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ENVIRONMENT

Mr. Keith H. Gronwald
Senior Engineering Geologist
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 11th Floor
Albany, New York 12233-7014

Subject:
Former Homogenous Metals, Inc., Facility
Pratt & Whitney, a division of United Technologies Corporation (P&W/UTC)
Herkimer, New York
NYSDEC BCP Site #C622029
IRM Septic Tank Removal & Groundwater Monitoring Work Plan

Date:
August 28, 2013

Contact:
John C. Brussel, PE

Phone:
315.671.9441

Email:
John.Brussel@arcadis-us.com

Our ref:
B0039902.0003 #10

Dear Mr. Gronwald:

On behalf of Pratt & Whitney, a division of United Technologies Corporation (P&W/UTC), please find the attached finalized Interim Remedial Measure Septic Tank Removal and Groundwater Monitoring Work Plan (work plan) for the above-referenced site. The attached work plan describes: (1) the proposed work to remove the septic tank associated with Septic System #2 and associated volatile organic compound- (VOC-) impacted soil; and (2) groundwater monitoring to assess the anticipated decrease in groundwater VOC concentrations following the tank removal.

The work plan was submitted to the New York State Department of Environmental Conservation (NYSDEC) in "draft" format on August 19, 2013. The NYSDEC provided comments on the work plan in e-mail correspondence dated August 22, 2013. This finalized work plan incorporates changes in response to the NYSDEC's August 22, 2013 comments.

We await NYSDEC approval to implement the work plan. An updated schedule for implementing the work plan will be provided under separate cover following plan approval by the NYSDEC.

Please do not hesitate to contact Mr. Joseph J. Tota of UTC at 860.728.6510 (joseph.tota@utc.com) or the undersigned at 315.671.9441 if you have any questions or need additional information regarding the interim remedial measure or any other aspect of the project.

Sincerely,

ARCADIS of New York, Inc.

John C. Brussel

John C. Brussel, PE
Principal Engineer

Copies:
David A. Crosby, P.E., New York State Department of Environmental Conservation (email)
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Interim Remedial Measure Septic Tank Removal and Groundwater Monitoring Work Plan

Former Homogenous Metals, Inc. Facility
West Canada Boulevard
Herkimer, New York
NYSDEC Site #C622029

August 2013

ARCADIS

Certification

I, John C. Brussel, PE, certify that I am currently a New York State registered professional engineer and that this Interim Remedial Measure Septic Tank Removal and Groundwater Monitoring Work Plan was prepared in accordance with applicable statutes and regulations and in substantial conformance with the New York State Department of Environmental Conservation Division of Environmental Remediation document titled "DER-10/Technical Guidance for Site Investigation and Remediation" dated May 2010.

John C. Brussel 8/28/13

John C. Brussel, PE
Principal Engineer

Interim Remedial Measure Septic Tank Removal and Groundwater Monitoring Work Plan

Former Homogenous Metals, Inc. Facility
Herkimer, New York

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Our Ref.:
B0039902.0003

Date:
August 2013

1. Introduction

On behalf of Pratt & Whitney, a division of United Technologies Corporation (P&W/UTC), ARCADIS of New York, Inc. (ARCADIS) has prepared this *Interim Remedial Measure Septic Tank Removal and Groundwater Monitoring Work Plan* (work plan) for removing the septic tank associated with Septic System #2, as well as associated impacted soil, and performing groundwater monitoring at the former Homogeneous Metals, Inc. facility located in Herkimer, New York (Site). This work plan has been prepared pursuant to discussions during a July 16, 2013 meeting held to present the findings of the Remedial Investigation (RI), attended by the New York State Department of Environmental Conservation (NYSDEC), New York State Department of Health, P&W/UTC, and ARCADIS.

At the July 16, 2013 meeting, the NYSDEC requested that further action related to the groundwater plume be undertaken in the near-term. The NYSDEC requested that P&W/UTC either: (1) install and sample additional monitoring wells to confirm the downgradient/lateral extent of the plume or (2) conduct an interim remedial measure (IRM) that involves removing the septic tank, followed by groundwater monitoring to assess the decrease in groundwater volatile organic compound (VOC) concentrations. As agreed to during the meeting, P&W/UTC proposed to remove the septic tank as a component of the IRM.

This work plan has been prepared in general accordance with the guidance outlined in Section 5.2 of the NYSDEC document titled "DER-10/Technical Guidance for Site Investigation and Remediation," (DER-10) issued on May 3, 2010. The work plan was submitted to the NYSDEC in draft format on August 19, 2013. The NYSDEC provided comments on the work plan in e-mail correspondence dated August 22, 2013. This finalized work plan incorporates changes in response to the NYSDEC's August 22, 2013 comments.

1.1 Work Plan Organization

This work plan is organized as indicated in the table below.

Section	Purpose
Section 1 – Introduction	Provides relevant background information, a summary of the RI groundwater investigation, and the IRM objectives.
Section 2 – Septic Tank Removal Activities	Describes work activities to be performed in connection with the septic tank removal, including mobilization, tank removal, verification soil sampling, characterization soil sampling, waste transportation and disposal, excavation backfilling, equipment decontamination, and dust control/air monitoring.

Section	Purpose
Section 3 – Groundwater Monitoring	Describes groundwater monitoring activities to be performed before and after the septic tank is removed.
Section 4 – Schedule and Reporting	Provides the anticipated schedule for completing the IRM field work and submitting an IRM Certification Report.
Section 5 – References	Lists references used to develop this work plan.

1.2 Site Background

The Site is located on West Canada Boulevard at the corner of East German Street and State Route 28, as shown on Figure 1. The location of the former Main Building and Septic System #2 are shown on Figure 2.

Septic System #2 consists of a rectangular-shaped underground concrete tank south of the Main Building, a leachate field southeast of the tank, and associated discharge piping. Based on review of historical site plans and discussions with former facility staff, Septic System #2 formerly received process water from the Main Building. The burial depth and dimensions of the septic tank were determined by uncovering part of the tank (via test trench excavation) during the RI. The top of the tank is at a depth of approximately 3.5 feet below ground surface (bgs), and the septic tank is approximately 8.5 feet long, 5 feet wide, and 5 feet high. Using the dimensions above, the capacity of the tank is calculated to be approximately 1,500 gallons. Access into the tank is provided by a manhole/access port above the tank. Based on field observations during the RI, the tank is approximately half full with liquids, and some accumulated debris (thickness unknown) may be present in the bottom of the tank. The tank liquids were sampled as part of the RI, as discussed below in Section 1.3.

P&W/UTC conducted several historical environmental investigations at the Site prior to the RI. As part of these historical investigations, groundwater samples were collected from a temporary monitoring well (VA-B01) and seven permanent monitoring wells (MW-1 through MW-7) at the Site. Groundwater analytical data indicated that 1,1,1-trichloroethane (TCA) was detected in monitoring well MW-2 (south of the former Main Building) at concentrations greater than the 5-part per billion (ppb) groundwater quality standard presented in the NYSDEC Division of Water, Technical and Operational Guidance Series (TOGS) document titled, “Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations” (TOGS 1.1.1; NYSDEC 1998). In addition, several chlorinated VOCs were detected in the groundwater sample collected from temporary well VA-B01 (located in a former loading area adjacent to the Main Building and hydraulically upgradient from MW-2) at concentrations exceeding groundwater quality standards. VOCs were not detected above laboratory detection limits in groundwater samples collected from the remaining monitoring wells.

Additional groundwater investigations were performed as part of the RI, in part, to evaluate the nature and extent of VOCs in groundwater south of the Main Building. As discussed in the section below, the RI findings indicate that the septic tank associated with Septic System #2 is the probable source of TCA in groundwater south of the Main Building.

1.3 Remedial Investigation Groundwater Investigation Summary

The RI groundwater investigation was conducted during three phases. The investigation focused on evaluating the potential source and downgradient extent of VOCs historically detected at MW-2 and VA-B1, where dissolved-phase impacts had not been delineated. Four temporary monitoring wells (TW-1 through TW-4) and six permanent monitoring wells (MW-8 through MW-13) were installed as part of the RI to evaluate the extent of VOCs in groundwater south of the Main Building and south of the Site on the electrical substation property owned by National Grid. RI groundwater samples were collected from onsite groundwater monitoring wells for laboratory analysis for Target Compound List (TCL) VOCs, TCL semivolatile organic compounds (SVOCs), Target Analyte List (TAL) inorganic constituents, and polychlorinated biphenyls (PCBs), as well as from offsite groundwater monitoring wells for laboratory analysis for VOCs. In addition, liquid samples were collected from the septic tanks associated with Septic Systems #1 and #2 and analyzed for VOCs, SVOCs, inorganic constituents, and PCBs.

Groundwater quality was evaluated by comparing the laboratory analytical results to the Class GA (ambient groundwater quality) standards and guidance values presented in TOGS 1.1.1. Seven dissolved-phase chlorinated VOCs were detected in the groundwater samples at concentrations above the standards. The VOCs appear to be attributable to the past industrial operations at the Site.

Groundwater samples containing VOCs at concentrations exceeding the groundwater quality standards were all collected from wells located south of the Main Building and on the adjacent electrical substation property. TCA and/or tetrachloroethene (PCE) and associated daughter degradation compounds were detected in Site groundwater and in liquids within the septic tank associated with Septic System #2. The highest concentration of any VOC detected in the groundwater samples was 674 ppb of TCA in a February 21, 2013 sample collected from monitoring well MW-9 (immediately downgradient from the septic tank). Chloroethane (at 5,240 ppb) and other daughter degradation byproducts of TCA were identified at elevated concentrations in the liquid sample collected from the septic tank associated with Septic System #2.

Based on the chlorinated VOC distribution in groundwater and the VOC concentrations in the septic tank, the probable source of TCA (and daughter products) in groundwater in the southern portion of the Site is at or near the septic tank, and based on the slightly different chemical signature in the historical

sample collected from VA-B01, the source of PCE (and daughter products) may have been former catch basin CB-1. CB-1 was removed during an IRM completed in 2000. The historical and RI groundwater analytical results and the septic tank liquid analytical results are shown on Figure 3.

It is apparent that a low-level dissolved-phase plume, primarily consisting of TCA, has moved with the hydraulic gradient to the adjacent southern property owned by National Grid. Given the low permeability of the till unit, the plume is believed to be present primarily in the saturated portion of the higher permeability sand-and-gravel unit (with a saturated thickness of approximately 5 to 8 feet). The centerline of the plume likely shifts with the groundwater flow direction due to seasonal fluctuations (i.e., wet and dry periods). A linear extrapolation from the assumed source near the tank (MW-9) through MW-13 suggests that the front of the low-level TCA plume is likely beneath the substation located on National Grid's property. Groundwater TCA isoconcentration contours are shown on Figure 4.

1.4 Interim Remedial Measure Objective

The overall objective of the IRM is to remove the suspected source of the low-level TCA groundwater plume and monitor groundwater quality following source removal. The objective will be achieved by removing the septic tank (and visually stained soil around the tank) and monitoring groundwater at MW-2 (if not dry), MW-8 through MW-13, TW-2, and TW-4 before and after the removal. The work will be performed in a manner that minimizes the generation and/or migration of particulates and is protective of human health and the environment.

2. Septic Tank Removal Work Activities

The proposed septic tank removal work activities generally include Site preparation, tank liquids removal, tank and influent pipe removal, soil excavation, transportation and disposal, verification soil sampling, excavation backfilling, equipment decontamination, and dust control and air monitoring. Details of these activities are provided in the subsections below.

2.1 Mobilization and Site Preparation

Work activities to be conducted in preparation for tank removal include the following mobilization and Site preparation activities:

- Coordinating with Dig-Safe of New York and the local utility companies to identify, locate, mark, and verify (as necessary) subsurface utilities near the tank.
- Identifying and marking (e.g., with flags, stakes) the location of the tank and associated piping, ancillary equipment, and utilities near the tank.
- Mobilizing labor, equipment, materials, and supplies necessary for implementing the removal activities.
- Constructing support areas, including, but not limited to, waste material staging areas; onsite reuse material storage areas; and equipment, material, and personnel decontamination areas.
- Installing erosion and sedimentation control measures, as required, to minimize potential migration of soil/sediment/debris beyond the work areas.
- Establishing dust suppression and air monitoring devices as described in Section 2.9.

2.2 Tank Liquid Removal and Management

As indicated above, field investigations indicate that liquid remains in the tank, extending to a level approximately 2.5 feet above the bottom of the tank (this corresponds to an approximate volume of 800 gallons). The liquids will be pumped from the tank prior to tank removal and managed based on the analytical results obtained from a liquids characterization sample collected on September 9, 2012 and additional sample data, if required by the proposed disposal facility.

Standing liquids will be removed from the tank (accessed via the manhole/access port located above the top of the tank) using a vacuum truck or other appropriate means. The liquid will be containerized and transported from the Site to a treatment/disposal facility permitted to accept the waste. The liquid waste shipment will be performed in accordance with applicable rules and regulations. A waste manifest or bill of lading, signed by an agent for P&W/UTC, will accompany the waste shipment.

Debris remaining in the bottom of the tank will be removed with concrete debris generated during tank demolition, as described in Subsection 2.3.1.

2.3 Tank and Inlet Pipe Removal

The tank and visibly stained soil (if encountered) surrounding the tank will be excavated for offsite disposal. In addition, soil below the tank bottom will be removed to a depth of approximately 1 foot below the water table and transported for offsite disposal. The tank location and potential excavation limits (if excavation sidewalls were to be cut at a slope of 1.5 horizontal to 1 vertical angle [1.5H:1V]) are shown on Figure 5. A cross-section showing the tank and subsurface stratigraphy near the tank is included as Figure 6. Additional details of the tank/inlet piping removal are presented in the subsections below. Digital photographs will be taken to document the tank and pipe removal activities described below.

2.3.1 Excavation of Tank and Associated Inlet Piping

Soil will be excavated (by hand as necessary) to expose the top of the tank and associated piping, ancillary equipment, and utilities (if any). The soil excavated from above the tank and piping will be transferred to a lined material staging area for later reuse or offsite disposal, pending characterization analytical results as described in Section 2.3.2.

The inlet piping extending from the tank to the former Main Building will be removed before the tank is removed. Residual fluids within the inlet piping (if any) will be collected and containerized (combined with the fluids removed from the tank) for offsite disposal. The following information will be recorded in the field book:

- Construction material, size, and condition of the piping, including the type of pipe joints.

- Approximate location and size of gaps between pipe joints and holes/cracks in the piping (if encountered).

- The presence or absence of: (1) debris/sludge within the piping, (2) visible staining around the piping or in the underlying soil, and (3) obvious odors associated with piping.

The piping and debris/sludge (if encountered in the piping) will be transferred to a lined material staging area or waste container for offsite disposal. The outlet piping from the tank will be removed, as needed, for access to remove the tank. The exposed ends of the remaining inlet piping and outlet piping will be cut and capped. Any cutting of the piping will use methods that are non-heat-generating.

After the tank is unearthed and the sidewalls are exposed, the tank's condition, shape, size, and construction material will be confirmed and documented in the field book. The tank will also be checked for the presence or absence of visible staining, holes, cracks, or other penetrations, and the observations will be recorded in the field book.

Before the tank is physically removed, the atmosphere inside and outside the tank will be tested to determine if a potentially hazardous atmosphere exists. At a minimum, a photoionization detector (PID) and multi-gas meter will be used to screen the air inside and outside the tank for VOCs, hydrogen sulfide, combustible gases (lower explosive limit), oxygen, and carbon monoxide. The tank and appurtenances will be purged with dry ice or an inert gas, such as nitrogen or carbon dioxide, as necessary. After the tank is purged, all openings will be plugged or capped (provided that the tank does not have noticeable perforations). One plug or cap should have a ⅛-inch vent hole to prevent the tank from being subjected to excessive differential pressure that may result from temperature changes while removing the tank from the ground.

The tank will be removed using conventional excavation methods. The excavation activities will be performed in accordance with requirements presented in 29 Code of Federal Regulations 1926, Subpart P: Excavations. Upon removal, the tank will be demolished to render it unusable and to facilitate transportation of the concrete for offsite disposal in accordance with applicable rules and regulations. Concrete debris from the tank removal will be direct-loaded into a rolloff or dump truck (if possible) or temporarily staged in a lined material staging area pending offsite transportation and disposal in accordance with applicable rules and regulations.

2.3.2 Excavation of Surrounding Soil

Soil will be excavated in each direction beyond the walls of the tank as far as needed to remove the tank and provide excavation sidewall support. Excavation will be accomplished by removing soil in approximately 4-foot increments (intervals) to the target depth, and separately staging soil from each interval (i.e., from 0 to 4 feet bgs, 4 to 8 feet bgs, 8 to 12 feet bgs, etc.) for characterization/ management purposes, as described below in Section 2.5. Soil underneath the tank will be excavated to

an approximate depth of 1 foot below the water table, which is expected to be encountered at depths between approximately 12 and 14 feet bgs. An excavation sidewall support system (e.g., sloping, benching), as determined by the construction contractor's excavation-competent person, will be employed to achieve the required excavation depths. Soil that is visibly stained, contains elevated PID readings (as described in Section 2.4), contains sheens, or exhibits obvious odors (if encountered) will be removed within the limits achievable by onsite equipment and available excavation support systems.

Soil from a minimum of 2 feet on each side of the tank and soil from below the tank to the bottom of the excavation will be temporarily staged onsite in a lined material staging area and/or rolloff(s). Saturated soil removed from the bottom of the excavation will be allowed to dewater by gravity in the material staging area/rolloff(s). Liquids that accumulate within the staging area sump or rolloff will be managed with liquids pumped from the septic tank. The impacted soil within the staging area/rolloff(s) will be characterized per the proposed disposal facility's requirements and then transported for offsite disposal based on the analytical results. Soil removed from the tank excavation for excavation sidewall support that is visibly stained, contains sheens, or exhibits obvious odors (if encountered) will also be managed in the material staging area/rolloff(s) and transported for offsite disposal.

Soil removed from above the tank and for excavation sidewall support will be staged at least 2 feet away from the edge of the excavation and reused later as subsurface backfill – unless it exhibits staining, sheens, obvious odors, or elevated PID readings. In that case, the soil will be stockpiled in the material staging area or rolloff(s) pending offsite transportation and disposal. For reference, the analytical results for RI and historical soil samples collected from soil borings drilled around the tank are shown on Figure 5.

The material staging area to be used for the project will consist of an impoundment sloped toward a low point (collection sump), bermed sidewalls around the impoundment perimeter, and a high-density polyethylene liner (no less than 30 mil in thickness) covering both the sides and the bottom of the impoundment and the collection sump. Liquids that accumulate within the sump will be managed with liquids pumped from the tank. The staging area will be continuously covered with a properly anchored plastic cover (no less than 10 mil), except while soil is actively being managed (placed, stabilized, or removed). Lined rolloff waste containers may be used as an alternative to the material staging area. Each rolloff waste container will be lined with polyethylene sheeting (no less than 10 mil thickness).

2.4 Verification and Documentation Soil Sampling

A minimum of five verification/documentation soil samples will be collected from the tank excavation limits (one from each sidewall and one from underneath the tank, as described below). These samples will be collected directly from an excavator bucket (to avoid manned entry into the excavation).

Samples will be collected using the methodology described in the NYSDEC-approved *Remedial Investigation Work Plan* (RI Work Plan; ARCADIS 2012), including the *Field Sampling Plan* (FSP), with one exception: per recent NYSDEC guidance, VOC samples will be collected in accordance with United States Environmental Protection Agency (USEPA) SW-846 Method 5035.

Before documentation soil samples are collected for laboratory analysis, verification soil samples will be collected from each sidewall and the bottom of the excavation for headspace screening using a PID to determine the presence of volatile organic vapors in the soil. If the PID headspace screening results exceed background levels, then additional soil will be removed from the excavation (and additional headspace screening will be performed), to the extent practicable and as determined by an ARCADIS onsite representative.

Following headspace screening, which indicates that volatile organic vapors are not present at levels exceeding background, the soil samples used for headspace screening will be subjected to jar testing to determine the potential presence of sheens or droplets of separate-phase liquid. Jar testing will involve filling a jar approximately 90% full with equal parts of soil and water, shaking the contents of the jar, and observing the contents of the jar for the presence of sheens or droplets. If sheens or droplets are observed in any test jars, then additional soil will be removed from the excavation (and additional jar testing will be performed), to the extent practicable and as determined by an ARCADIS onsite representative.

A minimum of five documentation soil samples will be collected from the tank excavation in accordance with the protocols presented in Section 3.9(a)4. of DER-10. One grab sample will be collected from each of the excavation sidewalls and from the excavation bottom (before the excavation is advanced through the water table). The grab samples will be collected beyond areas where soil was removed to address staining, obvious odors, and elevated PID readings, if encountered. If staining, obvious odors, or elevated PID readings are not encountered, samples collected from the sidewalls will be located approximately one-third up from the excavation bottom and from the middle of the excavation bottom. Each grab sample will be submitted for laboratory analysis of TCL VOCs.

The documentation soil samples will be submitted for laboratory analysis using USEPA SW-846 Method 8260 as referenced in the most recent edition of the NYSDEC Analytical Services Protocol (ASP), and results will be reported with Category B analytical data deliverables. A Data Usability Summary Report (DUSR) of the laboratory data packages will be prepared, and the results from the DUSR will be incorporated into future data tables prepared for the Site. Analytical results for the documentation samples will be summarized in the IRM Certification Report and addressed in the forthcoming Alternatives Analysis.

2.5 Reuse Characterization Soil Sampling

Samples will be collected to characterize soil that is removed from the excavation and staged for reuse as subsurface fill (i.e., soil that exhibits no visible staining, sheens, obvious odors, or elevated PID readings). The number of characterization soil samples to be collected depends on the volume of soil proposed for reuse, which in turn depends on the conditions encountered in the excavation and the amount of sloping/benching conducted for excavation sidewall support. The reuse soil volume may be as much as 500 CY. The reuse characterization soil samples will be collected in general accordance with the sampling frequency and guidance outlined in Table 5.4(e)10 of DER-10.

As described in Subsection 2.3.2, soil removed from each 4-foot depth interval of the excavation (from 0 to 4 feet bgs, 4 to 8 feet bgs, 8 to 12 feet bgs, etc.) will be staged separately. The following samples will be collected from each staging pile (representing each 4-foot depth interval):

- One composite soil sample for laboratory analysis for PCBs, pesticides, TCL SVOCs, and TAL inorganic constituents.

- Two or three discrete grab samples for laboratory analysis for TCL VOCs.

The proposed characterization sampling strategy recognizes that concentrations of constituents of interest in soil at the Site are typically higher in the surface and decrease with depth.

Analytical results will be reported with Category B analytical data deliverables. A Data Usability Summary Report (DUSR) of the laboratory data packages will be prepared, and the results from the DUSR will be incorporated into future data tables prepared for the Site. Analytical results for the documentation samples will be summarized in the IRM Certification Report and addressed in the forthcoming Alternatives Analysis.

2.6 Transportation and Disposal

Wastes generated by the tank removal activities will be transported for offsite disposal. The anticipated wastes consist of the following: (1) concrete debris generated from tank removal/demolition plus debris from inside the tank; (2) soil excavated around and below the tank; (3) soil exhibiting staining, sheens, obvious odors, or elevated PID readings (if any); and (4) liquid waste generated from pumping the tank, soil dewatering, and decontamination.

It is anticipated that solid wastes generated at the Site will be disposed at the Oneida-Herkimer Solid Waste Authority (OHSWA) regional landfill in Boonville, New York (per regional flow control

provisions for solid waste), and liquid waste generated at the Site will be disposed at a Clean Harbors treatment/disposal facility. Concrete debris generated by the removal and demolition of the septic tank will be crushed (reduced to an appropriate size) using an excavator equipped with a hammer attachment to meet OHSWA requirements.

Prior to offsite disposal of solid wastes, one solid waste characterization sample will be collected for the first approximately 200 tons of soil/debris destined for offsite disposal. If additional solid waste beyond 200 tons were to be generated, then additional samples will be collected as required by the landfill (e.g., two characterization samples for between 0 and 500 tons). In addition, one liquid waste characterization sample will be collected for each 10,000 gallons of liquid generated. Each waste characterization sample will be submitted for laboratory analysis for PCBs, Toxicity Characteristic Leaching Procedure (TCLP) VOCs, TCLP SVOCs, TCLP metals, ignitability, corrosivity, and reactivity. Laboratory analysis of the waste characterization samples will be performed on an expedited (i.e., 72-hour) turnaround time for reporting preliminary results. The waste characterization sampling approach will be modified, as necessary, based on the specific requirements of the disposal facilities selected to receive the wastes. Upon receipt of the waste characterization sampling results, the solid and liquid wastes will be transported for offsite disposal in accordance with applicable rules and regulations.

All dump trailers, dump truck boxes, and rolloff waste containers (collectively referred to as "waste transport containers") used to transport impacted materials for offsite treatment/disposal will be lined with polyethylene sheeting (covering the inside of the entire container) prior to waste loading. Each waste transport container will have a watertight tailgate secured via turnbuckles. In addition, tarps will be used to cover the entire load and be secured to resist wind forces at highway speeds.

Each load will be transported to the designated facility by a licensed hauler in accordance with applicable local, state, and federal regulations. Each waste transporter will have a valid waste transporter permit (Title 6 of the Official Compilation of New York Codes, Rules and Regulations [6 NYCRR] Part 364). Wastes will be transported under a bill of lading, non-hazardous waste manifest, or hazardous waste manifest, as appropriate.

2.7 Excavation Backfilling

The excavation will be backfilled immediately following the tank excavation, removal of surrounding/ underlying impacted soil, and collection of verification and documentation soil samples (i.e., it will not be left open overnight, if possible). The excavation will be backfilled prior to receipt of laboratory analytical results for the characterization soil samples. If it is necessary to leave the excavation open overnight, the excavation area will be cordoned off by orange construction fencing, and warning signs

(e.g., Danger, Unauthorized Entry Prohibited) will be posted on the fence. The excavation will be backfilled according to the following steps:

- *Step 1:* An amendment will be spread in the bottom of the excavation to increase naturally occurring microbial activity in saturated soil and enhance the natural anaerobic degradation (reductive chlorination) of VOCs in groundwater. The amendment (anticipated to consist of powdered cheese whey and/or molasses) will serve as a carbon source for existing microbes.

- *Step 2:* Crushed stone will be used to backfill the saturated zone of the excavation (the portion extending below the water table) and above the saturated zone, as needed. A non-woven geotextile with a minimum weight of 6 ounces per square yard will be placed above the top of the stone to provide separation between the stone and overlying materials. The non-woven geotextile will also be placed over the sloped/benched sidewalls for demarcation between the backfill and existing soils beyond the excavation.

- *Step 3:* Excavated soil that meets reuse criteria (exhibits no staining, sheens, obvious odors, or elevated PID readings) will be reused as subsurface backfill. Soil meeting this criteria will be returned in the order it was removed, with soil from the bottom of the excavation placed first, followed by soil from each subsequent 4-foot interval. This reuse soil will extend no closer than 1 foot from the ground surface.

- *Step 4:* A demarcation layer (e.g., orange construction fencing) will be placed on top of the reuse subsurface fill. The demarcation layer will help in identifying the limits of the reuse soil placement in the future, if needed. The remainder of the excavation will then be backfilled using imported clean run-of-bank gravel to within 0.5 feet of the final grade, followed by a 0.5-foot-thick layer of topsoil to match the surrounding ground surface. The disturbed areas will be seeded and mulched after topsoil is placed and graded.

Depending on the analytical results for the reuse characterization soil samples and site-specific action levels to be developed as part of the Alternatives Analysis, reuse soil may need to be further addressed as part of the final remedial action for this Site.

The reuse soil will be compacted in approximately 1 foot lifts using the excavator bucket to a depth of approximately 10 feet bgs. Above this depth, the reuse soil and imported clean run-of-bank gravel backfill material will be placed in 1 foot lifts and compacted using a vibratory plate tamper or roller. Soil compaction testing will be performed by an independent testing laboratory. Compaction testing will be performed every 2,500 square feet for each lift above 10 feet bgs. The backfill will be compacted to a minimum of 95% of maximum dry unit weight as determined by standard Proctor

testing (American Society for Testing and Materials [ASTM] Method D698). The testing laboratory will test soils in accordance with ASTM D2922 (nuclear method) with Proctors for each soil type.

Before fill material is imported to the Site, representative samples will be collected to characterize the fill for PCBs, pesticides/herbicides, TCL VOCs, TCL SVOCs, and TAL inorganic constituents (including total cyanide), unless the fill material meets the sampling exemption outlined in Section 5.4(e)5 of DER-10 (for gravel, rock, or stone consisting of virgin material from a permitted mine or quarry where less than 10% by weight of the material passes through a size 80 sieve). The characterization sampling frequency will be in accordance with Section 5.4(e)10 of DER-10. In order for the imported clean fill to be accepted for reuse, the characterization analytical results must meet the lower of the commercial use soil cleanup objectives (SCOs) and the groundwater protection SCOs presented in 6 NYCRR Part 375-6.8(b).

2.8 Equipment Decontamination

Equipment, materials, and personnel that come into contact with potentially regulated waste materials will be decontaminated prior to demobilization and/or prior to handling clean materials. Decontamination activities will be conducted within the material staging area or a separate decontamination area that is constructed similar to the material staging area (bermed and lined with reinforced polyethylene sheeting that slopes to a lined collection sump). Solid waste materials generated during decontamination activities will be separated from washwaters, collected, and transferred into appropriate containers for offsite transportation and disposal in accordance with applicable regulations. Washwater generated by the decontamination activities will be collected for offsite disposal in accordance with applicable regulations.

2.9 Site Control and Air Monitoring

Appropriate measures will be implemented during the tank removal to limit the generation of noise, vapor/odors, and dust to within acceptable levels. The magnitude and extent of dust control measures required will be based on the results of air monitoring. The main objectives of the air monitoring and response actions are to protect the health and safety of onsite workers and the surrounding community and to address potential nuisance odors. Minimum requirements for noise, vapor, and dust suppression are presented below, followed by an overview of the proposed air monitoring program.

2.9.1 Noise, Vapor, and Dust Suppression

Measures will be taken during the tank removal to maintain noise levels produced by construction equipment to safe and tolerable limits, as set forth by the Occupational Safety and Health

Administration, the USEPA, and applicable New York State and local code ordinances. All construction equipment posing a potential noise nuisance will be outfitted with noise-muffling devices.

Air emission controls and fugitive dust suppression measures will be implemented during intrusive activities (excavation, backfilling, material handling) to limit the potential for nuisance odors, organic vapor emissions, and dust emissions. At a minimum, odor/vapor and dust controls will be initiated whenever the perimeter action levels for air monitoring are exceeded or the public complains about an odor or dust. Methods employed to control odors/vapors and dust during intrusive activities may include, but will not be limited to, applying a water spray to suppress dust or covering the excavation and materials in the staging area.

2.9.2 Air Monitoring

Airborne monitoring for particulates (dust) and total organic vapors will be conducted during the intrusive IRM activities described above in accordance with the site-specific *Community Air Monitoring Plan* (CAMP) presented in Appendix F of the RI Work Plan. Particulate and volatile organic vapor levels will be monitored at the designated upwind station, two designated downwind stations, and the worker breathing zone during work activities. Appropriate actions (e.g., work stoppage, water sprays, covering excavations, as outlined in the CAMP) will be taken in response to the air monitoring results, where needed.

3. Groundwater Monitoring

Groundwater monitoring will be conducted before and after the tank removal to document the effectiveness of the IRM and the potential need for vapor intrusion mitigation measures (e.g., vapor barrier, sub-slab depressurization system) if a new building were to be constructed over or near the plume in the future. The groundwater monitoring program will include collecting samples from monitoring wells MW-2 (if not dry), MW-8 through MW-13, TW-2, and TW-4 for laboratory analysis for TCL VOCs. Samples will be collected in accordance with the sampling protocols presented in the FSP attached to the RI Work Plan (ARCADIS 2012).

One round of groundwater samples will be collected from the above-listed wells to establish baseline conditions before the IRM tank removal activities are performed. Post-tank removal groundwater samples will be collected from the above-listed wells approximately 3 and 6 months after the tank is removed. A comprehensive round of water levels will be measured at all Site monitoring wells and river gauges during each sampling event. Results from the two post-tank removal groundwater sampling rounds will be evaluated to determine the sampling frequency for later monitoring events, if needed.

The groundwater samples will be analyzed using USEPA SW-846 Method 8260 as referenced in the most recent edition of the NYSDEC ASP. The laboratory analytical results will be reported using ASP Category B analytical data deliverables. A DUSR of the laboratory data packages will be prepared, and the results from the DUSR will be incorporated into future data tables prepared for the Site. The results of the baseline sampling will be summarized in the IRM Certification Report. The results of the two post-IRM groundwater sampling rounds will be provided in a separate document to be submitted within 30 days after the second post-IRM sampling round is completed.

4. Schedule and Reporting

P&W/UTC anticipates the proposed IRM septic tank removal work activities will be implemented in the fall of 2013, following NYSDEC approval of this work plan and P&W/UTC selection of a remedial contractor. The proposed tank removal and Site restoration work activities are anticipated to be completed within an approximately 2-week period, as follows:

- *Week 1:* Subsurface utility clearance will be performed prior to equipment mobilization. Once subsurface utilities have been located, contractor mobilization will take place. It is assumed that mobilization, Site preparation (including material staging area construction and installation of erosion and sedimentation control measures), and removal of liquids from the septic tank will be completed within 1 to 2 days. Removal of the tank and associated impacted soil is also expected to take 1 to 2 days to complete after the above activities are completed. Backfilling will occur immediately following excavation, prior to receipt of documentation soil analytical results (to minimize the time that the excavation is left open).

- *Week 2:* The load-out of solid wastes and decontamination water generated by the IRM activities is anticipated to be performed following receipt of waste characterization analytical results (due approximately 3 to 5 business days following sample collection) and take 1 to 2 days to complete. Disturbed areas will be seeded and mulched.

An IRM Certification Report will be prepared and submitted to the NYSDEC within approximately 60 days following completion of the septic tank removal and Site restoration activities. The IRM Certification Report will present the following:

- Relevant background information
- A summary of the tank removal activities
- A description of soil management
- A description of the source and quality of imported fill used at the Site
- Figures showing the Site location, Site layout, former tank location, and final soil removal limits
- Data tables presenting analytical results for documentation soil samples, waste characterization samples, imported fill material samples, and baseline groundwater samples

- Copies of fully executed waste manifests/bills of lading and certificates of disposal, as applicable, for waste transported offsite

- Copies of air monitoring logs and data documenting results of daily air monitoring performed in accordance with the CAMP

- Photographs of the tank removal

- A certification statement with the signature and seal of a professional engineer licensed to practice in New York State

The laboratory analytical results for the documentation soil samples and the imported fill material samples will be validated in accordance with the provisions in accordance with the *Quality Assurance Project Plan* (QAPP) included as Appendix D of the NYSDEC-approved RI Work Plan (ARCADIS 2012). Following data validation, an electronic data deliverable (EDD) package will be generated using EQuIS from EarthSoft® Inc. to fulfill the NYSDEC's data reporting requirements as outlined in www.dec.ny.gov/chemical/62440.html. The EDD package will contain the validated analytical data. The validation packages and raw laboratory analytical data reports will also be attached to the IRM Certification Report in electronic format (i.e., placed on a CD).

Analytical results for the groundwater monitoring events implemented following the tank removal will be provided to the NYSDEC under separate cover within 30 days after the second post-IRM sampling round is completed. A recommendation for additional groundwater monitoring (if necessary) will be presented in that document.

5. References

ARCADIS of New York, Inc.. 2012. Remedial Investigation Work Plan. June 2012.

New York State Department of Environmental Conservation. 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations.

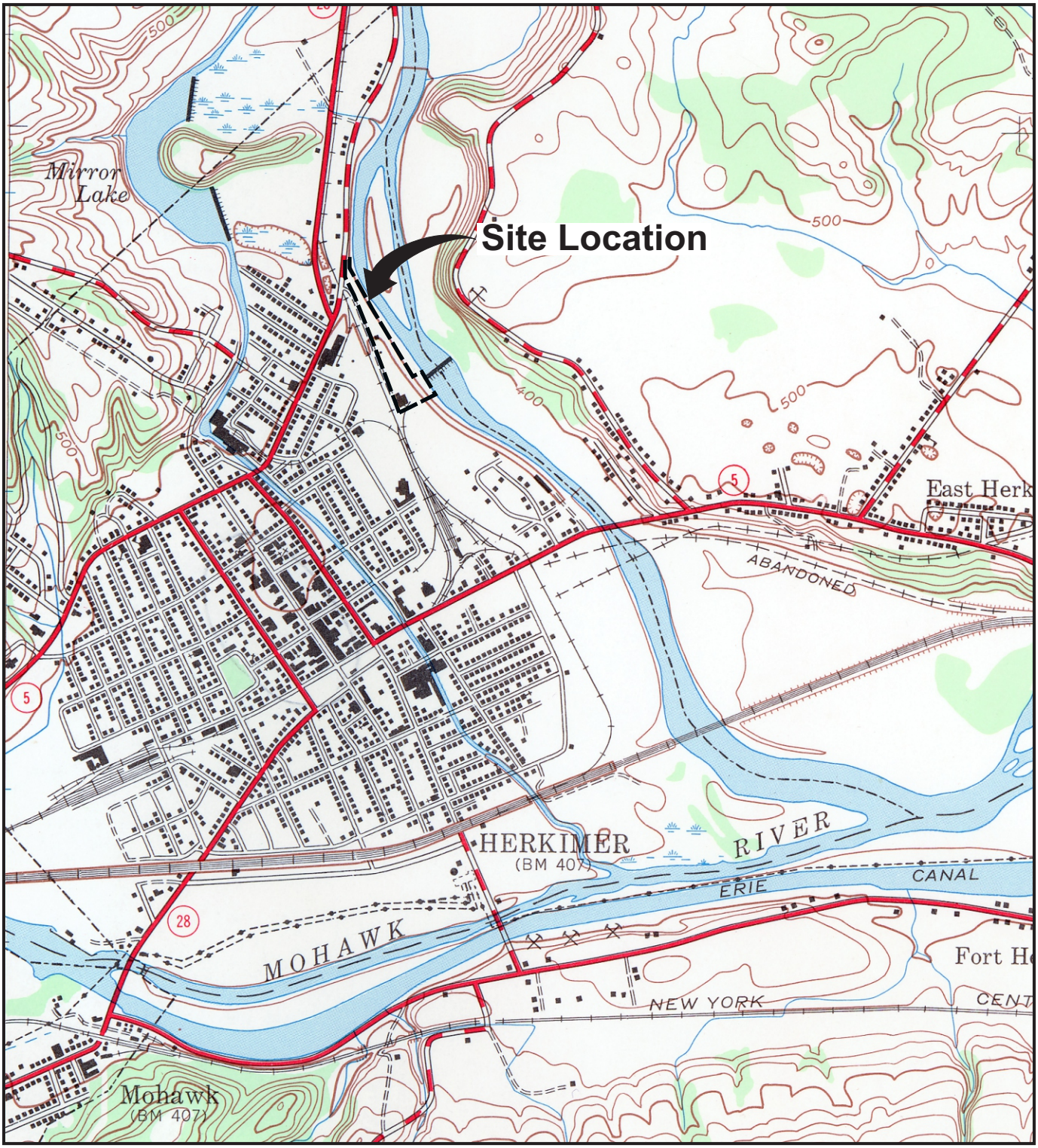
New York State Department of Environmental Conservation. 2010. DER-10/Technical Guidance for Site Investigation and Remediation. May 3, 2010.

State of New York. Title 6 of the Official Compilation of Codes, Rules, and Regulations Part 375.

Title 29 of the Code of Federal Regulations Part 1926, Subpart P: Excavations.

ARCADIS

Figures



REFERENCE: BASE MAP USGS 7.5 MIN. QUAD., HERKIMER, NY, 1943.

2000' 0 2000'

Approximate Scale: 1" = 2000'

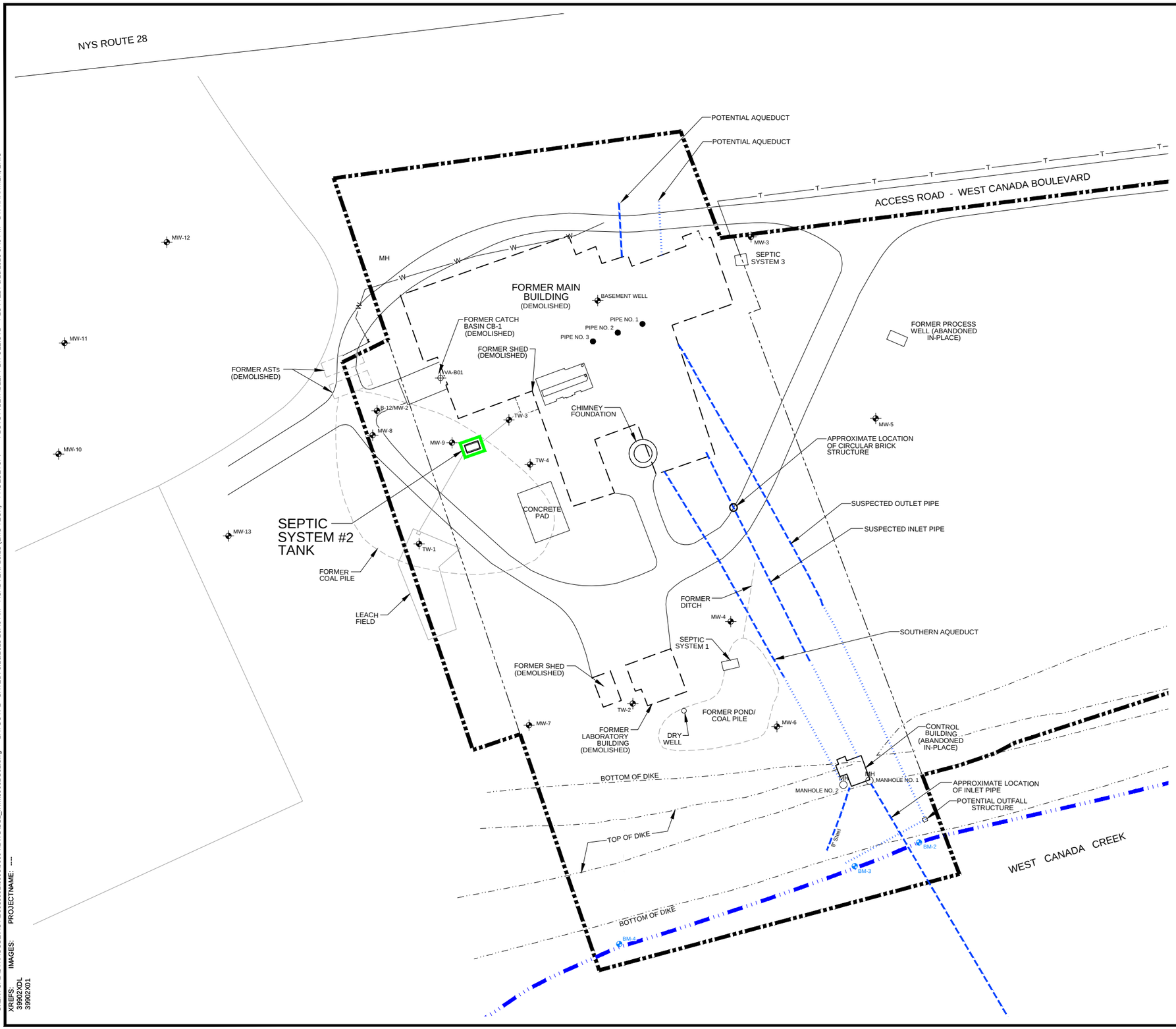
UNITED TECHNOLOGIES CORPORATION
FORMER HOMOGENOUS METALS, INC. FACILITY
HERKIMER, NEW YORK

SITE LOCATION MAP

ARCADIS

FIGURE
1

10/11/2011 SYRACUSE, NY-ENV/CAD-141, DJHOWES
B0039902/0000/00004/CDR/39902N01.CDR



LEGEND:

- PROPOSED EXCAVATION TO REMOVE SEPTIC TANK
- EXISTING MONITORING WELL
- TEMPORARY MONITORING WELL INSTALLED BY SECOR IN 2000
- BENCHMARK LOCATION
- PROPERTY LINE
- EDGE OF WATER
- W — UNDERGROUND WATER LINE
- T — UNDERGROUND TELEPHONE LINE
- INFERRED UNDERGROUND PIPE
- UNDERGROUND PIPE IDENTIFIED VIA EM/GPR SURVEY
- MH — MANHOLE

NOTES:

1. BASE MAPPING FROM SURVEYS PERFORMED BY THEW ASSOCIATES, AND GEOPHYSICAL SURVEY PERFORMED BY ARCADIS ON JULY 16, 2012.
2. ACCESS ROAD, CONTROL DIKE, FORMER POND, POTENTIAL OUTFALL STRUCTURE, LOCATION OF INLET PIPING, AND FORMER COAL PILES ARE APPROXIMATE.
3. INLET AND OUTLET PIPE DEPTHS ARE FROM GROUND SURFACE TO TOP OF STRUCTURE AND ARE BASED ON GROUND PENETRATING RADAR (GPR) SURVEY.

0 30' 60'
GRAPHIC SCALE

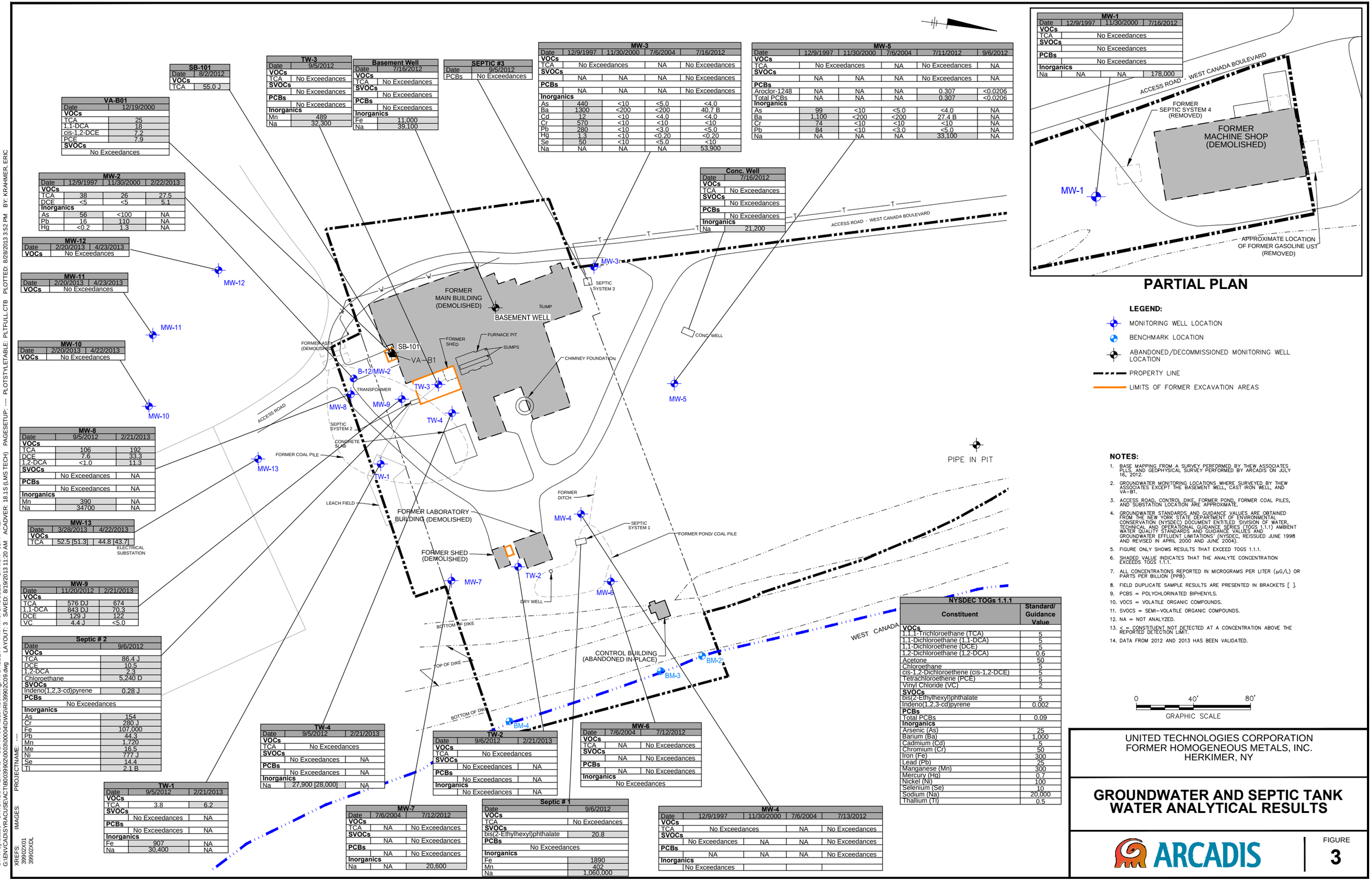
UNITED TECHNOLOGIES CORPORATION
FORMER HOMOGENEOUS METALS, INC.
HERKIMER, NY

SITE PLAN

ARCADIS

FIGURE 2

CITY: SYRACUSE NY DIV/GROUP: ENVCAD DB: W. JONES, E. KRAHMER PM/TM: J. BRUSSEL TR: L. HEALY LYR:ON=*;OFF=*REF*
G:\ENVCAD\SYRACUSE\ACTIVE\00399020000300004\D\WG\S2_IRM\39902G01.dwg LAYOUT: 2 SAVED: 8/13/2013 10:49 AM ACADVER: 18.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 8/28/2013 3:43 PM BY: KRAHMER, ERIC
XREFS: 39902XDL 39902X01 IMAGES: PROJECTNAME: ----



PARTIAL PLAN

LEGEND:

- MONITORING WELL LOCATION
- BENCHMARK LOCATION
- ABANDONED/DECOMMISSIONED MONITORING WELL LOCATION
- PROPERTY LINE
- LIMITS OF FORMER EXCAVATION AREAS

NOTES:

1. BASE MAPPING FROM A SURVEY PERFORMED BY THEW ASSOCIATES PLLS, AND GEOPHYSICAL SURVEY PERFORMED BY ARCADIS ON JULY 16, 2012.
2. GROUNDWATER MONITORING LOCATIONS WHERE SURVEYED BY THEW ASSOCIATES EXCEPT THE BASEMENT WELL, CAST IRON WELL, AND VA-B1.
3. ACCESS ROAD, CONTROL DIKE, FORMER POND, FORMER COAL PILES, AND SUBSTATION LOCATION ARE APPROXIMATE.
4. GROUNDWATER STANDARDS AND GUIDANCE VALUES ARE OBTAINED FROM THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) DOCUMENT ENTITLED DIVISION OF WATER, TECHNICAL AND OPERATIONAL GUIDANCE SERIES (TOGS 1.1.1) AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES AND GROUNDWATER EFFLUENT LIMITATIONS (NYSDEC, REISSUED JUNE 1998 AND REVISED IN APRIL 2000 AND JUNE 2004).
5. FIGURE ONLY SHOWS RESULTS THAT EXCEED TOGS 1.1.1.
6. SHADED VALUE INDICATES THAT THE ANALYTE CONCENTRATION EXCEEDS TOGS 1.1.1.
7. ALL CONCENTRATIONS REPORTED IN MICROGRAMS PER LITER (µG/L) OR PARTS PER BILLION (PPB).
8. FIELD DUPLICATE SAMPLE RESULTS ARE PRESENTED IN BRACKETS [ ].
9. PCBS = POLYCHLORINATED BIPHENYLS.
10. VOCS = VOLATILE ORGANIC COMPOUNDS.
11. SVOCS = SEMI-VOLATILE ORGANIC COMPOUNDS.
12. NA = NOT ANALYZED.
13. < = CONSTITUENT NOT DETECTED AT A CONCENTRATION ABOVE THE REPORTED DETECTION LIMIT.
14. DATA FROM 2012 AND 2013 HAS BEEN VALIDATED.

NYSDEC TOGs 1.1.1 Constituent	Standard/ Guidance Value
VOCs	
1,1,1-Trichloroethane (TCA)	5
1,1-Dichloroethane (1,1-DCA)	5
1,1-Dichloroethene (DCE)	5
1,2-Dichloroethane (1,2-DCA)	0.6
Acetone	50
Chloroethane	5
cis-1,2-Dichloroethene (cis-1,2-DCE)	5
Tetrachloroethene (PCE)	5
Vinyl Chloride (VC)	2
SVOCs	
bis(2-Ethylhexyl)phthalate	5
Indeno(1,2,3-cd)pyrene	0.002
PCBs	
Total PCBs	0.09
Inorganics	
Arsenic (As)	25
Barium (Ba)	1,000
Cadmium (Cd)	5
Chromium (Cr)	50
Iron (Fe)	300
Lead (Pb)	25
Manganese (Mn)	300
Mercury (Hg)	0.7
Nickel (Ni)	100
Selenium (Se)	10
Sodium (Na)	20,000
Thallium (Tl)	0.5

0 40' 80'

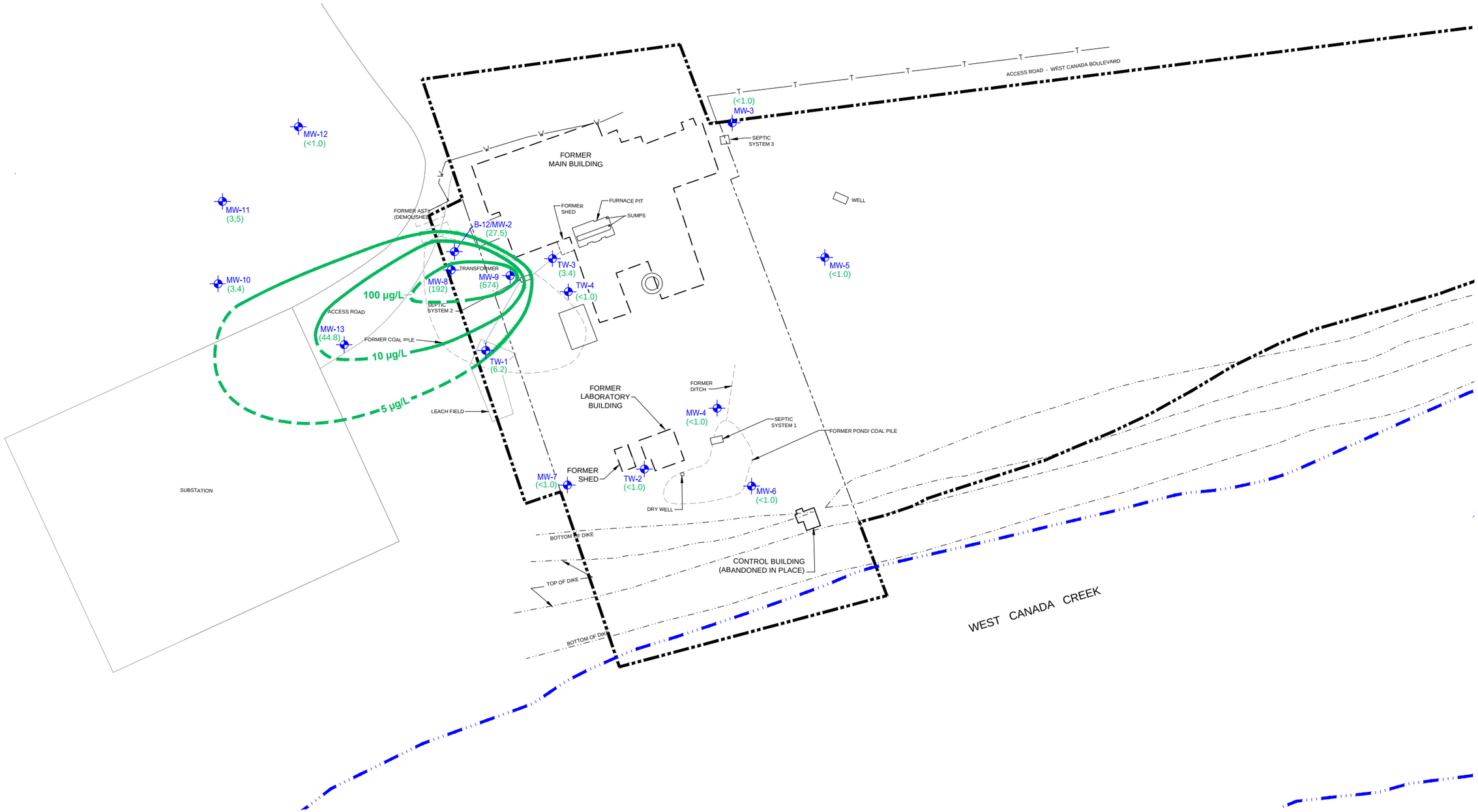
GRAPHIC SCALE

UNITED TECHNOLOGIES CORPORATION
FORMER HOMOGENEOUS METALS, INC.
HERKIMER, NY

GROUNDWATER AND SEPTIC TANK WATER ANALYTICAL RESULTS

ARCADIS

FIGURE 3



LEGEND:

- MONITORING WELL LOCATION
- (52.5) GROUNDWATER CONCENTRATION FOR 1,1,1 TRICHLOROETHANE (1,1,1–TCA)
- 5 µg/L — ISO–CONCENTRATION CONTOUR

NOTES:

1. BASE MAPPING DIGITIZED FROM A PDF OF A SURVEY BY CHRISTOPHER S. NASH, LLS., DATED 4/26/90; AND A PDF OF A SITE PLAN BY SECOR DATED MARCH 2002.
2. ALL LOCATIONS ARE APPROXIMATE.
3. UNITS = MICROGRAMS PER LITER (µg/L).
4. TCA = 1,1,1–TRICHLOROETHANE
5. NYSDEC CLASS GA STANDARD FOR TCA IS 5.0 µg/L.
6. <1.0 NOT DETECTED ABOVE GIVEN DETECTION LIMIT.
7. ISOCONCENTRATION MAP CONTOURS ARE BASED ON DATA FROM: JULY 2012 FOR SAMPLE LOCATIONS MW–3 THROUGH MW–7; SEPTEMBER 2012 FOR SAMPLE LOCATION TW–3; FEBRUARY 2013 FOR SAMPLE LOCATIONS MW–2, MW–8 AND MW–9, TW–1, TW–2, AND TW–4; AND APRIL 2013 FOR MW–10 THROUGH MW–13.

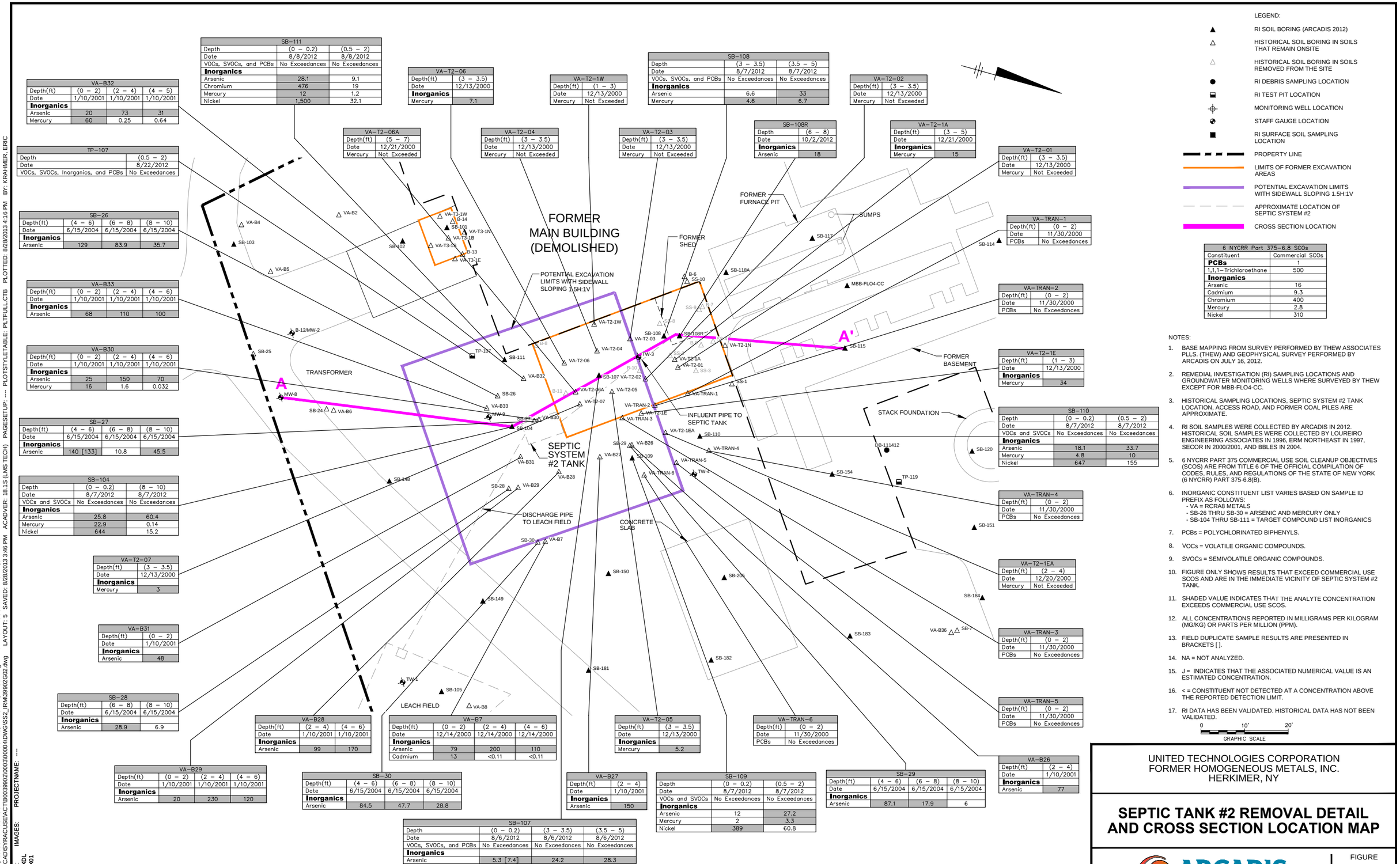
0 40' 80'
GRAPHIC SCALE

UNITED TECHNOLOGIES CORPORATION
FORMER HOMOGENEOUS METALS, INC.
HERKIMER, NY

TCA GROUNDWATER ISOCONCENTRATION CONTOURS

ARCADIS

FIGURE
4



SB–111		
Depth	(0 – 0.2)	(0.5 – 2)
Date	8/8/2012	8/8/2012
VOCs, SVOCs, and PCBs	No Exceedances	No Exceedances
Inorganics		
Arsenic	28.1	9.1
Chromium	476	19
Mercury	12	1.2
Nickel	1,500	32.1

VA–T2–06	
Depth(ft)	(3 – 3.5)
Date	12/13/2000
Inorganics	
Mercury	7.1

VA–T2–1W	
Depth(ft)	(1 – 3)
Date	12/13/2000
Mercury	Not Exceeded

SB–108		
Depth	(3 – 3.5)	(3.5 – 5)
Date	8/7/2012	8/7/2012
VOCs, SVOCs, and PCBs	No Exceedances	No Exceedances
Inorganics		
Arsenic	6.6	33
Mercury	4.6	6.7

VA–T2–02	
Depth(ft)	(3 – 3.5)
Date	12/13/2000
Mercury	Not Exceeded

VA–B32			
Depth(ft)	(0 – 2)	(2 – 4)	(4 – 5)
Date	1/10/2001	1/10/2001	1/10/2001
Inorganics			
Arsenic	20	73	31
Mercury	60	0.25	0.64

VA–T2–06A	
Depth(ft)	(5 – 7)
Date	12/21/2000
Mercury	Not Exceeded

VA–T2–04	
Depth(ft)	(3 – 3.5)
Date	12/13/2000
Mercury	Not Exceeded

VA–T2–03	
Depth(ft)	(3 – 3.5)
Date	12/13/2000
Mercury	Not Exceeded

SB–108R	
Depth	(6 – 8)
Date	10/2/2012
Inorganics	
Arsenic	18

VA–T2–1A	
Depth(ft)	(3 – 5)
Date	12/21/2000
Inorganics	
Mercury	15

TP–107	
Depth	(0.5 – 2)
Date	8/22/2012
VOCs, SVOCs, Inorganics, and PCBs	No Exceedances

VA–T2–01	
Depth(ft)	(3 – 3.5)
Date	12/13/2000
Mercury	Not Exceeded

SB–26			
Depth(ft)	(4 – 6)	(6 – 8)	(8 – 10)
Date	6/15/2004	6/15/2004	6/15/2004
Inorganics			
Arsenic	129	83.9	35.7

VA–TRAN–1	
Depth(ft)	(0 – 2)
Date	11/30/2000
PCBs	No Exceedances

VA–B33			
Depth(ft)	(0 – 2)	(2 – 4)	(4 – 6)
Date	1/10/2001	1/10/2001	1/10/2001
Inorganics			
Arsenic	68	110	100

VA–TRAN–2	
Depth(ft)	(0 – 2)
Date	11/30/2000
PCBs	No Exceedances

VA–B30			
Depth(ft)	(0 – 2)	(2 – 4)	(4 – 6)
Date	1/10/2001	1/10/2001	1/10/2001
Inorganics			
Arsenic	25	150	70
Mercury	16	1.6	0.032

VA–T2–1E	
Depth(ft)	(1 – 3)
Date	12/13/2000
Inorganics	
Mercury	34

SB–27			
Depth(ft)	(4 – 6)	(6 – 8)	(8 – 10)
Date	6/15/2004	6/15/2004	6/15/2004
Inorganics			
Arsenic	140 [133]	10.8	45.5

SB–110		
Depth	(0 – 0.2)	(0.5 – 2)
Date	8/7/2012	8/7/2012
VOCs and SVOCs	No Exceedances	No Exceedances
Inorganics		
Arsenic	18.1	33.7
Mercury	4.8	10
Nickel	647	155

SB–104		
Depth	(0 – 0.2)	(8 – 10)
Date	8/7/2012	8/7/2012
VOCs and SVOCs	No Exceedances	No Exceedances
Inorganics		
Arsenic	25.8	60.4
Mercury	22.9	0.14
Nickel	644	15.2

VA–T2–07	
Depth(ft)	(3 – 3.5)
Date	12/13/2000
Inorganics	
Mercury	3

VA–T2–1EA	
Depth(ft)	(2 – 4)
Date	12/20/2000
Mercury	Not Exceeded

VA–B31		
Depth(ft)	(0 – 2)	
Date	1/10/2001	
Inorganics		
Arsenic	48	

VA–TRAN–4	
Depth(ft)	(0 – 2)
Date	11/30/2000
PCBs	No Exceedances

VA–TRAN–3	
Depth(ft)	(0 – 2)
Date	11/30/2000
PCBs	No Exceedances

SB–28		
Depth(ft)	(6 – 8)	(8 – 10)
Date	6/15/2004	6/15/2004
Inorganics		
Arsenic	28.9	6.9

VA–B28		
Depth(ft)	(2 – 4)	(4 – 6)
Date	1/10/2001	1/10/2001
Inorganics		
Arsenic	99	170

VA–B7			
Depth(ft)	(0 – 2)	(2 – 4)	(4 – 6)
Date	12/14/2000	12/14/2000	12/14/2000
Inorganics			
Arsenic	79	200	110
Cadmium	13	<0.11	<0.11

VA–T2–05	
Depth(ft)	(3 – 3.5)
Date	12/13/2000
Inorganics	
Mercury	5.2

VA–TRAN–6	
Depth(ft)	(0 – 2)
Date	11/30/2000
PCBs	No Exceedances

VA–TRAN–5	
Depth(ft)	(0 – 2)
Date	11/30/2000
PCBs	No Exceedances

VA–B29			
Depth(ft)	(0 – 2)	(2 – 4)	(4 – 6)
Date	1/10/2001	1/10/2001	1/10/2001
Inorganics			
Arsenic	20	230	120

SB–30			
Depth(ft)	(4 – 6)	(6 – 8)	(8 – 10)
Date	6/15/2004	6/15/2004	6/15/2004
Inorganics			
Arsenic	84.5	47.7	28.8

VA–B27	
Depth(ft)	(2 – 4)
Date	1/10/2001
Inorganics	
Arsenic	150

SB–109		
Depth	(0 – 0.2)	(0.5 – 2)
Date	8/7/2012	8/7/2012
VOCs and SVOCs	No Exceedances	No Exceedances
Inorganics		
Arsenic	12	27.2
Mercury	2	3.3
Nickel	389	60.8

SB–29			
Depth(ft)	(4 – 6)	(6 – 8)	(8 – 10)
Date	6/15/2004	6/15/2004	6/15/2004
Inorganics			
Arsenic	87.1	17.9	6

VA–B26		
Depth(ft)	(2 – 4)	
Date	1/10/2001	
Inorganics		
Arsenic	77	

SB–107			
Depth	(0 – 0.2)	(3 – 3.5)	(3.5 – 5)
Date	8/6/2012	8/6/2012	8/6/2012
VOCs, SVOCs, and PCBs	No Exceedances	No Exceedances	No Exceedances
Inorganics			
Arsenic	5.3 [7.4]	24.2	28.3

LEGEND:

- RI SOIL BORING (ARCADIS 2012)
- HISTORICAL SOIL BORING IN SOILS THAT REMAIN ONSITE
- HISTORICAL SOIL BORING IN SOILS REMOVED FROM THE SITE
- RI DEBRIS SAMPLING LOCATION
- RI TEST PIT LOCATION
- MONITORING WELL LOCATION
- STAFF GAUGE LOCATION
- RI SURFACE SOIL SAMPLING LOCATION
- PROPERTY LINE
- LIMITS OF FORMER EXCAVATION AREAS
- POTENTIAL EXCAVATION LIMITS WITH SIDEWALL SLOPING 1.5H:1V
- APPROXIMATE LOCATION OF SEPTIC SYSTEM #2
- CROSS SECTION LOCATION

6 NYCRR Part 375–6.8 SCOs	
Constituent	Commercial SCOs
PCBs	1
1,1,1–Trichloroethane	500
Inorganics	
Arsenic	16
Cadmium	9.3
Chromium	400
Mercury	2.8
Nickel	310

NOTES:

1. BASE MAPPING FROM SURVEY PERFORMED BY THEW ASSOCIATES PLLS. (THEW) AND GEOPHYSICAL SURVEY PERFORMED BY ARCADIS ON JULY 16, 2012.
2. REMEDIAL INVESTIGATION (RI) SAMPLING LOCATIONS AND GROUNDWATER MONITORING WELLS WHERE SURVEYED BY THEW EXCEPT FOR MBB-FLO4-CC.
3. HISTORICAL SAMPLING LOCATIONS, SEPTIC SYSTEM #2 TANK LOCATION, ACCESS ROAD, AND FORMER COAL PILES ARE APPROXIMATE.
4. RI SOIL SAMPLES WERE COLLECTED BY ARCADIS IN 2012. HISTORICAL SOIL SAMPLES WERE COLLECTED BY LOUREIRO ENGINEERING ASSOCIATES IN 1996, ERM NORTHEAST IN 1997, SECOR IN 2000/2001, AND BBLES IN 2004.
5. 6 NYCRR PART 375 COMMERCIAL USE SOIL CLEANUP OBJECTIVES (SCOS) ARE FROM TITLE 6 OF THE OFFICIAL COMPILATION OF CODES, RULES, AND REGULATIONS OF THE STATE OF NEW YORK (6 NYCRR) PART 375-6.8(B).
6. INORGANIC CONSTITUENT LIST VARIES BASED ON SAMPLE ID PREFIX AS FOLLOWS:
   - VA = RCRA8 METALS
   - SB-26 THRU SB-30 = ARSENIC AND MERCURY ONLY
   - SB-104 THRU SB-111 = TARGET COMPOUND LIST INORGANICS
7. PCBs = POLYCHLORINATED BIPHENYLS.
8. VOCs = VOLATILE ORGANIC COMPOUNDS.
9. SVOCs = SEMIVOLATILE ORGANIC COMPOUNDS.
10. FIGURE ONLY SHOWS RESULTS THAT EXCEED COMMERCIAL USE SCOS AND ARE IN THE IMMEDIATE VICINITY OF SEPTIC SYSTEM #2 TANK.
11. SHADED VALUE INDICATES THAT THE ANALYTE CONCENTRATION EXCEEDS COMMERCIAL USE SCOS.
12. ALL CONCENTRATIONS REPORTED IN MILLIGRAMS PER KILOGRAM (MG/KG) OR PARTS PER MILLION (PPM).
13. FIELD DUPLICATE SAMPLE RESULTS ARE PRESENTED IN BRACKETS [ ].
14. NA = NOT ANALYZED.
15. J = INDICATES THAT THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION.
16. < = CONSTITUENT NOT DETECTED AT A CONCENTRATION ABOVE THE REPORTED DETECTION LIMIT.
17. RI DATA HAS BEEN VALIDATED. HISTORICAL DATA HAS NOT BEEN VALIDATED.

0 10' 20'
GRAPHIC SCALE

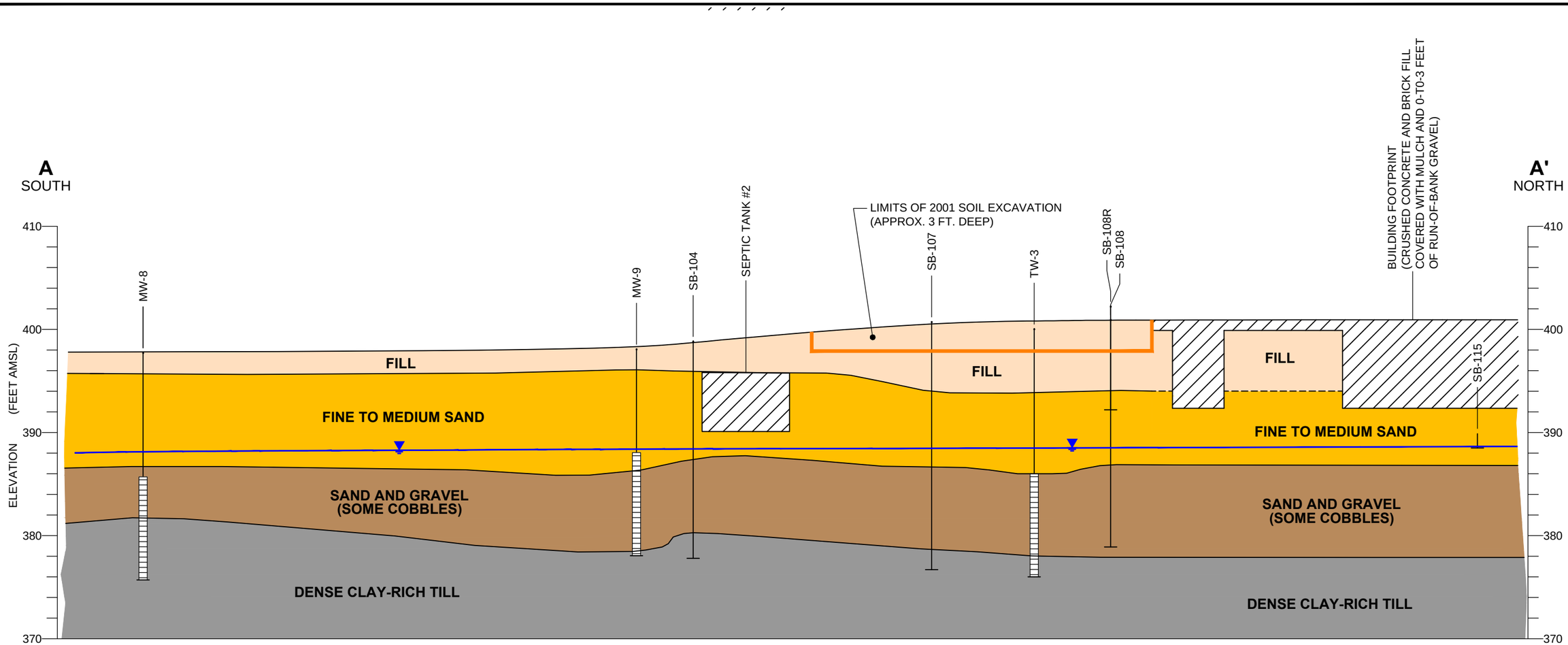
UNITED TECHNOLOGIES CORPORATION
FORMER HOMOGENEOUS METALS, INC.
HERKIMER, NY

SEPTIC TANK #2 REMOVAL DETAIL AND CROSS SECTION LOCATION MAP

ARCADIS

FIGURE 5

CITY: Syracuse DIV/GROUP: EnvCAD DB: W. JONES, P. LISTER, A.Schilling PM/TM: J. BRUSSEL LYR:ON=*;OFF=*REF*
G:\ENVCAD\SYRACUSE\ACTIB003990200300004\DWG\SS2_IRM39902G02.dwg LAYOUT: 5 SAVED: 8/28/2013 3:46 PM ACADVER: 18.1S (LMS TECH)
XREFS: 39902XDL 39902X01 IMAGES: PROJECTNAME: ---
PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 8/29/2013 4:16 PM BY: KRAHMER, ERIC



LEGEND:

SB-104 — WELL/BORING ID

EXISTING GRADE

LITHOLOGIC CONTACT
(DASHED WHERE INFERRED)

4/23/2013 WATER LEVEL

WELL SCREEN

WELL/BORING BOTTOM

- FILL
- FINE TO MEDIUM SAND
- SAND AND GRAVEL (SOME COBBLES)
- DENSE CLAY-RICH TILL

NOTE:

ELEVATIONS REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988.

0 10’ 20’
VERTICAL & HORIZONTAL SCALE

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HERKIMER, NY

CROSS SECTION A - A'

ARCADIS

FIGURE
6