the Site during implementation of the remedial action and Site development, the following procedure should be followed.

- The impacted soils will be excavated and stockpiled atop 12-mil poly and covered with 12-mil poly. The soils will be characterized in accordance with the target disposal facility's permit requirements. Waste profile paperwork shall be reviewed by C.T. Male Associates and signed by an authorized representative of the Applicant. Waste manifests shall also be reviewed and signed by an authorized representative of the Applicant.
- In the event that the excavation extends into groundwater, the groundwater will be evaluated for petroleum impacts by the environmental engineer or designated representative. If determined to be petroleum impacted and required to be removed, it will be evacuated, temporarily stored, characterized, treated (if necessary) and/or disposed of off-Site.
- The limits of the excavation and extent of impacted soils will be delineated by the environmental construction observer utilizing subjective methods of PID headspace analysis and organoleptic (sight and smell) perception.
- Upon completion of the excavation of impacted soils, the environmental construction observer will collect confirmatory end-point samples from either the excavation bottom and/or sidewalls of the excavation or biased towards the area of the excavation where the highest discernible concentration of contamination was observed. The sampling frequency will be in accordance with Section 5.4(b) of DER-10 and will consist of the collection of one (1) sample from the bottom of each sidewall for every 30 linear feet of sidewall and one (1) sample from the excavation bottom for every 900 square feet of bottom area. The samples will be analyzed for the contaminants of concern that were subjectively assessed. At a minimum, the samples will be analyzed for the Target Compound List (TCL) volatile and semi-volatile organic compounds and the Target Analyte List (TAL) of metals. If groundwater is present in the excavation bottom, one (1) groundwater sample will be collected and analyzed for the same parameters identified for the soil samples.

1.5 Remedial Treatment Units

The selected remedial action will be implemented at the site of approximately 10 acres, and therefore the entire site must be considered one remedial treatment unit. The boundaries of remedial action being completed under the BCP are depicted on Figure 6, Remedial Action Implementation Plan.

1.6 Remedial Action Schedule

It is expected that the project field work will commence shortly after approval of the RAWP. The Site development plans have been approved by local governmental boards and elements of the remedial action will be incorporated into the Site development technical specifications.

The Draft RAWP will be submitted to DEC and the public for review and comment in early January 2013. The comment period is anticipated to last 45 days and approval of the final RAWP is anticipated in March or early April 2013. Site development incorporating the remedial action is anticipated to begin in April 2013.

1.7 Citizen Participation

Citizen participation for this portion of the project will include a public comment period, placing documents in the repository and issuing a notice/fact sheets, as follows:

- Place this RAWP and the Remedial Investigation Report (RIR), Alternatives Analysis Report (AAR) and Brownfield Cleanup Application (BCA) in the document repositories prior to the public comment period. These documents will be preliminarily reviewed by DEC for general acceptance, then a more formal review will be performed by DEC during the comment period; providing comments before the documents are deemed final.
- Issue a notice for the start of a 45 day public comment period for this RAWP and the RIR, AAR and BCA.
- Upon acceptance by the public and DEC of the documents, issue a public notice/fact sheet for the start of remedial/construction work.

DEC approval of the documents will follow the public comment period unless a public meeting is requested and deemed necessary by DEC. If needed, a public meeting will be held toward the end of the 45 day comment period to explain the project in further detail, answer public questions and hear public comments.

2.0 TEMPORARY CONSTRUCTION FACILITIES

2.1 Site Security

The Site is a single lot of approximately 10.18 acres in size located on the west side of NYS Route 9W. The Site area topography is relatively flat with a slight slope towards the southwest. The Site was historically used as a pre-cast concrete manufacturing facility and asphalt batch plant from the 1950's to 1990's. Three (3) buildings, a former area of asphalt batch operations, concrete storage bins and pre-cast concrete structures are located on the Site. The Site contains chain-link fencing along its northern, eastern and southern property boundaries. This fencing shall remain in-place (or be replaced) throughout the duration of the remedial action. Temporary fencing will be installed along the Site's western property boundary during the remedial action as railroad tracks border the Site's western property boundary already limiting the public access.

2.2 Trailers

During the completion of the remedial action, electronic monitoring equipment will be required to field screen soils for contamination and monitor the air for dust. This equipment is portable and operates on batteries. The person(s) completing this work will need access to a clean environment such as a construction trailer for field notes preparation, charging equipment batteries and downloading data logged on the equipment for record storage and possibly submission to DEC. The construction office trailer(s) should be equipped in a manner that supports the use of electronic equipment such as a desk and multiple outlets for plugging in equipment chargers.

2.3 Decontamination Equipment

During the remedial action, construction equipment will either come into contact with existing impacted surface soils during Site grading or will come into contact with petroleum impacted soils, should these be discovered. Prior to construction equipment being demobilized from the site or used for the placement of the surface cover system, the equipment is required to be decontaminated.

For equipment coming into contact with Site soils during grading, soils adhered to the equipment will be removed employing dry (sweeping) and if necessary wet methods and the adhered soils and cleaning liquids will be allowed to be deposited on the Site's surface beneath the surface cover system.

Equipment that comes into contact with petroleum impacted soils will be decontaminated in a manner that removes adhered soils and washes/rinses the equipment in a controlled manner thereby capturing soils and wash/rinse water for proper off-site disposal. The waste soils and wash/rinse water shall be captured using a stationary or movable decontamination pad. The accumulated soils and water shall be transferred to 55 gallon drums or similar vessel on a daily basis to mitigate the potential for intermixing with precipitation and increasing the volume for disposal or overflowing the decontamination pad. The drum contents shall be characterized through generator knowledge, analytical testing from the remedial investigation and/or additional lab testing of the actual waste in accordance with the target disposal facility's permit requirements. Waste profile paperwork shall be reviewed by C.T. Male Associates and signed by an authorized representative of the Applicant. Waste manifests shall also be reviewed and signed by an authorized representative of the Applicant.

2.4 Petroleum Impacted Soil Handling

During construction, any petroleum impacted soils discovered during the remedial action and Site development will require special handling. The handling will include temporarily staging the soil on a minimum of 12-mil plastic and covered with the same to mitigate washout by rainwater.

Prior to off-Site disposal, the stockpiled soils will be characterized through generator knowledge, analytical testing from the remedial investigation and/or additional lab testing in accordance with the target disposal facility's permit requirements. Waste profile paperwork shall be reviewed by C.T. Male Associates and signed by an authorized representative of the Applicant. Waste manifests shall also be reviewed and signed by an authorized representative of the Applicant.

2.5 Utility Disconnects

The Site is serviced with electricity and natural gas from Central Hudson Gas and Electric. Potable water is provided by the Town of Ulster. Municipal sanitary sewer service is available to the Site. All of the active utilities shall be temporarily disconnected per the Town's requirements and in cooperation with the applicable utility company.

3.0 SITE CONTROLS DURING REMEDIAL ACTION

3.1 Stormwater Management

The cumulative area of soil disturbance for this project is greater than one (1) acre, thereby requiring the Applicant to obtain coverage under the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity before commencing construction activity.

In accordance with the New York Guidelines for Urban Erosion and Sediment Control and the New York State Stormwater Management Design Manual, erosion and sediment control measures, pollution prevention measures, and if applicable, post-construction water quality treatment, shall be designed by the Applicant and presented in the form of a Stormwater Pollution Prevention Plan (SWPPP).

The following forms are needed to be completed and submitted to comply with the requirements of the General Permit for Stormwater Discharges from Construction Activity - GP-0-10-001:

- Notice of Intent (NOI), which is a request for coverage under the General Construction Stormwater Permit;
- SWPPP Acceptance Form, which is required along with the NOI because the Site is located within the boundaries of an MS4. The SWPPP must be reviewed and accepted by the MS4 prior to submitting their NOI to the Department; and
- Notice of Termination, which is a notification that the construction project is complete and has met the requirements of the construction permit.

A copy of the blank Notice of Intent, Notice of Termination and SWPP Acceptance forms are available through DEC's website. The Town of Ulster, as the MS4 for this Site, has reviewed and approved the site specific SWPPP prepared during the Site Plan Approval process. A copy will be made available to NYSDEC upon request.

3.2 Air Monitoring

A Community Air Monitoring Plan (CAMP) shall be followed during ground intrusive remedial activities (i.e., excavation and handling of site soil). The intent of the CAMP is

to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of remedial work activities. The CAMP is not intended for use in establishing action levels for worker respiratory protection. The CAMP will monitor the air for dust (particulate air monitoring, see Section 3.2.1) and volatile organic compound vapors (VOC air monitoring, see Section 3.2.2) at the downwind perimeter of the work area. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown.

3.2.1 Particulate Air Monitoring

Three (3) real-time particulate monitors capable of continuously measuring concentrations of particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) will be utilized. The instruments will be placed at temporary monitoring stations based on the prevailing wind direction each day, one upwind and two downwind of the designated work areas. The particulate monitoring instruments will be capable of displaying the short term exposure limit (STEL) or 15 minute averaging period, which will be field checked and recorded for comparison to the NYSDOH Generic Community Air Monitoring Plan action levels for particulates, as listed below. The particulate readings will be manually monitored, but the instruments are programmed to alarm at preset action levels. Instantaneous readings will be recorded periodically throughout the work day. At the end of each day, the readings for each instrument will be downloaded to a PC and retained for future reference and reporting.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed $150 \text{ mcg}/\text{m}^3$ above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than $150 \text{ mcg}/\text{m}^3$ above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the

downwind PM-10 particulate concentration to within 150 mcg/m³ of the upwind level and in preventing visible dust migration.

In the event of poor weather such as heavy rain, particulate monitoring will not be performed for protection of instrumentation. These weather conditions would limit the effectiveness of the sensitive monitoring equipment and likely suppress particulate generation. Work activities will be halted if fugitive dust migration is visually observed for a sustained period of time.

3.2.2 Volatile Organic Compound Air Monitoring

The contaminants of concern for the site include petroleum products, which are volatile and semi-volatile organic compounds that have the potential to be released to the environment when disturbed. C.T. Male Associates will monitor for volatile organic compounds (VOCs) at the downwind perimeter of the immediate work areas continuously with a MiniRAE 3000 handheld VOC monitor or equal during ground intrusive activities and handling of impacted stockpiled soil. Upwind concentrations will also be measured at the start of the work day and periodically thereafter to evaluate the site's background conditions. This unit is capable of displaying the STEL (15 minute averaging period) which will be field checked and recorded for comparison to the NYSDOH Generic Community Air Monitoring Plan action levels for VOCs, as listed below. The VOC readings (STEL) will be manually recorded for future reference and reporting. Instantaneous readings will be recorded periodically throughout the work day.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or

residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown. Work activities will then be evaluated to determine the source and engineering controls required to reduce/eliminate organic vapors.

3.3 Dust Control

Dust suppression techniques will be required as necessary to control fugitive dust to the extent practical during the remedial action. Such techniques must be employed, at a minimum, if the community air monitoring results indicate that particulate levels are above action levels. All reasonable attempts will be made to inhibit visible and/or fugitive dusts. Techniques to be utilized by the contractor may include one or more of the following:

- Applying water to haul roads.
- Wetting equipment and areas of Site disturbance.
- Spraying water on buckets during excavation and dumping.
- Hauling materials in properly tarped containers or vehicles.
- Restricting vehicle speeds on-site.
- Covering excavated areas and materials after excavation immediately after activity ceases.

The contractor will be required to perform dust control measure in a manner consistent with the applicable portions of the “New York Guidelines for Urban Erosion and Sediment Control” and the “New York State Stormwater Management Design Manual”.

3.4 Construction Observation and Certification

C.T. Male Associates will provide full-time observation during all of the remedial action work. Upon completion of the remedial action work such as no more building demolition, petroleum impacted soils, if any, have been remediated, CAMP monitoring is no longer required and excavation and grading of site soils is complete, full-time construction observation by C.T. Male Associates will be discontinued. The remaining

above grade construction activities related to site development will be completed without environmental related construction observation. This transition for ending construction observation will be coordinated with the Applicant and DEC.

Periodic observation will be made by a registered professional engineer, specifically Jeffrey A. Marx, PE, in order to provide required certification of the Remedial Action Report. Mr. Marx will also have responsibility for direction of the construction observer during the remedial action to assure the project is implemented by the construction contractor in accordance with the DEC approved RAWP, and to provide engineering review of remedial related contractor submittals and field changes for the remedial related work.

4.0 HEALTH AND SAFETY PLAN (HASP)

A Health and Safety Plan (HASP) describing the minimum acceptable goals for worker protection will be included in the technical specifications. The contractor for the remedial action will be required to provide a site specific HASP that is certified by a Certified Industrial Hygienist or equivalent. The contractor's employees will be required to have read and understood their company's site specific HASP prior to completing the work.

Health and safety procedures to be followed by C.T. Male Associates will be conducted in accordance with a DEC approved site specific HASP that will be developed by C.T. Male Associates prior to the commencement of environmental construction observation during the remedial action.

A copy of the health and safety plans will be available at the Site during the performance of remedial activities to which they are applicable.

5.0 CONFIRMATION AND DOCUMENTATION SAMPLING

5.1 Post-Excavation Confirmation Sampling

The sampling methods and analytical requirements for soil samples collected from petroleum impacted soil excavations are detailed in Section 1.4.10.

The analytical results from the post-excavation confirmation sampling will be subjected to data validation. Data validation will be performed in accordance with the USEPA National and Regional Validation Guidelines/Procedures to determine the applicable qualifications of the data. The validator will then prepare a Data Usability Summary Report (DUSR) in accordance with DEC guidance.

5.2 Imported Fill Testing

The sampling methods, frequency and analytical requirements for imported fill testing are detailed in Section 1.4.9. The analytical results for the imported fill testing will not require data validation.

5.3 Concrete and Masonry Testing

The sampling methods, frequency and analytical requirements for on-Site concrete to be used as a component of the surface cover system are detailed in Section 1.4.8. The analytical results for the concrete and masonry testing will not require data validation.

6.0 APPLICABLE PERMITS AND RELATED

6.1 Building or Demolition Permit

The Applicant will obtain all pertinent building and/or demolition permits required for development of the Site.

6.2 Sewer Discharge Permit

Groundwater dewatering may be required should excavations be required to remediate petroleum impacted soils. Although not expected, any impacted excavation water that is treated on Site, will likely be discharged to the publicly owned treatment works (POTW). The Applicant and/or C.T. Male Associates will coordinate with the Town to obtain and complete any required permits for discharge of treated groundwater to their POTW system.

7.0 SITE RESTORATION

7.1 General

The Site will be restored upon completion of work in accordance with the plans and specifications for new construction previously approved by the Town of Ulster. Initial grading of the Site will involve cuts on certain portions of the Site that will be used to fill low areas of the Site to make the Site grades ready for construction. Thereafter, a surface cover system will be placed over the entirety of the Site, as appropriate, based on the approved construction plans.

8.0 REPORTING AND CERTIFICATE OF COMPLETION

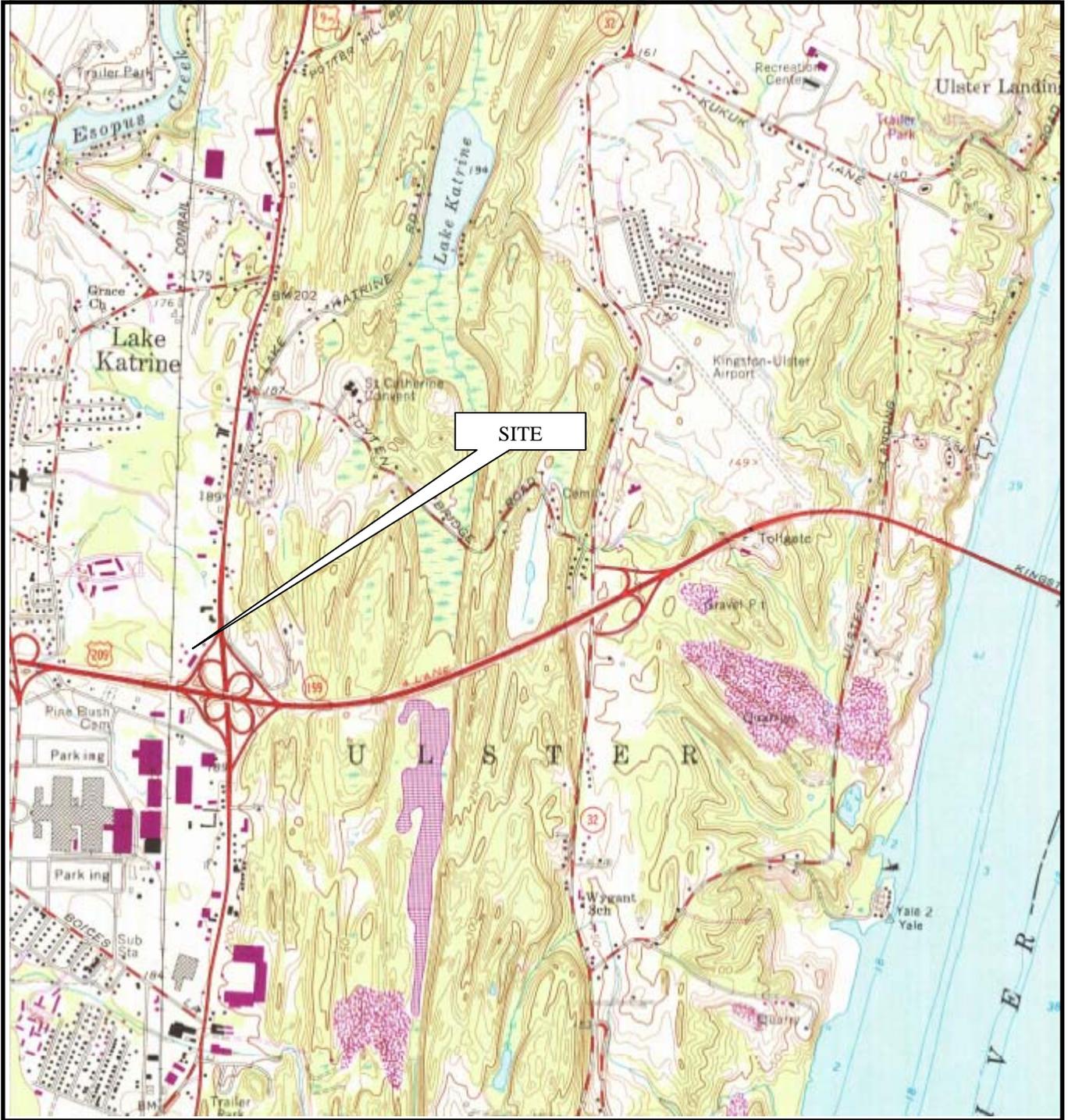
8.1 Final Report

Upon completion of the remedial action, a Remedial Action Report (RAR) will be prepared summarizing the work completed, changes to the RAWP, and summarizing any confirmation sampling. The RAR will be certified by a registered professional engineer in accordance with DER-10.

8.2 Certificate of Completion

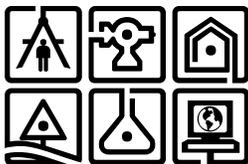
A Certificate of Completion will be issued by DEC after the RAR and Environmental Easement (including the SMP) are reviewed and approved by DEC, and the Environmental Easement is filed with the County Clerk.

FIGURE 1
SITE LOCATION MAP



MAP REFERENCE

United States Geological Survey
 7.5 Minute Series Topographic Map
 Quadrangle: Kingston East, NY
 Date: 1980



C.T.MALE ASSOCIATES

ENGINEERING, SURVEYING, ARCHITECTURE & LANDSCAPE ARCHITECTURE, P.C.

50 CENTURY HILL DRIVE
 LATHAM, NY 12110

FIGURE 1 - SITE LOCATION MAP

TOWN OF ULSTER

ULSTER COUNTY, NY

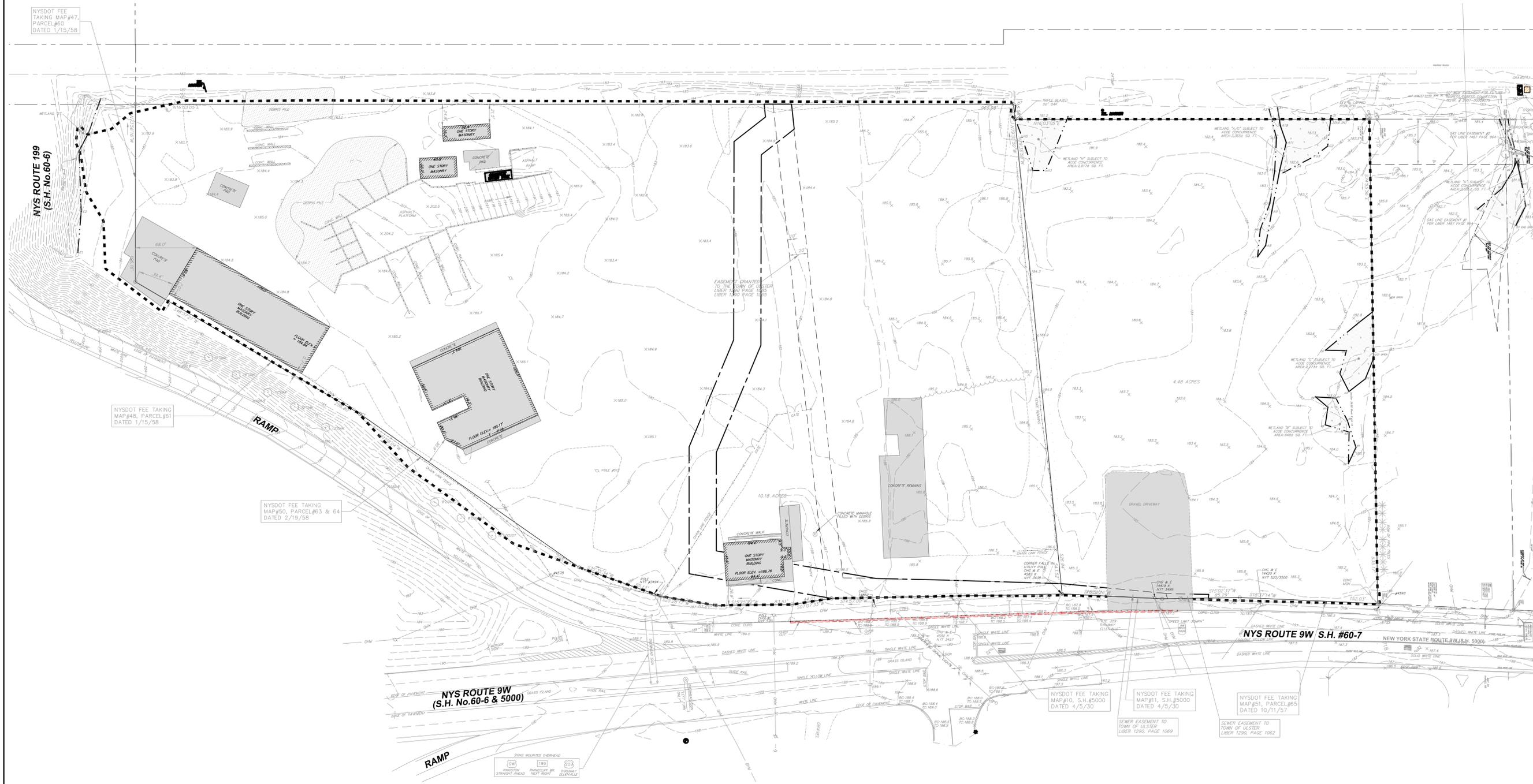
SCALE: 1:2,000±

DRAFTER: ASG

PROJECT No: 12.2160

The locations and features depicted on this map are approximate and do not represent an actual survey.

FIGURE 2
EXISTING CONDITIONS MAP



MAP NOTES:

1. BASE MAP TAKEN FROM DEMOLITION PLAN, ULSTER MIMC MEDICAL OFFICE BUILDING, SHEET NO. SP3 (4 OF 20), DATED 11/22/11 (LAST REVISED 5/7/12), PREPARED BY CHAZEN ENGINEERING, LAND SURVEYING & LANDSCAPE ARCHITECTURE CO., P.C., PROJECT NO. 81028200.
2. THE LOCATIONS AND FEATURES DEPICTED ON THIS MAP ARE APPROXIMATE AND DO NOT REPRESENT AN ACTUAL FIELD SURVEY.

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					CHECKED BY: K. MOULINE
					PROJ. NO: 12.2160
					SCALE: 1" = 40±
					DATE: 6/25/12

**FIGURE 2
EXISTING CONDITIONS MAP**

FORMER MIRON PRE-CAST SITE

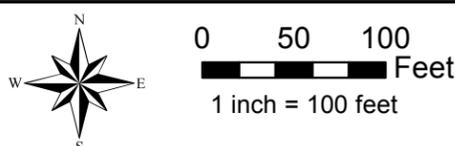
TOWN OF ULSTER
ULSTER COUNTY, NY

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CAD DWG. FILE NAME: D:\SP3\LEAD PLAN_81028200_CTY.dwg

FIGURE 3
SITE INVESTIGATION PLAN



Project Number: 12.2160
 Data Source: NYSGIS Clearinghouse
 Projection: NY State Plane East, NAD 83 (ft.)
 Date: June 22, 2012
 File: Fig3_SitePlan.mxd
 GIS: CH

Legend

- Existing Monitoring Well
- Monitoring Well Installed April 2012
- Surface Soil Samples
- Test Pits
- Drywell
- Approximate Site Boundary

Map Notes: 1. Orthoimagery flown spring 2009, 1-foot resolution, natural color.
 2. The locations and features depicted on this map are approximate and do not represent a field survey.

Figure 3: Site Investigation Plan

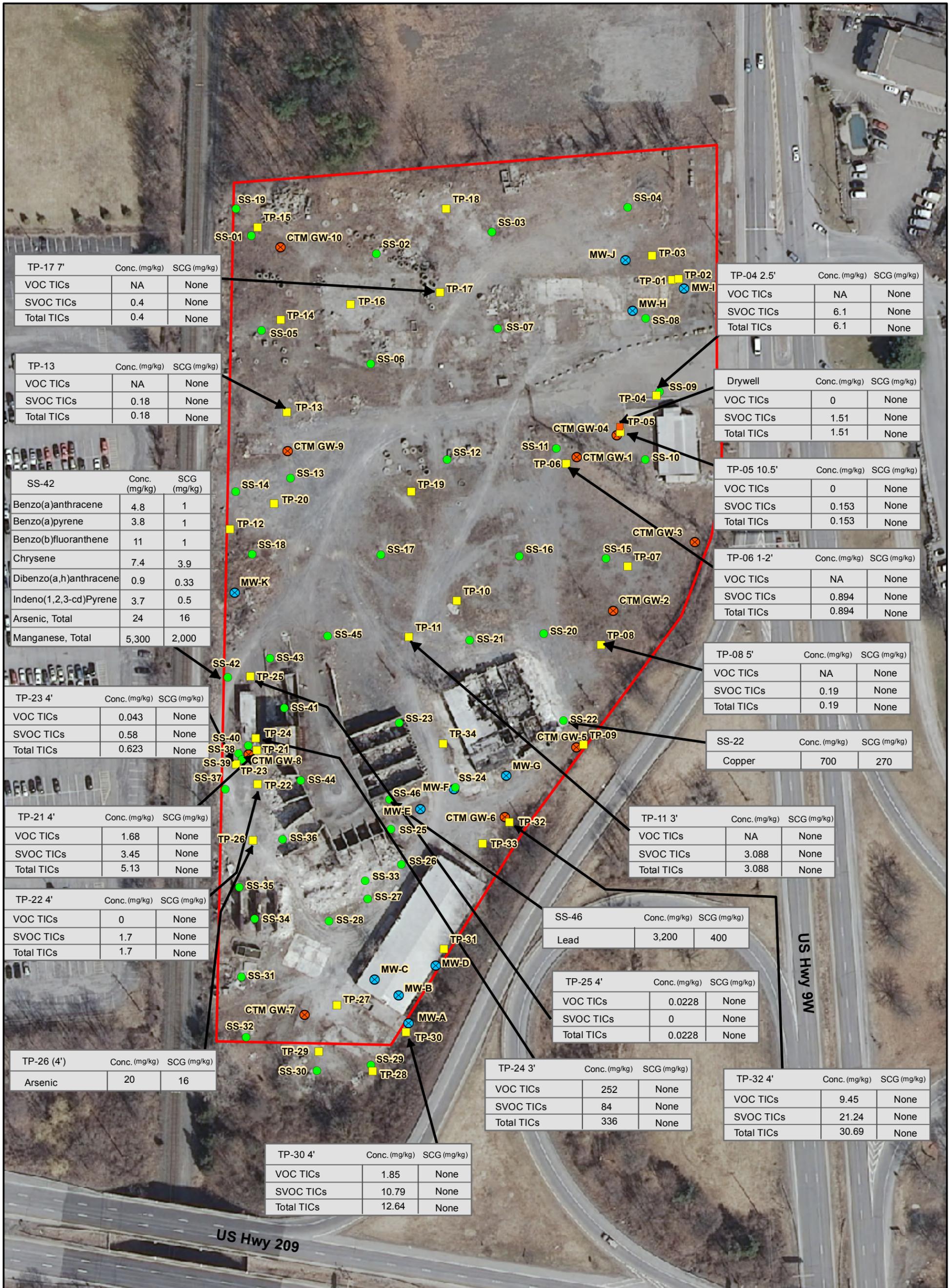
Town of Ulster Ulster County, New York



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 Land Development * Land Surveying

FIGURE 4

**PARAMETER IN SOILS EXCEEDING RESTRICTED
USE SCOs & SUMMARY OF TICS**



Legend

- Existing Monitoring Well
- Monitoring Well Installed April 2012
- Surface Soil Samples
- Test Pits
- Drywell
- Approximate Site Boundary

Map Notes:

- Parameter concentrations in mg/kg (parts per million)
- Orthorectified flow spring 2009, 1-foot resolution, natural color.
- The locations and features depicted on this map are approximate and do not represent a field survey.
- NA= Not Analyzed

Project Number: 12.2160
 Data Source: NYSGIS Clearinghouse
 Projection: NY State Plane East, NAD 83 (ft.)
 Date: June 22, 2012
 File: Fig4_Soil_Parameters.mxd
 GIS: CH

Figure 4: Parameters in Soils Exceeding Restricted Residential Use SCOs & Summary of Tentatively Identified Compounds (TICs)

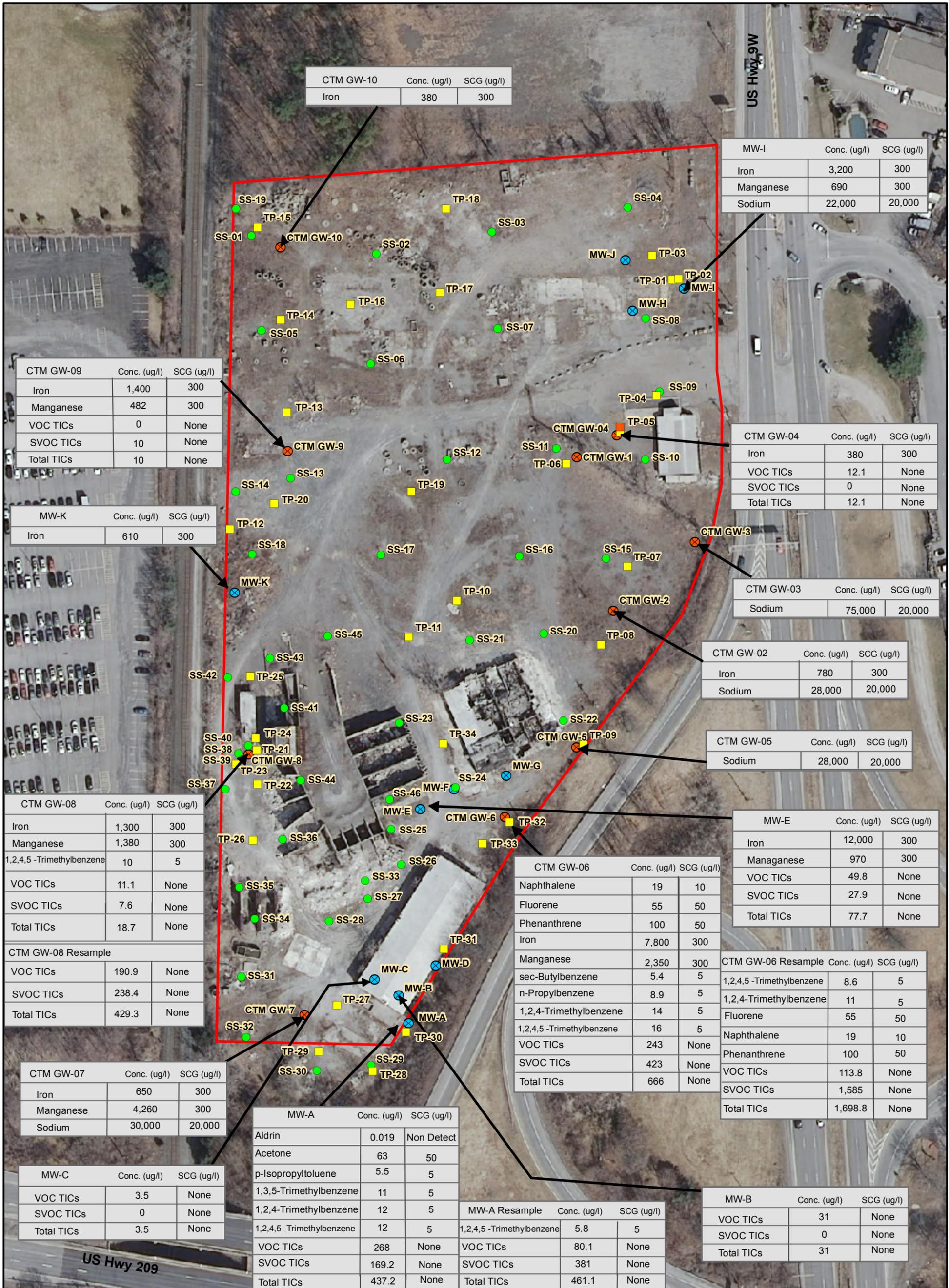
Town of Ulster Ulster County, New York

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FIGURE 5

**PARAMETER IN GROUNDWATER EXCEEDING
SCGs & SUMMARY OF TICS**



Legend

- Existing Monitoring Well
- Monitoring Well Installed April 2012
- Surface Soil Samples
- Test Pits
- Drywell
- Approximate Site Boundary

Map Notes:

- Parameter concentrations in ug/l (parts per billion)
- Orthoimagery flown spring 2009, 1-foot resolution, natural color.
- The locations and features depicted on this map are approximate and do not represent a field survey.

Scale: 0 50 100 Feet
1 inch = 100 feet

Project Number: 12.2160
Data Source: NYSGIS Clearinghouse
Projection: NY State Plane East, NAD 83 (ft.)
Date: June 22, 2012
File: Fig5_Groundwater_Parameters.mxd
GIS: CH

Figure 5: Parameters in Groundwater Exceeding SCGs & Summary of Tentatively Identified Compounds (TICs)

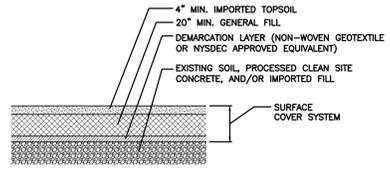
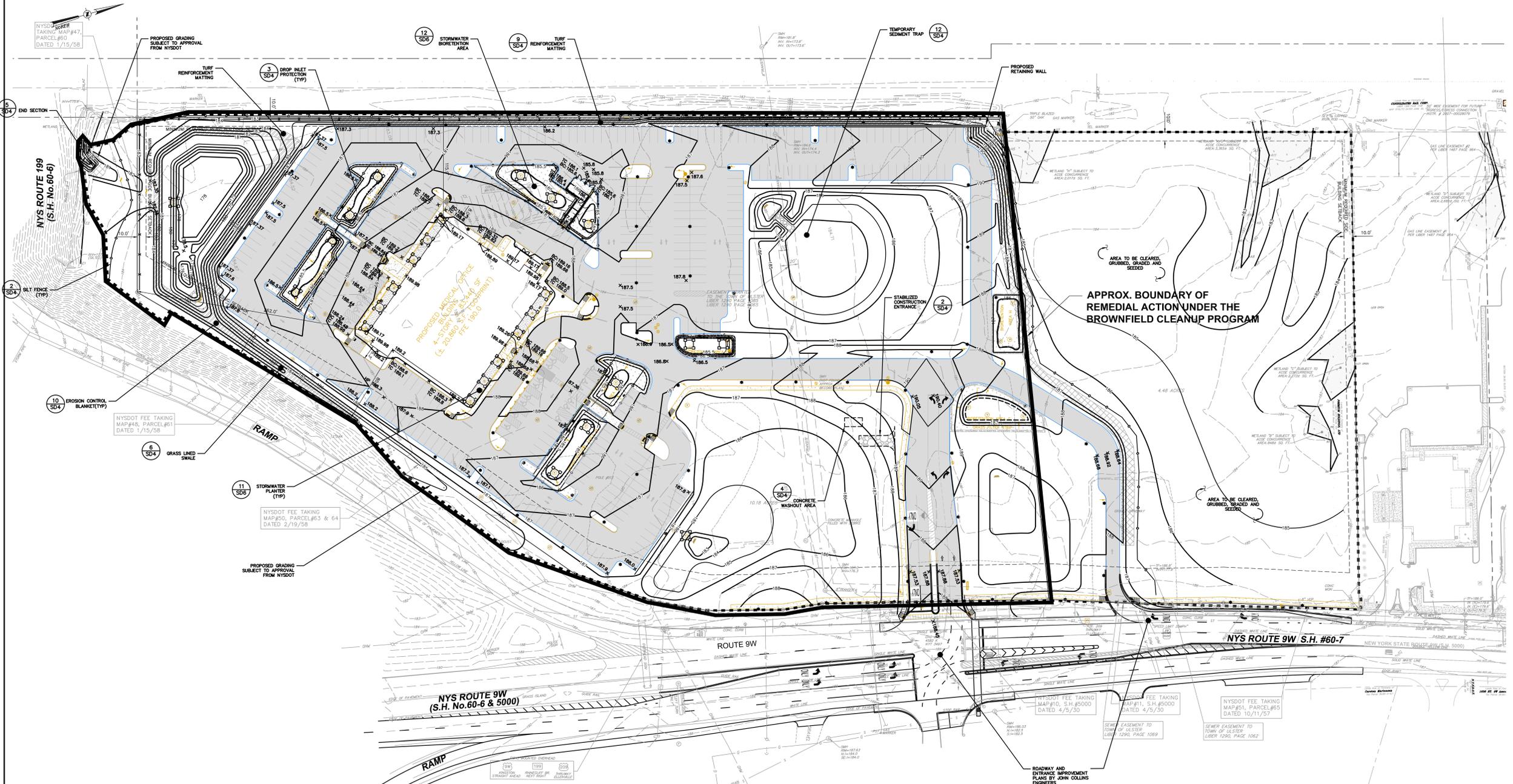
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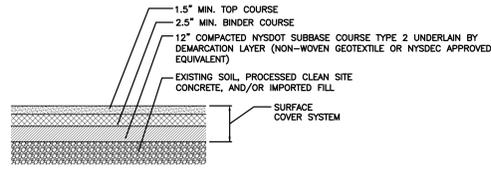
FOUNDED IN 1910

FIGURE 6

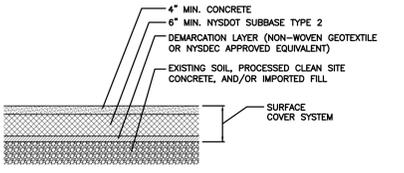
REMEDIAL ACTION IMPLEMENTATION PLAN



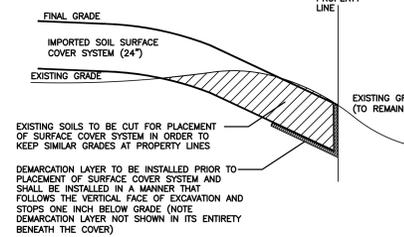
1 SURFACE COVER SYSTEM - SOIL
 SCALE: NONE
 CROSS REFERENCE: UNSHADED/UNHATCHED AREAS WITHIN BCP LIMITS



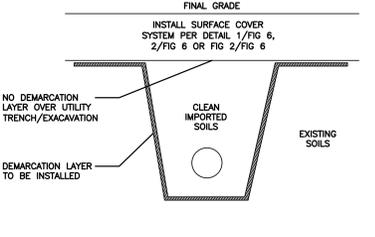
2 SURFACE COVER SYSTEM - ASPHALT
 SCALE: 1/2"=1'
 CROSS REFERENCE: GRAY SHADED AREAS WITHIN THE BCP LIMITS



3 SURFACE COVER SYSTEM - CONCRETE
 SCALE: 1/2"=1'
 CROSS REFERENCE: AGGREGATE HATCH PATTERN AREAS WITHIN THE BCP LIMIT



4 TYPICAL SECTION AT PROPERTY LINE
 SCALE: NONE
 CROSS REFERENCE: NONE



5 TYPICAL SECTION AT UTILITY
 SCALE: NONE
 CROSS REFERENCE: NONE

GENERAL NOTES:

- INTERMEDIATE MEDIATED GRADING TO BE DETERMINED BY THE CONTRACTOR BUT SHALL BE COMPLETED IN A MANNER THAT ALLOWS FOR PLACEMENT OF THE SURFACE COVER SYSTEM (I.E., SOIL, ASPHALT OR CONCRETE).
- THE HORIZONTAL WIDTH OF CUT TO BE IN THE SURFACE COVER SYSTEM AT THE PROPERTY LINES SHALL BE COMPLETED IN A MANNER THAT MAKES A SMOOTH TRANSITION TO THE ADJOINING PROPERTY WHILE LEAVING SIMILAR GRADES AND MINIMIZING THE EROSION POTENTIAL.
- CLEAN IMPORTED SOILS TO BE USED AS SURFACE COVER MATERIALS SHALL BE ANALYTICALLY TESTED IN ACCORDANCE WITH THE REMEDIAL ACTION WORK PLAN. APPLICABLE SECTIONS OF NYSDEC DER-10, AND WITH THE APPROVAL OF THE OWNER AND NYSDEC.

MAP NOTES:

- BASE MAP TAKEN FROM DEMOLITION PLAN, ULSTER MINE MEDICAL OFFICE BUILDING, SHEET NO. 003 (4 OF 20), DATED 11/2/11 (LAST REVISED 3/7/12), PREPARED BY CHAZEN ENGINEERING, LAND SURVEYING & LANDSCAPE ARCHITECTURE CO., P.C., PROJECT NO. 81029-00.
- THE LOCATIONS AND FEATURES DEPICTED ON THIS MAP ARE APPROXIMATE AND DO NOT REPRESENT AN ACTUAL FIELD SURVEY.

DATE	REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.

**FIGURE 6
 REMEDIAL ACTION IMPLEMENTATION PLAN**

FORMER MIRON PRE-CAST SITE

TOWN OF ULSTER ULSTER COUNTY, NY

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 518.786.7400 • FAX 518.786.7299

DESIGNED: J. MARK
 DRAFTED: J. MARK
 CHECKED: K. MOLINE
 PROJ. NO: 12.2160
 SCALE: 1" = 40'
 DATE: 6/25/12

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SHEET 1 OF 1
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APPENDIX A

TABLE 375-6.8(b)

(6 NYCRR PART 375)

(b) Restricted use soil cleanup objectives.

Table 375-6.8(b): Restricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Protection of Public Health				Protection of Ecological Resources	Protection of Ground-water
		Residential	Restricted-Residential	Commercial	Industrial		
Metals							
Arsenic	7440-38-2	16 ^f	16 ^f	16 ^f	16 ^f	13 ^f	16 ^f
Barium	7440-39-3	350 ^f	400	400	10,000 ^d	433	820
Beryllium	7440-41-7	14	72	590	2,700	10	47
Cadmium	7440-43-9	2.5 ^f	4.3	9.3	60	4	7.5
Chromium, hexavalent ^h	18540-29-9	22	110	400	800	1 ^e	19
Chromium, trivalent ^h	16065-83-1	36	180	1,500	6,800	41	NS
Copper	7440-50-8	270	270	270	10,000 ^d	50	1,720
Total Cyanide ^h		27	27	27	10,000 ^d	NS	40
Lead	7439-92-1	400	400	1,000	3,900	63 ^f	450
Manganese	7439-96-5	2,000 ^f	2,000 ^f	10,000 ^d	10,000 ^d	1600 ^f	2,000 ^f
Total Mercury		0.81 ^j	0.81 ^j	2.8 ^j	5.7 ^j	0.18 ^f	0.73
Nickel	7440-02-0	140	310	310	10,000 ^d	30	130
Selenium	7782-49-2	36	180	1,500	6,800	3.9 ^f	4 ^f
Silver	7440-22-4	36	180	1,500	6,800	2	8.3
Zinc	7440-66-6	2200	10,000 ^d	10,000 ^d	10,000 ^d	109 ^f	2,480
PCBs/Pesticides							
2,4,5-TP Acid (Silvex)	93-72-1	58	100 ^a	500 ^b	1,000 ^c	NS	3.8
4,4'-DDE	72-55-9	1.8	8.9	62	120	0.0033 ^e	17
4,4'-DDT	50-29-3	1.7	7.9	47	94	0.0033 ^e	136
4,4'-DDD	72-54-8	2.6	13	92	180	0.0033 ^e	14
Aldrin	309-00-2	0.019	0.097	0.68	1.4	0.14	0.19
alpha-BHC	319-84-6	0.097	0.48	3.4	6.8	0.04 ^g	0.02
beta-BHC	319-85-7	0.072	0.36	3	14	0.6	0.09
Chlordane (alpha)	5103-71-9	0.91	4.2	24	47	1.3	2.9

Table 375-6.8(b): Restricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Protection of Public Health				Protection of Ecological Resources	Protection of Ground-water
		Residential	Restricted-Residential	Commercial	Industrial		
delta-BHC	319-86-8	100 ^a	100 ^a	500 ^b	1,000 ^c	0.04 ^g	0.25
Dibenzofuran	132-64-9	14	59	350	1,000 ^c	NS	210
Dieldrin	60-57-1	0.039	0.2	1.4	2.8	0.006	0.1
Endosulfan I	959-98-8	4.8 ⁱ	24 ⁱ	200 ⁱ	920 ⁱ	NS	102
Endosulfan II	33213-65-9	4.8 ⁱ	24 ⁱ	200 ⁱ	920 ⁱ	NS	102
Endosulfan sulfate	1031-07-8	4.8 ⁱ	24 ⁱ	200 ⁱ	920 ⁱ	NS	1,000 ^c
Endrin	72-20-8	2.2	11	89	410	0.014	0.06
Heptachlor	76-44-8	0.42	2.1	15	29	0.14	0.38
Lindane	58-89-9	0.28	1.3	9.2	23	6	0.1
Polychlorinated biphenyls	1336-36-3	1	1	1	25	1	3.2
Semivolatiles							
Acenaphthene	83-32-9	100 ^a	100 ^a	500 ^b	1,000 ^c	20	98
Acenaphthylene	208-96-8	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	107
Anthracene	120-12-7	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	1,000 ^c
Benz(a)anthracene	56-55-3	1 ^f	1 ^f	5.6	11	NS	1 ^f
Benzo(a)pyrene	50-32-8	1 ^f	1 ^f	1 ^f	1.1	2.6	22
Benzo(b)fluoranthene	205-99-2	1 ^f	1 ^f	5.6	11	NS	1.7
Benzo(g,h,i)perylene	191-24-2	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	1,000 ^c
Benzo(k)fluoranthene	207-08-9	1	3.9	56	110	NS	1.7
Chrysene	218-01-9	1 ^f	3.9	56	110	NS	1 ^f
Dibenz(a,h)anthracene	53-70-3	0.33 ^e	0.33 ^e	0.56	1.1	NS	1,000 ^c
Fluoranthene	206-44-0	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	1,000 ^c
Fluorene	86-73-7	100 ^a	100 ^a	500 ^b	1,000 ^c	30	386
Indeno(1,2,3-cd)pyrene	193-39-5	0.5 ^f	0.5 ^f	5.6	11	NS	8.2
m-Cresol	108-39-4	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	0.33 ^e
Naphthalene	91-20-3	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	12

Table 375-6.8(b): Restricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Protection of Public Health				Protection of Ecological Resources	Protection of Ground-water
		Residential	Restricted-Residential	Commercial	Industrial		
o-Cresol	95-48-7	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	0.33 ^e
p-Cresol	106-44-5	34	100 ^a	500 ^b	1,000 ^c	NS	0.33 ^e
Pentachlorophenol	87-86-5	2.4	6.7	6.7	55	0.8 ^e	0.8 ^e
Phenanthrene	85-01-8	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	1,000 ^c
Phenol	108-95-2	100 ^a	100 ^a	500 ^b	1,000 ^c	30	0.33 ^e
Pyrene	129-00-0	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	1,000 ^c
Volatiles							
1,1,1-Trichloroethane	71-55-6	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	0.68
1,1-Dichloroethane	75-34-3	19	26	240	480	NS	0.27
1,1-Dichloroethene	75-35-4	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	0.33
1,2-Dichlorobenzene	95-50-1	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	1.1
1,2-Dichloroethane	107-06-2	2.3	3.1	30	60	10	0.02 ^f
cis-1,2-Dichloroethene	156-59-2	59	100 ^a	500 ^b	1,000 ^c	NS	0.25
trans-1,2-Dichloroethene	156-60-5	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	0.19
1,3-Dichlorobenzene	541-73-1	17	49	280	560	NS	2.4
1,4-Dichlorobenzene	106-46-7	9.8	13	130	250	20	1.8
1,4-Dioxane	123-91-1	9.8	13	130	250	0.1 ^e	0.1 ^e
Acetone	67-64-1	100 ^a	100 ^b	500 ^b	1,000 ^c	2.2	0.05
Benzene	71-43-2	2.9	4.8	44	89	70	0.06
Butylbenzene	104-51-8	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	12
Carbon tetrachloride	56-23-5	1.4	2.4	22	44	NS	0.76
Chlorobenzene	108-90-7	100 ^a	100 ^a	500 ^b	1,000 ^c	40	1.1
Chloroform	67-66-3	10	49	350	700	12	0.37
Ethylbenzene	100-41-4	30	41	390	780	NS	1
Hexachlorobenzene	118-74-1	0.33 ^e	1.2	6	12	NS	3.2
Methyl ethyl ketone	78-93-3	100 ^a	100 ^a	500 ^b	1,000 ^c	100 ^a	0.12

Table 375-6.8(b): Restricted Use Soil Cleanup Objectives

Contaminant	CAS Number	Protection of Public Health				Protection of Ecological Resources	Protection of Ground-water
		Residential	Restricted-Residential	Commercial	Industrial		
Methyl tert-butyl ether	1634-04-4	62	100 ^a	500 ^b	1,000 ^c	NS	0.93
Methylene chloride	75-09-2	51	100 ^a	500 ^b	1,000 ^c	12	0.05
n-Propylbenzene	103-65-1	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	3.9
sec-Butylbenzene	135-98-8	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	11
tert-Butylbenzene	98-06-6	100 ^a	100 ^a	500 ^b	1,000 ^c	NS	5.9
Tetrachloroethene	127-18-4	5.5	19	150	300	2	1.3
Toluene	108-88-3	100 ^a	100 ^a	500 ^b	1,000 ^c	36	0.7
Trichloroethene	79-01-6	10	21	200	400	2	0.47
1,2,4-Trimethylbenzene	95-63-6	47	52	190	380	NS	3.6
1,3,5- Trimethylbenzene	108-67-8	47	52	190	380	NS	8.4
Vinyl chloride	75-01-4	0.21	0.9	13	27	NS	0.02
Xylene (mixed)	1330-20-7	100 ^a	100 ^a	500 ^b	1,000 ^c	0.26	1.6

All soil cleanup objectives (SCOs) are in parts per million (ppm).

NS=Not specified. See [Technical Support Document \(TSD\)](#).

Footnotes

^a The SCOs for residential, restricted-residential and ecological resources use were capped at a maximum value of 100 ppm. See TSD section 9.3.

^b The SCOs for commercial use were capped at a maximum value of 500 ppm. See TSD section 9.3.

^c The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 ppm. See TSD section 9.3.

^d The SCOs for metals were capped at a maximum value of 10,000 ppm. See TSD section 9.3.

^e For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the SCO value.

^f For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.

^g This SCO is derived from data on mixed isomers of BHC.

^h The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.

ⁱ This SCO is for the sum of endosulfan I, endosulfan II, and endosulfan sulfate.

^j This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts). See TSD Table 5.6-1.

375-6.9 Development or modification of soil cleanup objectives.

(a) Applicability. This section identifies when and the procedures under which a contaminant-specific soil cleanup objective may be developed or modified.

(1) Soil cleanup objectives for contaminants not included in Tables 375-6.8(a) and (b) may be developed by the remedial party or required by the Department.

(2) Soil cleanup objectives for contaminants included in Tables 375-6.8(a) and (b), may be modified based on site-specific data if desired by the remedial party; as set forth in:

(i) subpart 375-3 for Tracks 3 or 4, as set forth in paragraphs 375-3.8(e)(3) or (4), respectively; or

(ii) subparts 375-2 and 375-4, as set forth in subparagraph 375-2.8(b)(1)(iii) and subparagraph 375-4.8(c)(1)(iii).

(3) Protection of ecological resources soil cleanup objectives were not developed for certain contaminants, which are identified in Table 375-6.8(b) as “NS”. Where such contaminants:

(i) appear in Table 375-6.8(a), the applicant may be required by the Department to calculate a protection of ecological resources soil cleanup objective for the contaminant for use in Track 1 and apply such soil cleanup objective where it is lower than the soil cleanup objective set forth in Table 375-6.8(a); or

(ii) are identified as impacting or threatening an ecological resource for a restricted use remedial program the Department may require a protection of ecological resources soil cleanup objective be developed.

(b) New soil cleanup objectives must:

(1) Be developed utilizing the same methodologies that were used by the Department to develop the respective soil cleanup objective, as provided in the Technical Support Document.

(2) Apply the following caps, as set forth in section 9.3 of the Technical Support Document, on any soil cleanup objective included in Tables 375-6.8(a) and (b), with the exception of metals, as set forth in paragraph (3) below, developed for:

(i) unrestricted use, residential use, restricted-residential use and the protection of ecological resources, a maximum value of 100 ppm;

(ii) commercial use, a maximum value of 500 ppm; and

(iii) industrial use and the protection of groundwater a maximum value of 1000 ppm,

and

(3) Apply a cap for metals at a maximum value of 10,000 ppm.

(c) Development of unrestricted use soil cleanup objectives. The unrestricted use soil cleanup objective for a compound will be the lowest of the soil cleanup values, calculated as set forth in appendix E of the Technical Support Document, for the protection of groundwater, protection of ecological resources and protection of public health.

(d) Development of restricted use soil cleanup objectives. The protection of:

(1) Groundwater soil cleanup objective will be the values calculated for the protection of groundwater as set forth in appendix E of the Technical Support Document;

(2) Ecological resources soil cleanup objectives will be the values calculated for the protection of ecological resources as set forth in appendix E of the Technical Support Document; and

(3) Public health cleanup objective will be the values calculated for the protection of public health for the identified use of the site, as set forth in appendix E of the Technical Support Document.

(e) Modification of soil cleanup objectives. The contaminant-specific soil cleanup objectives set forth at Tables 675-6.8(a) and (b)¹ may be modified by site specific data as set forth in this subdivision.

¹ Original should read “Tables 375-6.8(a) and (b)”

(1) Contaminant-specific soil cleanup objectives modified in accordance with this subdivision may be utilized by the remedial party for a site remedial program undertaken pursuant to:

(i) subpart 375-3 in Tracks 3 or 4, as set forth in paragraphs 375-3.8(e)(3) or (4), respectively; or

(ii) subparts 375-2 and 375-4, as set forth in subparagraph 375-2.8(b)(1)(ii) and subparagraph 375-4.8(c)(1)(ii).

(2) For the calculation of a protection of groundwater or ecological resources contaminant-specific soil cleanup objective, the site-specific percentage of total organic carbon in the soil at the site may be substituted in the algorithms provided in appendix E of the Technical Support Document.

(3) For the calculation of a protection of public health contaminant-specific soil cleanup objective, site-specific data may be used to modify two of the five exposure pathways, as follows:

(i) for the particulate inhalation pathway six parameters rely on site-specific data; and

(ii) for the volatile inhalation pathway, four parameters rely on site-specific data.

(4) The algorithms to be used for each protection of public health pathway and details on the parameters which can be substituted are included in appendix E of the Technical Support Document.

(f) Use of soil cleanup objectives developed or modified. Once approved by the Department, contaminant-specific soil cleanup objectives developed or modified as set forth in this section may be utilized by the Department at other sites consistent with paragraphs (1) and (2) below.

(1) Contaminant-specific soil cleanup objectives developed for contaminants not included in Tables 375-6.8(a) and (b), as set forth in subdivision 375-6.9(b) above, will be used as guidance and shall be considered by the Department for inclusion in the Tables in this subpart during any subsequent reevaluation of the soil cleanup objectives, as set forth by ECL 27-1415.

(2) Contaminant-specific soil cleanup objectives modified for site specific parameters, as set forth in subdivision 375-6.9(e) above, may be utilized at sites manifesting similar parameters, if approved by the Department.

APPENDIX B

**ALLOWABLE CONSTITUENT LEVELS FOR
IMPORTED FILL OR SOIL**

(APPENDIX 5 OF NYSDEC DER-10)

Appendix 5
Allowable Constituent Levels for Imported Fill or Soil
Subdivision 5.4(e)

Source: This table is derived from soil cleanup objective (SCO) tables in 6 NYCRR 375. Table 375-6.8(a) is the source for unrestricted use and Table 375-6.8(b) is the source for restricted use.

Note: For constituents not included in this table, refer to the contaminant for supplemental soil cleanup objectives (SSCOs) in the Commissioner Policy on Soil Cleanup Guidance. If an SSCO is not provided for a constituent, contact the DER PM to determine a site-specific level.

Constituent	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial or Industrial Use	If Ecological Resources are Present
Metals					
Arsenic	13	16	16	16	13
Barium	350	350	400	400	433
Beryllium	7.2	14	47	47	10
Cadmium	2.5	2.5	4.3	7.5	4
Chromium, Hexavalent ¹	1 ³	19	19	19	1 ³
Chromium, Trivalent ¹	30	36	180	1500	41
Copper	50	270	270	270	50
Cyanide	27	27	27	27	NS
Lead	63	400	400	450	63
Manganese	1600	2000	2000	2000	1600
Mercury (total)	0.18	0.73	0.73	0.73	0.18
Nickel	30	130	130	130	30
Selenium	3.9	4	4	4	3.9
Silver	2	8.3	8.3	8.3	2
Zinc	109	2200	2480	2480	109
PCBs/Pesticides					
2,4,5-TP Acid (Silvex)	3.8	3.8	3.8	3.8	NS
4,4'-DDE	0.0033 ³	1.8	8.9	17	0.0033 ³
4,4'-DDT	0.0033 ³	1.7	7.9	47	0.0033 ³
4,4'-DDD	0.0033 ³	2.6	13	14	0.0033 ³
Aldrin	0.005	0.019	0.097	0.19	0.14
Alpha-BHC	0.02	0.02	0.02	0.02	0.04 ⁴
Beta-BHC	0.036	0.072	0.09	0.09	0.6
Chlordane (alpha)	0.094	0.91	2.9	2.9	1.3
Delta-BHC	0.04	0.25	0.25	0.25	0.04 ⁴
Dibenzofuran	7	14	59	210	NS
Dieldrin	0.005	0.039	0.1	0.1	0.006
Endosulfan I	2.4 ²	4.8	24	102	NS
Endosulfan II	2.4 ²	4.8	24	102	NS
Endosulfan sulfate	2.4 ²	4.8	24	200	NS
Endrin	0.014	0.06	0.06	0.06	0.014
Heptachlor	0.042	0.38	0.38	0.38	0.14
Lindane	0.1	0.1	0.1	0.1	6
Polychlorinated biphenyls	0.1	1	1	1	1

Constituent	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial or Industrial Use	If Ecological Resources are Present
Semi-volatile Organic Compounds					
Acenaphthene	20	98	98	98	20
Acenaphthylene	100	100	100	107	NS
Anthracene	100	100	100	500	NS
Benzo(a)anthracene	1	1	1	1	NS
Benzo(a)pyrene	1	1	1	1	2.6
Benzo(b)fluoranthene	1	1	1	1.7	NS
Benzo(g,h,i)perylene	100	100	100	500	NS
Benzo(k)fluoranthene	0.8	1	1.7	1.7	NS
Chrysene	1	1	1	1	NS
Dibenz(a,h)anthracene	0.33 ³	0.33 ³	0.33 ³	0.56	NS
Fluoranthene	100	100	100	500	NS
Fluorene	30	100	100	386	30
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.5	5.6	NS
m-Cresol(s)	0.33 ³	0.33 ³	0.33 ³	0.33 ³	NS
Naphthalene	12	12	12	12	NS
o-Cresol(s)	0.33 ³	0.33 ³	0.33 ³	0.33 ³	NS
p-Cresol(s)	0.33	0.33	0.33	0.33	NS
Pentachlorophenol	0.8 ³	0.8 ³	0.8 ³	0.8 ³	0.8 ³
Phenanthrene	100	100	100	500	NS
Phenol	0.33 ³	0.33 ³	0.33 ³	0.33 ³	30
Pyrene	100	100	100	500	NS
Volatile Organic Compounds					
1,1,1-Trichloroethane	0.68	0.68	0.68	0.68	NS
1,1-Dichloroethane	0.27	0.27	0.27	0.27	NS
1,1-Dichloroethene	0.33	0.33	0.33	0.33	NS
1,2-Dichlorobenzene	1.1	1.1	1.1	1.1	NS
1,2-Dichloroethane	0.02	0.02	0.02	0.02	10
1,2-Dichloroethene(cis)	0.25	0.25	0.25	0.25	NS
1,2-Dichloroethene(trans)	0.19	0.19	0.19	0.19	NS
1,3-Dichlorobenzene	2.4	2.4	2.4	2.4	NS
1,4-Dichlorobenzene	1.8	1.8	1.8	1.8	20
1,4-Dioxane	0.1 ³	0.1 ³	0.1 ³	0.1 ³	0.1
Acetone	0.05	0.05	0.05	0.05	2.2
Benzene	0.06	0.06	0.06	0.06	70
Butylbenzene	12	12	12	12	NS
Carbon tetrachloride	0.76	0.76	0.76	0.76	NS
Chlorobenzene	1.1	1.1	1.1	1.1	40
Chloroform	0.37	0.37	0.37	0.37	12
Ethylbenzene	1	1	1	1	NS
Hexachlorobenzene	0.33 ³	0.33 ³	1.2	3.2	NS
Methyl ethyl ketone	0.12	0.12	0.12	0.12	100
Methyl tert-butyl ether	0.93	0.93	0.93	0.93	NS
Methylene chloride	0.05	0.05	0.05	0.05	12

Volatile Organic Compounds (continued)					
Propylbenzene-n	3.9	3.9	3.9	3.9	NS
Sec-Butylbenzene	11	11	11	11	NS
Tert-Butylbenzene	5.9	5.9	5.9	5.9	NS
Tetrachloroethene	1.3	1.3	1.3	1.3	2
Toluene	0.7	0.7	0.7	0.7	36
Trichloroethene	0.47	0.47	0.47	0.47	2
Trimethylbenzene-1,2,4	3.6	3.6	3.6	3.6	NS
Trimethylbenzene-1,3,5	8.4	8.4	8.4	8.4	NS
Vinyl chloride	0.02	0.02	0.02	0.02	NS
Xylene (mixed)	0.26	1.6	1.6	1.6	0.26

All concentrations are in parts per million (ppm)

NS = Not Specified

Footnotes:

¹ The SCO for Hexavalent or Trivalent Chromium is considered to be met if the analysis for the total species of this contaminant is below the specific SCO for Hexavalent Chromium.

² The SCO is the sum of endosulfan I, endosulfan II and endosulfan sulfate.

³ For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.

⁴ This SCO is derived from data on mixed isomers of BHC.