REMEDIAL INVESTIGATION REPORT

for the

BROWNFIELD CLEANUP PROGRAM

at the

FORMER ONEIDA KNIFE PLANT
LOT 1
Kenwood Avenue
City of Sherrill, Oneida County, New York
NYSDEC Site No. C633077

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1.0 INTRODUCTION

The former Oneida Knife Plant, Lot 1 site (Site) is located on Kenwood Avenue in the City of Sherrill, Oneida County, New York. The property was a former silverware manufacturing facility owned by Oneida Silversmiths, Inc. (Oneida). The Site is a 2.9-acre parcel of land that includes the northerly and oldest portion of the former Oneida Knife Plant. The factory facilities on the Site are vacant. The remainder of the former Oneida Knife Plant to the south (Lot 2) includes the newer portion of the factory on 17.6 acres that was purchased by Omega Wire, Inc. in 2006 and is currently an active copper wire drawing mill. The Site location is shown on Figures 1 and 2.

A Brownfield Cleanup Program (BCP) application for the Site[1] was submitted to and approved by the New York State Department of Environmental Conservation (DEC). Subsequently, Oneida and the DEC entered into a Brownfield Cleanup Agreement in December 2009. The purpose of this BCP project is to investigate environmental impacts on the Site and undertake cleanup that may be required to allow reuse or redevelopment for industrial use.

The purpose of this report is to present the results of the remedial investigation (RI). The RI Work Plan (RIWP)[2] proposed a number of activities directed at sufficiently completing a characterization of the nature and extent of environmental impacts at the Site, aimed at providing the basis for determining the need for cleanup and, if appropriate, selecting remediation methods. Prior environmental investigation work on the Site provided information on groundwater quality and soil conditions that was used to plan the RI activities in the RIWP. This RI was targeted on filling remaining data gaps and summarizing all available environmental data. The DEC approved the RIWP by letter, dated April 14, 2010.

This RI was performed in substantial conformance with the DEC's *Technical Guidance for Site Investigation and Remediation* (DER-10), dated May 3, 2010, and New York Codes, Rules

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[1]*Brownfield Cleanup Program (BCP) Application*, prepared by Plumley Engineering, P.C., dated June 30, 2009.

[2]*Remedial Investigation Work Plan for the Brownfield Cleanup Program at the Former Oneida Knife Plant, Lot 1, Kenwood Avenue, City of Sherrill, Oneida County, New York, NYSDEC Site No. C633077*, prepared by Plumley Engineering, P.C., dated January 2010 and *Addendum to Work Plan*, prepared by Plumley Engineering, P.C., dated April 1, 2010.

and Regulations, Title 6 (6NYCRR), Part 375 *Environmental Remediation Programs*, dated December 14, 2006.

2.0 SITE DESCRIPTION AND HISTORY

2.1 GENERAL SITE DESCRIPTION AND GEOGRAPHY

The Site is situated adjacent to Oneida Creek, with topographic slopes generally northerly and westerly toward the creek (Figures 1 and 2). Surface elevations at the Site range from about 400 feet near the base of the hillside to the southeast to approximately 380 feet near Oneida Creek. The Site is bounded to the north by Oneida Creek, which flows northeasterly by the Site, eventually draining into Oneida Lake approximately 10 miles downstream to the north-northwest. The Site currently contains a vacant factory consisting of several attached industrial buildings of different ages. A site plan detailing the current conditions of the Site is provided on Figure 3. The active, newer factory building of the former Oneida Knife Plant property abuts immediately to the south of the Site. A large area of undeveloped woods surrounds the former Oneida Knife Plant property to the south and east. Refer to Figures 1, 2 and 3 for additional details.

The land uses around the Site are mixed:

- The newer factory building of the former Oneida Knife Plant, along with related property and parking lots located adjacent to and south of the Site (Lot 2), are now owned and used by Omega Wire for copper wire manufacturing.

- Across Kenwood Avenue to the west are vacant (wooded) land, a pond (Sunset Lake) and the paved parking lot for the factory, now part of Omega Wire property holdings.

- The nearest residential areas are located north of the Site, approximately 300 to 600 feet north of the creek. The Oneida Community Mansion property abuts Oneida Creek on the north.

- East of the Site is vacant land and a steep, wooded hillside.

- The Site is currently zoned M-1 Manufacturing District by the City of Sherrill.

Oneida Creek is classified as a Class C stream, which is for the protection of the fishery. Flood Insurance Rate Maps (FIRMs) indicate the lowest areas of the Site along the eastern bank are not within a floodplain. No critical habitats of endangered or threatened species are known to exist in the project area. No wetlands are located on the Site. The nearest New York State wetlands are located approximately 1,100 feet southwest of the Site (Figure 2). The nearest mapped Federal wetland areas are located several hundred feet upstream and downstream of the Site.

The Site and vicinity are served by City of Sherrill public water and sewer utilities. Natural gas is also available to the Site. The natural gas and water mains run along Kenwood Avenue. City of Sherrill sanitary sewer services the Site via an easement that enters the Site from the north, crossing Oneida Creek. The City of Sherrill provides electrical power to the Site. The nearest known water wells are located approximately 1,600 to 1,800 feet south of the Site on properties along Kenwood Avenue.

Existing buildings on the Site are generally in need of maintenance, and demolition of these buildings is being considered as part of the BCP project. These structures are constructed of masonry and steel building components with concrete floors, built primarily in the mid-1800's through the mid-1900's. The buildings on the western end contain a basement level, and some sections have multiple floors.

2.2 SITE HISTORY

The following is a summary of Site historical information, based on research completed by Haley & Aldrich of New York for the Phase I Environmental Site Assessment (ESA), available plant drawings and discussions with Oneida personnel.

The Site operated as a manufacturing facility beginning in the mid-1800's. Previous operations included silk textiles and food canning, before silverware (mainly knives) manufacturing began in the early 1900's. Knife manufacturing typically included stamping and rolling of stainless steel flatware. Most of the manufacturing operations were moved off-site in 2004 and all were gone by 2006. The main components of the manufacturing facility included forging units, furnace and boiler rooms, hot rolling, stock and trim presses, die setting, basket wash, compressor room, milling, machine shop, offices and stock rooms.

Petroleum products used in the knife manufacturing process included lubricating oils and synthetic coolants. Fuel oil was used to heat the plant until the 1980's, when natural gas began being used to fire the boilers. Aboveground and underground storage tanks were historically located outdoors at the north end of the plant. Their reported locations are shown on appropriate site plans. All tanks are believed to have been removed from the Site. Trichloroethylene (TCE) was used to clean oily parts until the mid-1990's. The TCE parts washer was located in Building 2K prior to the mid-1980s. Building 2K was demolished in 1987. Acid dip operations were reportedly used as part of the steel preparation during manufacturing, requiring the use of various acids and alkalis. Wastes from these processes were reported to be stored in drums, kept in Buildings 1K and 2K. Polychlorinated biphenyls (PCBs) were present in electrical transformers at the plant. PCB-containing equipment was decommissioned or retro-filled in the 1980's and 1990's.

A State Pollutant Discharge Elimination System (SPDES) permit was in effect for the former Oneida Knife Plant for non-contact cooling water and stormwater, with an outfall to Oneida Creek. A sediment retention pond and outfall to the creek has been in use from at least 1938 (Figure 3). Floor drains in the factory and site exterior catch basins discharged to the retention basin. Early Sanborn maps indicate a sluiced raceway was in use through the early development of the property, evident in 1899 up to at least 1923 (Figure 4). The 1945 Sanborn indicates an expansion of the Oneida Knife plant over the raceway, which presumably was then filled and abandoned. The majority of the buried utilities serving the site are located between the creek and north end of the building.

2.3 PRIOR SITE INVESTIGATION WORK

Site Investigation (SI) information available for preparation of the RIWP regarding site hydrogeology and environmental impacts to soil, groundwater and creek sediment on the Oneida Knife plant property is contained in the following documents, which were prepared in connection with the 2006 subdivision and sale of Lot 2 to Omega Wire:

- *ASTM Phase I Environmental Site Assessment*, prepared by Haley & Aldrich of New York, dated December 8, 2004.
- *Phase II Environmental Site Assessment*, prepared by Haley & Aldrich of New York, dated December 28, 2005.
- *Stream and Sediment Sampling Report*, prepared by Haley & Aldrich of New York, dated April 7, 2006.
- *Subsurface Investigation Report*, prepared by Plumley Engineering, P.C., dated August 2006.

The Haley & Aldrich (H&A) Phase I provided an overview of the Oneida Knife Plant historical operations and detailed a list of potential recognized environmental conditions (RECs) associated with the Site. Subsequently, H&A completed a Phase II assessment of those RECs and provided the first documentation of soil and groundwater impacts on the property. Plumley Engineering completed a follow-up subsurface investigation to further detail the nature of the impacts found on the property. The results were summarized in the August 2006 report and the RIWP. The SI involved the completion of 21 soil borings and installation of five groundwater monitoring wells. Samples of soil, Oneida Creek sediment and surface water, groundwater and soil vapor were submitted for laboratory analysis of various contaminants. The work indicated the presence of some volatile organic compounds (VOCs), including both chlorinated hydrocarbons (CHCs) and non-chlorinated hydrocarbons (NCHCs), trace concentrations of semi-volatile organic compounds (SVOCs), and metals in soil and groundwater in some areas of the Site. An oily material was also identified in subsurface soil. These findings indicated the northern section of the property with the oldest plant facilities (now subdivided into Lot 1) contained several areas of soil and groundwater with contaminants of concern (COCs). The work formed a basis to define the following list of COCs for the site: VOCs, SVOCs, RCRA-list Metals[3] and PCBs.

The soil and groundwater sampling and analysis, soil boring and groundwater elevation data from the SI activities have been included in the appropriate summary tables and figures within this report and evaluated with the data collected from the RI field work most recently completed. The source of the data (RI versus SI) is referenced on Figure 5. Tables of soil boring field indicator data and sub-slab soil vapor results obtained from the SI are included in Appendix A, and boring logs from the SI are included in Appendix B.

The SI supported the delineation of preliminary areas of concern (AOCs), which served to focus the RI investigation tasks (Figure 4). Note that these AOCs have subsequently been redefined and more precisely delineated, based on the RI results. The preliminary AOCs and site features and conditions pertinent to the RI are described below:

AOC #1 – Subsurface Oil Plume:

This AOC bracketed together several borings between the north end of the building and Oneida Creek with subsurface soil impacted with oil. The area contained three former petroleum storage tank areas (one at each end of the building complex and one in the vicinity of the retention pond), with subsurface oil impact noted in their general vicinity. Laboratory analysis indicated the presence of a some VOCs and metals in subsurface soils and CHCs in groundwater in a monitoring well near the building (TW-7).

AOC #2 – Former Building 2K Degreaser:

This AOC encompassed soil borings completed within the footprint of the former Building 2K, which contained parts solvent degreasing facilities. A groundwater grab sample from an SI boring (B-102) had a total CHC concentration of approximately 7,000 micrograms per liter (µg/L). Groundwater downgradient of the area also contained CHCs. Field indicators and laboratory analytical results for soils indicated a relatively small, localized source area in the vicinity of B-102.

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[3]Resource Conservation and Recovery Act (RCRA) metals.

AOC #3 – Dissolved-Phase Groundwater Plume:

This AOC referenced the area between Oneida Creek and along the northern end of the building complex, highlighting the need for additional data regarding the potential extent of dissolved phase contamination downgradient of AOCs #1 and #2. The principal contaminants detected in groundwater were CHCs. The SI data suggested the degree of contamination is highest near the building and decreases toward the creek.

AOC #4 – Retention Pond and Creek Sediments:

The stormwater retention pond and its outfall to Oneida Creek was identified as a potential REC. This was based on the historical records search indicating the retention pond has been in operation for a considerable time, receiving interior and exterior plant and facility drainage. No SI data was generated for this feature.

AOC #5 – Electrical Transformer Area

This AOC included the outdoor transformer area on the east side of Building 1K, where a surface soil sample was identified with detectable PCB concentrations.

AOC #6 – Building Interior

This AOC highlighted the need for soil and groundwater data from inside the building, particularly given the existence of subsurface AOC impact near and along the north walls of the facility and the need for source evaluation.

3.0 SCOPE OF WORK

3.1 SPECIFIC OBJECTIVES AND RATIONALE

Based on the review of facility historical records and the SI data obtained concerning preliminary AOCs, drilling and sampling locations were proposed in the RIWP for further characterization. The proposed tasks included completion of sixteen soil borings, eight soil borings with groundwater well installations, three additional soil vapor samples from inside the building complex, collection of nine surface soil samples and additional sediment samples from two locations in the creek adjacent to the Site. The sampling and analysis plan included analyzing soil, sediment and groundwater samples for VOCs, SVOCS, metals and PCBs and soil vapor for VOCs. The proposed test locations focused on the following:

- Additional subsurface investigation and sampling was proposed in each outdoor AOC to fill data gaps regarding nature and extent of contamination.
- Additional subsurface soil and groundwater data was obtained to better characterize the site hydrogeology.
- A subsurface investigation of the soil and groundwater conditions was proposed inside the building to obtain information on whether or not there are any significant areas of impact under the building, and if present, if these areas relate to the AOCs outside the building.
- Indoor and outdoor drilling locations included investigating the subsurface conditions along the footprint of the former raceway.
- The surface and subsurface soils in the retention pond used for plant drainage works were sampled and analyzed, as were additional samples of Oneida Creek sediments at key locations along the creek adjacent to the Site and retention pond.
- The lateral and vertical extent of PCBs at the transformer AOC #6 was further evaluated.
- Surface soil samples were collected from yard areas around the Site.
- Sub-slab soil vapor samples were collected from inside Buildings 9K and 4K, which were not sampled during the SI activities.

3.2 SCOPE OF WORK DESCRIPTION

A pre-drilling site inspection was completed to finalize drill rig access logistics and to clear subsurface utilities for drilling. The drilling locations were staked out in advance of the drilling. Site surveying was completed to establish topographic survey control (using an arbitrary elevation benchmark), topographic contour information for the main area of the Site, establish benchmarks for measuring the elevation of the creek water adjacent to the Site (at the bridge over the creek on Kenwood Avenue and at the outfall structure of the retention pond). After the completion of the borings and the new wells, grades at the borings and the tops of the wells were surveyed for elevation. The well as-built survey information and water level data, including the creek benchmarks and elevation data, are provided in Table 1.

The existing SI wells on the site were re-sampled on May 3, 2010 for analysis of VOCs, as proposed in the RIWP. Samples were collected from TW-1, TW-2, TW-3, TW-7 and TW-9. Free product checks and static water levels were completed in the wells.

The outdoor drilling work for the proposed soil borings and well installations was completed first. The drilling contractor selected for the project was Parrott-Wolff, Inc. They mobilized a Geoprobe model 7822DT tracked drill rig for the project on May 20, 2010. The RI drilling activities were completed over the period of May 20 to 27, 2010 and inspected by Plumley Engineering geoscientists. All test locations used in the RI are shown on the site plan in Figure 5. Soil boring logs and well construction as-built information are included in Appendix B. The outdoor drilling program involved completing the following tasks:

- Fourteen soil borings (SB-14 through SB-22 and SB-26 through SB-30) and four monitoring wells (MW-1, MW-2, MW-3 and TW-14) were completed to obtain additional subsurface soil and groundwater information regarding the outdoor AOCs #1, #2 and #3. A field decision was made to complete four additional borings, SB-34 through SB-37, to provide additional information. Borings SB-34 and SB-35 were completed close to the edge of the creek north of the building, and borings SB-36 and SB-37 were completed in the former Building 2K area. All of the borings were completed to depths of 12 to 24 feet, with the majority to 16 feet. Boring SB-26, located in a relatively upgradient location, was advanced to 40 feet to obtain additional Site geology data. The groundwater wells were installed to depths of 12 to 24 feet.

- Direct push drilling methods were employed for the borings. During the completion of all borings, an inspector from Plumley Engineering was on the Site to observe the drilling operations, inspect and complete a log for all retrieved samples. “Field indicators” of potential contamination were routinely recorded in the field for all samples collected from the soil borings. This included photoionization detection (PID) meter soil sample headspace screening and noting the absence or presence of visual indicators of impact (staining, sheen, free product). Odor was recorded, if noticed. The field indicator data is summarized on Table 2.

- All drilling locations were sampled at a continuous interval. Samples were collected using 1.75-inch diameter, 48-inch long sleeved (“macro-core”) samplers. All borings were sealed with bentonite upon completion.

- A standard drilling log was completed for all drilling locations, to include sample depths and recovery, soil unit descriptions, groundwater observations and field indicators of potential contamination (Appendix B).

- All soil samples were field-screened using a PID meter equipped with a 10.6 eV lamp.

- All borings were extended several feet below the water table. The final depths of the borings took into consideration the elevation of the zone of subsurface impact documented during the SI outside the building and at other locations as the drilling proceeded, such that the borings were advanced to elevations to and below the known impacted zones. If field indicators of impact were noted, the borings were continued vertically until field indicator data indicated the vertical limit of impact had been reached, which for the majority of the borings, terminated in the top of cohesive clay and silt soil types.

- Subsurface soil samples were selected from the borings for laboratory analyses in accordance with the project sampling and analysis plan (SAP) detailed in the RIWP.

- A community air monitoring program (CAMP) was performed as part of the drilling work. PID monitoring of the workspace around the drill rig was also done while drilling and sampling was underway. No detections or exceedances of monitoring criteria were recorded. The CAMP data is included as Appendix C.

- Two soil borings were completed in the retention pond (SB-23 and SB-24). Boring SB-23 was completed to a depth of 12 feet using the drill rig. Boring SB-24 required using hand tools, due to soft conditions unsuitable for rig access, and was completed to a depth of 4 feet. Surface and subsurface soil samples were selected from each boring for laboratory analyses in accordance with the project SAP.

- After completing the outdoor drilling, the Geoprobe drill rig was mobilized inside to complete the indoor drilling work. All indoor locations were completed using the Geoprobe drill rig except SB-31, where low ceiling height required using portable (tri-pod hammer) tooling.

- Four 1-inch diameter groundwater sampling wells (TW-10 through TW-13) and three soil borings (SB-31, SB-32 and SB-33) were completed involving drilling depths of 12 to 20 feet. Subsurface soil samples from the borings were selected for laboratory analyses in accordance with the project SAP.

- The following field changes were made in the locations as proposed in the RIWP:

  - Well TW-11 was moved from inside Building 9K to the nearest comparable outdoor location (TW-11A), as the drilling encountered refusal conditions in buried concrete debris underneath the concrete floor.

  - Boring SB-32 was moved to a location closer to the former raceway, based on the potential impact found in the raceway at locations SB-15, SB-17 and TW-12, as will be discussed.

  - Boring SB-31 was moved closer (southward) to the end of the plant in Building 4K, again, based on the findings of potential impacts in the former raceway.

Monitoring well construction details were as follows:

- Well screen and riser materials were constructed of factory-manufactured Schedule 40 PVC monitoring well materials, using flush-threaded joints. Screen slot size used was 0.010-inch with No. 00N Morie silica sand packing to a depth of 12 inches over the top of the screen. The length of the installed well screens were 7 to 15 feet, depending upon the depth of the well and depth to the water table. The majority of the screens were 10 feet in length. The well screens were set to interface across the water table.

- The 1-inch diameter wells were all installed using a nominal 2.5-inch driven casing with expendable points, driven to depth for installing the well using the casing pull-back method. The 2-inch diameter wells were installed using the 4.25-inch ID hollow stem auger method.

- The borehole annulus above the screen sand pack was sealed with bentonite throughout the boring to within a few inches of grade.

- All exterior wells were finished using either aboveground well riser pipes installed inside minimum 4-inch diameter black iron protective guard pipe (MW-1) or 8-inch diameter steel flush-mounted monitoring well curb boxes with bolted covers (all others except TW-14). No protective well head devices were installed at TW-14, as it was expected to be sampled a single time, then abandoned.

- The interior wells were finished with well risers and locking caps left a few inches above the floor with protective traffic cones set next to them.

The following miscellaneous sampling activities were completed:

- Two sediment samples from the bottom of the creek were collected for laboratory analysis (SD-1 and SD-2). These were located in proximity of the previously collected samples for the SI and at key locations (downgradient of the AOC involving Building 2K and downstream of the retention pond outfall; Figure 4).

- Three additional surface soil samples and one subsurface soil sample were collected from AOC #5, the former PCB transformer area, for analysis of PCBs. The subsurface sample was collected from SB-25 using the Geoprobe rig.

- Three soil vapor sampling probes were installed in the granular fill immediately beneath the concrete floor slabs in Buildings 9K and 4K. The probes were constructed, sealed and helium-leak tested, then sampled using calibrated vacuum canisters on June 15, 2010. The work was completed in accordance with the RIWP, following DOH protocols for vapor sampling.

- After completing the drilling activities, the eight newly installed wells were developed and purged using low flow methods on June 11, 2010, then subsequently sampled on June 15. Samples were submitted for analysis in accordance with the project SAP.

4.0 SITE HYDROGEOLOGY

4.1 STRATIGRAPHY

The geology of the area, based on State geologic maps and soil boring/monitoring well logging and related data from the SI, was summarized in the RIWP to form a preliminary geologic model for the Site. The data collected during the RI drilling investigation resulted in a refinement of the model. Sheet 1 of 1 displays subsurface cross sections for the site. The section lines are shown on an inset map on Sheet 1 of 1. The geology information is summarized as follows:

- The New York State Bedrock Geology Map, Finger Lakes Sheet,[4] indicates the Site is located within the outcrop band of the Vernon Formation, part of the Upper Silurian Salina Group. Outcrops of the formation are present in the higher grades on the adjoining Omega Wire (Lot 2) property.

- The New York State Surficial Geologic Map[5] shows the former Oneida Knife Plant property lying within an outcrop band of glacial lake deposits in the Oneida Creek valley, which is a tributary to Oneida Lake and a wide band of glacial lake deposits. This outcrop band of commonly clay, silt or fine sand deposits has been interpreted by local geologists as lake deposits associated with glacial Lake Iroquois that formed during the early stage of the last deglaciation in the area.

- Red mudstone bedrock (typical of the Vernon Formation) is exposed in the banks and cuts in the higher hillside east of and adjacent to the Site, at elevations of approximately 390 to 400. The formation was also encountered at lower elevations in directions north toward the Oneida Creek valley in two of the deeper borings in the parking lots on Lot 2, at depths of 14 to 18 feet (at TW-5 and TW-8). Based on the USGS 7.5 minute topographic map information and site inspection, it is readily inferred that the top of the bedrock slopes downward toward Oneida Creek from the higher hillside area in the southeast. This is further indicated by the completion of a stratigraphic boring at SB-26 to a depth of 40 feet, which did not encounter bedrock, as discussed below.

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[4]New York State Museum and Science Service, Map and Chart Series 15, 1970.

[5]New York State Geological Survey Map and Chart Series 40, 1986.

- The overburden (soil) units in the subsurface in the Lot 1 – Lot 2 area overlying the Vernon shale bedrock is comprised of till with an overlying, interbedded glacial sequence of sediments comprised primarily of relatively thick beds of cohesive silt and clay, gravelly clay-silt diamictites,[6] silty fine-sand and granular, usually gravelly, sand.

- Five soil types have been logged in the glacial sequence above the bedrock at the Site, described as follows: 1) reddish-brown, cohesive, silty clay with trace or no sands or gravels ("clay" unit); 2) brown or reddish brown, cohesive silt with trace or no sands or gravels ("silt" unit), often with trace clay; 3) reddish-brown, typically firm, varying clay-silt with trace-little sands and embedded gravel with diamictite texture; 4) brown silt-fine sand and 5) brown, gray or reddish brown, granular, fine-medium sand units with trace to little silt (sand), and gravelly sand. The sand and gravelly sand units are typically loose and granular, seen in several boring locations with coarse-grained pieces of peat (wood fragments) and broken shell fragments. The gravelly sands contain distinctly more gravel in the base of the unit.

- This overburden sequence was shown to be greater than 35 to 40 feet thick at SB-26, located near Kenwood Avenue and about 100 feet south of Oneida Creek. Its full thickness over bedrock in the Lot 1 area was not investigated, as the data regarding the subsurface geology and extent of impact collected for the RI indicated the impacted stratigraphic interval was within the upper portion of the sequence, as will be discussed.

- The clay and silt units occur as laterally extensive sheets commonly 5 to greater than 10 feet thick through the Site, but also occur as more thinly interbedded lithologies. Laminations and thin bedding structure were often noted. These are inferred as quiet water lake deposits, consistent with the USGS mapping of glacial lake deposits in the area.

- Gravelly sand and poorly to moderately graded sands in the range of 2 to 8 feet thick were encountered interbedded with the clay and silt units. The sands are interpreted as indicating fluvial-derived deposition, either as fluvial channels or lake shoreline deposits, or both.

- A reddish-brown, hard sandy silt unit with embedded gravel (diamictite) was encountered overlying the Vernon formation in the borings completed furthest to the south and east on Lot 2. This unit is interpreted as a glacial till. Units of similar character were encountered in

[6] Diamictite is a graded deposit typically containing gravel-sized materials supported in a fine-grained soil matrix and that can form in a variety of depositional settings.

some of the deeper borings completed during the SI work, interpreted in the RIWP as indicating a sloping surface of till in directions toward Oneida Creek. However, the additional drilling information for the RI has indicated that reddish brown, gravelly clay-silt units with diamictite texture occur as part of the sequence, found interbedded with the clay, silt and sand deposits of the glacial sequence. These diamictites texturally could be described as "till", but are concluded to have been deposited in a glacial lake-fluvial environment.

- The boring at SB-26 was drilled to 40 feet to obtain deeper stratigraphic data. The logging indicates the presence of repetitive upward coarsening sequences, with clay passing upwards to silt or interbedded silt and clay to sand. Three such sequences are indicated in the boring. Such fining upwards sequences are typical of deltaic deposits.

Soil fill of variable thickness and character is present throughout the Site. It was determined in some of the borings completed that the uppermost 2 to approximately 8 feet of soil is comprised of mixed fills, determined based on lithology of the material and the presence of extraneous materials, such as brick fragments and cinders. Granular soil fill of poorly to moderately graded sands and gravelly sands or crushed gravel was noted, but reddish-brown, fine-grained, sandy silt or clay-silt soil with little gravel was also determined present as fill. Brick fragments and dark cinder materials were often noted in both varieties. The finer-grained soil is likely to have been locally graded native soil, as the color (reddish-brown) and composition (gravely fine grained soil) is similar to the glacial deposits at depth. It is likely development of the Site undertook a cut and fill approach into the hillside to the east. The precise interface between fill and native soils was often not determinable.

To summarize, the following stratigraphic sequence was interpreted for the Site (Sheet 1 of 1):

- The bedrock at the Site is the Vernon formation. Exposures in the higher elevations to the south are present, indicating a red mudstone. A reddish-brown till overlies the Vernon in this area.

- The top of bedrock drops significantly in elevation northward toward Oneida Creek, with an on-lapping, relatively thick sequence of glacial lake deposits entering the section that thickens toward the creek beneath the Site. The overburden sequence is comprised of fine-grained lake clay and silt deposits within interbedded units of sand, including diamictites, forming upward coarsening sequences, indicative of deltaic deposition.

4.2 HYDROGEOLOGY

The hydrogeology conditions in the investigation area are described as follows:

- A sand unit (often gravelly at the base), with a thickness of 2 to 10 feet, occurs as a prominent "near surface" unit at depths (to top of the unit) of 2 to 12 feet (Sheet 1 of 1). The unit is generally at a shallower depth closer to Oneida Creek. At all locations, the unit was found to be underlain by a clay unit, sometimes with a thin silt unit intervening between the two. Silt was commonly encountered overlying the gravelly sand, particularly closer to the buildings. Fill has been placed over the unit in places, particularly north of the building. The gravelly sand unit is thickest north of the building and thins or pinches out to the south and east. The subsurface geometry of this unit appears consistent with a fluvial channel model (linear in plan view extent and lenticular[7] in section view). Figure 6 is a site plan contouring the thickness of the sand unit (isopach map).

- The clay unit underlying the near-surface gravelly sand extends as a continuous sheet laterally through much of the investigation area of the Site, as it was consistently encountered in all borings. The unit also is interbedded with silt both vertically and laterally. Figure 7 is a site plan showing the extent and elevation of the top of this unit.

- The stratigraphic boring completed at SB-26 and deeper borings(s) to the lower elevations (e.g., MW-2) indicates additional repetitive upward coarsening sequences, (with clay to silt or sandy silt to sand) are present at elevations below the aforementioned, near-surface gravelly sand-clay two unit sequence.

- The near-surface gravelly sand unit occurs at elevations in the range of 85 to 95+ feet and was found present near the Oneida Creek bank north of the building. The Oneida Creek channel occurs at elevations of approximately 86 to 88 feet. Therefore, the creek channel is probably incised into the gravelly sand unit.

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[7]Thick in the middle and thin at the edges, resembling a convex lens shape.

- The hydrogeology characteristics of the uppermost approximately 15 to 20 feet of the subsurface at the Site is of particular relevance for the following reasons:
  - The interval contains the near-surface gravelly sand unit described and the laterally persistent clay unit beneath the gravelly sand.
  - The water table occurs at a shallow depth positioned within the gravelly sand in areas north of the building.
  - Contamination impact occurs within the gravelly sand unit (discussed in Section 5.0).

- Groundwater at the Site occurs at depths of approximately 4 to 13 feet below ground surface (bgs). Greater depths to groundwater were encountered at the higher elevations to the east and south. The shallowest depth to groundwater was encountered north of the building, at the lower grade and closest to the creek. The water table occurs at an average depth of about 6 to 7 feet in the key area north of Buildings 9K and 4K, positioned within the aforementioned gravelly sand unit.

- Groundwater flow directions at the Site, based on June 15, 2010 water level elevations, indicate flow directions toward the north and northwest (Figure 14). Similar results were obtained in prior evaluations. This flow direction is consistent with what would generally be expected, based on the topographic slope and surface water features in the vicinity of the Site (Figures 1 and 2).

- The flow direction and gradient are not uniform. The average gradient is approximately 2.5%, with a range of about 1.5 to 5%. The gradients are lower west of the building complex. This may be attributed to a change in subsurface aquifer properties or by the presence of the subsurface building structures influencing (diverting) groundwater flow.

- The gravelly sand and clay-silt units will have very marked differences in permeability and hydraulic conductivity. The hydraulic conductivity of the clay-silt and till units will have very low values ("confining beds") compared to variable and higher values for the sand units ("aquifer" units). The distribution of these two contrasting unit types in the subsurface and below the water table will be a dominant Site characteristic influencing groundwater flow direction and potential contaminant migration. Refer to Figure 8 for an estimate of site hydraulic conductivity values.

- Based on the subsurface geology of the near-surface gravelly sand-clay units described above and the available water level elevation data, it is concluded that the water table at the Site discharges into Oneida Creek, establishing the creek as a "gaining" stream or groundwater discharge feature. As the existence of the sand and gravel unit is prevalent near the creek with some occurrence at elevations below the creek bed (Sheet 1 of 1), there is the potential that during periods of high runoff (high river stage), the creek may temporarily turn to a losing stream condition, with surface water recharging the water table in directions back toward the south.

- Well TW-2, located close to the creek, has an "anomalously" high water level elevation (Figure 14). Groundwater gradients west of the building complex are lower and with the presence of clay confining bed units at the site, groundwater could be "perched". A water line leak locally surcharging the area is also conceivable.

- The Oneida Creek valley, from the vicinity of Sherrill southward for several miles, has been mapped as a potential (principal) aquifer by the USGS. "Principal aquifers" are either known aquifers that are productive or geology information suggests could be productive, but which are not used intensively as water supply sources by municipalities. However, the subsurface hydrogeology data from the investigation suggests this is not appropriate in the area of the Site for the following reasons:

    - Sand-rich soils appear associated with the present day creek as a Surficial deposit. Their utility as a potential water table aquifer will likely be limited by a thin saturated thickness.

    - Repetitive coarsening-upward sequences at depth (Section A-A', Sheet 1 of 1) suggest the presence of relatively thin confined aquifers that are likely to be bounded above, below and laterally by confining-bed type soils.

    - No soils expected to have high hydraulic conductivity (e.g., containing appreciable coarse sand and gravel) have been found present at the Site.

    - Shallow aquifers would likely have to rely on stream infiltration if high yields are sought, which is less desirable as a source.

5.0 NATURE AND EXTENT OF CONTAMINATION

5.1 PROJECT STANDARDS

The following regulatory standards, criteria and guidance (SCGs) were proposed in the approved project in the RI work plan:

Groundwater .... DEC Division of Water Technical and Operational Guidance Series (TOGS) (1.1.1), *Ambient Water Quality Standards and Guidance Values*, dated June 1998, and including 2008 revised standards as applicable.

Soil .... New York Codes, Rules and Regulations, Title 6 (6NYCRR) Part 375-6, *Remedial Program Soil Cleanup Objectives (SCOs)*, specifically the SCOs for *Industrial Restricted Use* and the *Protection of Groundwater*, as applicable.

Sediment .... *Sediment Criteria for Non-Polar Organic Contaminants*, DEC Technical Guidance for Screening Contaminated Sediments, January 1999.

Soil Vapor .... *Guidance for Evaluating Soil Vapor Intrusion*, New York State Department of Health (DOH), October 2006.

Site investigation and remediation planning tasks substantially conformed to DEC *Technical Guidance for Site Investigation and Remediation* (DER-10), dated May 3, 2010.

5.2 DATA PRESENTATION AND ANALYSIS

The following work was completed to evaluate the nature and extent of Site COCs:

- Tables 3 and 7 are “condensed” tables summarizing the analytical data in the form of reported compound detections above method detection limits for each media. Results are compared against the project SCGs. Summary tables of the analytical results with the reported method detection limits and SCGs are included in Appendix D.

- The analytical results for the sample locations have been organized (grouped) in the condensed tables into six subareas of the site, 1 through 6 (Figure 5), to facilitate statistical evaluation of the data. These are data evaluation areas, not to be confused with AOCs. Table 8 summarizes the statistical occurrence of individual Site COCs detected and exceedances of SCGs. Evaluation areas with the highest concentrations of detected COCs are indicated on the table.

- The spatial distribution of the RI data about the Site have been summarized on various site plans. Figure 9 is a site plan summarizing the distribution of field indicators and VOC analytical data for subsurface soils. Similar presentation is given in Figure 10 for subsurface metals and PCBs. Figure 11 is an isopleth contour map of PID subsurface soil headspace screening data and Figure 12 shows the distribution and delineated areas of subsurface oily impact. The analytical results for surface soil samples are shown on Figure 13. Groundwater analytical results and groundwater contours are summarized on Figure 14.

- The data usability summary report (DUSR) is included in Appendix E.

5.3 SUMMARY OF FIELD INDICATORS

The observations of potential indicators of contamination in subsurface samples made during the RI drilling program are summarized in Table 2 and Figure 9. Figure 9 also includes the field indicator data obtained from the SI activities. The following is a summary of the field indicator information collected for the Site discussed in context of the preliminarily defined AOCs.

In general, PID readings at the site were low, with a maximum reading on the Site of 263 ppm. Only five locations had readings greater than 100 ppm.

As detailed on Figure 10, PID readings have been categorized for brevity of discussion as follows: trace as <5 ppm; low as >5 to <25 ppm; medium as >25 to <100 ppm; high as >100 ppm.

AOC #1 – Subsurface Oil Plume

- Oily material in soil samples were noted forming a clustered pattern of six locations north of Buildings 9K and 4K and four locations in a smaller cluster adjacent to Buildings 3K/5K and 14K. Refer to Figure 12. The oily material has a colorless or golden-brown appearance.

- Oily material was noted within 1 and 2-foot subsurface intervals in the area north of Buildings 9K and 4K at depths 6 to 9 feet, approximately coincident with the water table. Oily impact was generally shallower in the area of Building 14K, 1.5 to 4 feet, with one occurrence at 6.5 feet. This area is at a higher elevation and the water table is deeper, approximately 12 to 13 feet. Refer to Table 2.

- Soil samples with oily material were gray or black.

- Staining without oil, typically gray to near black soil color with odor, was noted at six locations (Figure 12). These were spatially located near borings with oily material.

- PID readings (greater than 0 ppm) were recorded from locations with and without visual indicators (oily material and probable contaminant staining). The highest readings, however, were typically associated with the samples with visual indicators. Readings from these locations ranged from 2.8 to 263 ppm (Table 2). Areas with the highest PID readings are found north of Buildings 9K and 4K and inside Building 4K (Figure 11). Elsewhere, elevated PID readings ranged from ±5 to <100 ppm.

- Drilling locations across (north of) the driveway near the creek and north of the locations with visual impact in the area of Buildings 9K and 4K at TW-9, SB-35, SB-12 and SB-34, and TW-1 and TW-14 north of Building 14K, showed no field indicators with the exception of a low PID reading (5 ppm) at TW-9.

- At all locations north of Buildings 9K and 4K, field indicators were noted in the sandy gravel unit near and below the water table. No field indicators of impact were noted in the underlying clay unit. In the majority of the borings in this area, no field indicators were noted in the overlying 4 feet to grade. Refer to Table 2 and Sheet 1 of 1 for details.

- No field indicators were noted at TW-14, completed to further delineate conditions at TW-1.

- Fine organic materials were noted in some of the soil units in the upper units of the site, and thus some of the darkened soil zones could reflect natural organic material to some extent.

AOC #2 – Former Building 2K Degreaser:

- Soil boring B-102, located at the former Building 2K degreaser, had a soil PID level of 80 ppm and soil staining at a depth of 7 to 8 feet (Figure 11). Slight indications of potential contamination (PID readings of 1 to 15 ppm with no visual indicators) were noted in nearby borings B-109 and B-101 at depths of about 7 to 10 feet and locations SB-4, SB-26 and TW-3 at similar depths.

- Observations at locations SB-22 and TW-2 located outside and downgradient of the former building included trace to medium levels of PIDs with no visual indicators.

- No field indicators were noted in borings SB-3, SB-5 and B-114, located closely north, south and east of B-102. Borings SB-36 and SB-37 to the east also provide additional "clean" data points for delineating the area of impact.

- No field indicators were noted in the MW-1, completed across Kenwood Avenue.

AOC #3 – Dissolved-Phase Groundwater Plume:

- No field indicators were noted in borings SB-26, SB-28, SB-34 or SB-35.

- PID readings were 0 in borings SB-34 and SB-35. Maximum PID readings in SB-26 and SB-28 were 1.1 and 14 ppm in thin zones at 10 feet bgs.

AOC # 4 - Retention Pond and Creek Sediments:

- No visual indicators were noted in either of the two borings completed in the retention pond, nor were any visual indicators noted in the creek sediment samples collected.

- Trace PID readings of less than 1 ppm were recorded in the shallow subsurface samples (1 to 4 feet at SB-23 and 1 to 2 feet at SB-24).

AOC #5 – Electrical Transformer Area:

- No PID readings or visual indicators were noted in the subsurface boring (SB-25) completed near the transformers.

AOC #6 – Building Interior

- Three locations were drilled in Building 3K/5K. No visual indicators were noted in any of the borings. Trace to low PID readings were recorded at SB-32 and trace to medium readings at TW-13. No PID readings were recorded in the third location (SB-33). The readings were recorded primarily within the first 5 feet of soil, either in sandy soil (possible fill) or the underlying fine grained clay-silt soils. Maximum PID readings were from about 4 feet in the two borings with PID readings, tailing off vertically at 8 feet at SB-32. Elevated readings extended deeper at TW-13, with a medium reading at 12 to 13 feet followed by trace readings to 20 feet. These readings were recorded in fine-grained, confining bed-type soils.

- Two locations were drilled in the Building 4K basement (TW-12 and SB-31). Both locations showed oily material with elevated PID readings of 263 ppm at TW-13, located furthest north, and 33 ppm at SB-31, located furthest south. The dark, oily zones were from approximately 6 to 11 feet at TW-12 and 2 to 6 feet at SB-31. Both zones were in the zone of groundwater saturation in gravelly sand. PID readings in the trace to medium range were recorded in the overlying soils to the concrete floor, but without visual indicators.

- Well TW-10, drilled in Building 9K, exhibited no visual indicators and had a maximum PID reading of 2 at 9 feet.

- Well TW-11A, the well relocated from the eastern portion of Building 9K, exhibited a trace PID reading at 14 feet associated with oily material. These indicators were found in a unit of gravelly sand believed to be correlative with the near-surface unit of gravelly sand prevalent along the north side of the building. The zone of impact was clearly above an underlying clay unit.
- Soil borings SB-36 and SB-37 were added to the scope to further delineate the field indicators observed at well TW-11A. No field indicators were noted at either location.

5.4 SUBSURFACE SOIL

Subsurface soil samples were submitted for analysis from 38 soil borings completed during the RI drilling work, with some additional analytical work involving fewer locations completed during the prior SI activities. Grab samples were selected from intervals exhibiting the highest field indicators of contamination, when present. This involved samples from at and below the water table at the majority of the locations. An additional deeper soil sample was collected from two locations that exhibited field indicators through 4 or more feet vertically in the boring (SB-18 and TW-13) to confirm the vertical limits of contamination. An additional deeper sample below the zone with field indicators was also collected from SB-20, selected from a second deeper unit of gravelly sand beneath the near-surface clay unit.

All samples were analyzed for VOCs using EPA Method 8260, as these compounds were the most prevalent class of compounds detected and exceeding SCGs identified by the SI activities. Seventeen samples from the RI borings were analyzed for SVOCs (EPA Method 8270 B/N) and RCRA metals and nine samples for PCBs (EPA Method 8082) in accordance with the RIWP. An additional six samples were analyzed for VOCs and SVOCs, four for metals and two for PCBs during SI activities. Samples submitted included seven samples containing oily material found north of and inside the building including TW-11A. The analytical results were compared to the DEC Part 375-6 Soil Cleanup Objectives (SCOs).

VOCs:

VOCs were detected present in 30 of the 38 samples submitted (79%) (Table 3A). Compounds present included both CHCs and NCHCs (Table 8). The most frequently reported CHC included cis-1,2-dichloroethene (DCE) at seven locations, followed by vinyl chloride (VC) at three locations. TCE and tetrachloroethene (a.k.a. perchloroethene or PCE) were also reported present. The most frequently detected NCHCs were naphthalene, 1,2,4 trimethylbenzene, sec-butylbenzene, 2-butanone, 1,3,5 trimethylbenzene, n-propylbenzene and m&p xylene. Benzene was reported at one location. Acetone and carbon disulfide occurred in ten and nine samples, respectively. Total VOC concentrations for the samples with detections were relatively low, ranging from 8 to 27,890 parts per billion (ppb), with all samples except one being less than 10,000 ppb and 82% less than 1,000 ppb.

None of the locations contained compounds with concentrations exceeding the industrial restricted use SCOs (Table 3A). SCOs for the protection of groundwater were exceeded in only nine of the 38 RI samples analyzed (24%). Locations with VOCs exceeding SCOs for the protection of groundwater included (Figure 9; Table 3A):

- Four locations in the former Building 2K degreaser area (B-102, SB-4, SB-22 and SB-26), involving CHCs (DCE, TCE, VC) and acetone. Concentrations of the CHCs exceeded criteria by factors of between 1 and 2 orders of magnitude. Acetone was exceeded by less than one order of magnitude.

- Six of 20 locations sampled north of the building, involving only acetone at four of the locations (SB-18, TW-10, MW-2 and MW-3), benzene at one location (SB-29) and n-propylbenzene at one location (SB-21). These exceedances were by relatively small, less than ~2x factors of the SCOs.

No VOCs were detected present above any of the SCOs at any of the indoor locations.

SVOCs:

SVOCs were detected present in 12 of the 23 samples submitted (52%) (Table 3B). Compounds reported present were all PAHs. The most frequently reported SVOCs included 2-methylnapthalene and phenanthrene at five and six, and naphthalene and benzo(a)pyrene at four locations (Table 8). Total SVOC concentrations, where detected, were relatively low, ranging from 450 to 79,910 ppb. Only two locations contained SVOCs with concentrations exceeding the SCOs for either industrial use or protection of groundwater. This included a 1 to 2-foot sample from SB-23 in the retention pond, where benzo(a)pyrene slightly exceeded the 1,100 µg/kg industrial use SCO with a concentration of 1,340 µg/kg and two additional compounds (chrysene and benzo(a)anthracene) with 1,000 µg/kg SCOs for the protection of groundwater were slightly exceeded with concentrations of 1,240 and 1,610 µg/kg. A sample from 6 feet from SB-11, located outdoors near Building 3K/5K, also had chrysene and benzo(a)anthracene present at concentrations of 1,600 and 1,400 µg/kg, exceeding the SCO for groundwater protection.

Metals:

RCRA metals exceeding the industrial SCOs were reported present in five of the 21 samples analyzed (24%) involving lead at two locations, arsenic at five locations and trivalent chromium at one location (Table 3C). Lead concentrations ranged from 5 to 30,200 milligrams per kilogram (mg/kg) at the locations where lead was detected and exceeded the industrial SCO of 3,900 mg/kg at SB-15 and SB-29. The industrial restricted use SCO for trivalent chromium of 6,800 mg/kg was exceeded at SB-15 for a 7 to 9-foot sample depth, with a concentration of 35,300 mg/kg. The industrial use and groundwater protection SCO for arsenic of 16 mg/kg was slightly exceeded at five outdoor locations, with concentrations ranging from 20 to 143 mg/kg. Locations with metals exceeding groundwater SCOs included (Table 3C):

- Five locations outdoors in the areas north of Buildings 4K and 3K/5K had exceedances in lead.

- Also outdoors north of Buildings 4K and 3K/5K, two locations for nickel, one location for mercury and one for silver.

- One interior location at TW-12 for lead.

- SB-23 and SB-24 in the retention pond for arsenic at both locations and cadmium at one location. These exceedances were by relatively small (less than x2) factors.

- No exceedances were detected for the samples analyzed inside the Building 3K/5K area or in the former Building 2K and outdoor Building 9K areas.

Figure 9 summarizes the locations where subsurface soil contained metals exceeding the SCOs. The majority of the exceedances were by factors less than an order of magnitude.

PCBs:

PCBs were analyzed for 20 locations. PCBs were detected in eight of the 20 samples (40%), but all at concentrations less than the industrial use or protection of groundwater SCOs (Table 3D; Figure 9). The SCOs for the protection of groundwater (total PCBs) is 3.2 mg/kg and 25 mg/kg for industrial restricted use. Total PCB concentrations for the samples with detections ranged from 0.019 to 1.965 mg/kg. All reported detections were from outdoor locations north of the building, including the two locations in the retention pond. No PBCs were detected in any of the interior locations.

Oil:

Petroleum product identification analyses of oily material from SB-11 and SB-13 were completed during the SI activities. The results indicated the material is a mixture of weathered oils. The proper identification of weathered materials can be difficult and the reported identification results should be considered an interpretation. The materials were reported by the laboratory as No. 2 fuel oil and transmission oil. Fuel oil and lubricating oil was used by the facility.

5.5 SURFACE SOIL

Surface soil samples were collected from yard areas at four locations (SS-3 through SS-6) and two locations from the retention pond (SB-23 and SB-24), and analyzed for VOCs, SVOCs, RCRA metals and PCBs (Table 4; Figure 13). Only four VOCs were detected in three of the six samples, including one sample with PCE and two samples with m&p-xylene and trimethylbenzene (Table 4A). Reported compound concentrations ranged from 4.35 to 15.4 µg/kg, all well below the SCOs. Some SVOCs were detected present in five of the six samples, but only one sample (SS-5), located north of Building 3K/5K, had two SVOCs [chrysene and benzo(a)anthrasene] slightly exceeding the 1,000 µg/kg SCOs for the protection of groundwater with concentrations of 1,170 and 1,700 µg/kg (Table 4B). None of the samples contained any of the RCRA metals at levels exceeding the SCOs (Table 4C). PCBs were detected in all samples, but at concentrations well below the SCOs (Table 4D).

Four surface samples have now been collected from the transformer AOC and analyzed for PCBs (Table 4D). Sample TE-W was tested for PCBs during the SI activities and had a total concentration of 3.16 mg/kg, near the 3.2 mg/kg SCO for protection of groundwater. Surface samples SS-1, SS-2 and SB-25 were collected to provide additional information. All three samples contained PCBs, but at levels well below the 3.2 mg/kg SCO for the protection of groundwater. Concentrations ranged from 0.18 to 1.64 mg/kg.

5.6 CREEK SEDIMENT

H&A sampled the Oneida Creek sediments at four locations in March 2006. Two of the samples were collected north of the building (HA-SED-2 and HA-SED-3), one sample was collected well upstream of the factory across Kenwood Avenue, and the fourth sample was collected well downstream of the retention pond. The four samples were analyzed for VOCs using EPA Method 8260. Only one sample, HA-SED-3, located north of Building 9K, had detected CHC compounds (TCE, PCE and DCE) at concentrations ranging from 43 to 187 µg/kg. H&A did not analyze for total organic carbon content (TOC) for the 2006 sediment sampling event.

Two additional samples of creek sediment were obtained for the RI (SD-1 and SD-2) from locations nearby and downstream of locations HA-SED-2 and HA-SED-3. The samples were analyzed for VOCs, SVOCs, RCRA metals, PCBs and TOC. The results were compared against the DEC sediment guidance values (Table 5). No VOCs or SVOCs were detected. No PCBs were detected. Nine of the 13 RCRA metals were detected present in both samples, with the following five exceedances of sediment guidance values:

- Chromium exceeded the guidance by the largest degree, reported at a concentration of 498 mg/kg in SD-1, exceeding both the lowest and highest effect level criteria of 16 and 110 mg/kg by factors of less than 1 and 2 orders of magnitude.

- Copper and nickel slightly exceeded the lowest effect guidance values of 16 mg/kg in SD-1, with reported concentrations of 18.7 and 23.3 mg/kg.

- Arsenic and manganese slightly exceeded the lowest effect guidance values of 6 and 460 mg/kg at SD-2, with reported concentrations of 6.2 and 463 mg/kg, respectively. The arsenic concentration at SD-1 was similar, reported as 6.16 mg/kg.

5.7 GROUNDWATER

A total of 13 groundwater wells are currently located at the site. Eight were installed for the RI and five were installed during the SI activities. Groundwater from the five SI wells was originally sampled and analyzed in April 2006 for VOCs, SVOCs and metals, and resampled for the RI on May 3, 2010 for VOCs only (Table 6B). The eight RI wells were sampled on June 15, 2010, following installation. All eight were sampled for VOCs and six for all site COCs in accordance with the RIWP. The 2010 results are summarized and compared with groundwater standards below (Tables 6A and 6B; Figure 14):

- Six of the 13 wells contained VOCs exceeding groundwater standards (46%), two wells contained one or two detected VOCs but at concentrations less than the standards, and five wells were non-detect for VOCs.

- VOC total concentrations in the wells (with detections) ranged from 1 to 953 µg/L.

- CHCs are most prevalent, with six reported detected, including TCE, PCE, DCE, DCA and VC. Compounds with the highest concentrations were TCE and DCE. CHCs were detected in all of the wells with detected VOCs. CHCs occurring the most frequently were VC, DCE and TCE. Toluene was the only NCHC detected present in one well only.

- Comparing the April 2006 and the May 2010 results for the five wells resampled for VOCs (Table 6B) indicates a similar reporting of compound types at concentrations approximately the same or lower.

- Wells with the highest concentrations are TW-2 and TW-3, in or downgradient of the former Building 2K area, and well TW-7, near and north of Building 9K. Wells furthest west and east of the building (MW-1 and TW-14) were both non-detect. Wells MW-2 and TW-9, downgradient and north of Buildings 9K and 4K located near Oneida Creek, meet groundwater standards for VOCs.

SVOCs and PCBs were analyzed in six of the RI wells located in the preliminary AOCs, including MW-2, MW-3, TW-11A and interior wells TW-10, TW-12 and TW-13. All results were non-detect for both compound classes.

RCRA metals were also analyzed in the six wells installed in the preliminary AOCs. The results are summarized as follows:

- Barium and zinc were present in all of the wells at concentrations less than groundwater standards. Manganese, with a standard of 0.6 mg/L, was exceeded in three of the wells by relatively small factors, with reported concentrations of 1.07 to 4.04 mg/L in unfiltered samples.

- Detections of all the metals were reported for interior well TW-13, located in Building 3K/5K, with arsenic, beryllium, chromium, lead and manganese exceeding standards by relatively small factors (approximately x2 or less except for manganese) in unfiltered samples.

- Wells with metals at concentrations greater than standards (MW-3, TW-11A and TW-13) were also analyzed with filtered samples. Manganese continued to be reported present above standards in two of the three wells. For TW-13, the results were non-detect for all metals except for barium and manganese, reported at concentration meeting standards.

5.8 SURFACE WATER

Surface water samples from Oneida Creek were collected upstream, adjacent to and downstream of the Site and analyzed by H&A in conjunction with the sediment samples they collected in March 2006. All four samples were analyzed for VOCs using EPA Method 8260. No detections were reported in any of the samples.

5.9 INTERIOR SUB-SLAB VAPOR

Soil vapor samples were collected from beneath the concrete floor of the building at two locations in Building 3K/5K during the prior SI activities (SV-3 and SV-4). Three additional locations were completed for the RI, one in Building 9K and two in Building 4K (SV-5, SV-6 and SV-7; Figure 5). The samples were collected from the granular fill immediately beneath the concrete floor slab. Helium tracer tests were successfully completed on the three locations to insure the vapor collection points were adequately sealed beneath the concrete floor from the building space. The samples were analyzed for VOCs using EPA Method TO-15. The results are summarized as follows:

- In Building 3K/5K (SV-4), three NCHCs and one CHC (PCE) were detected in the sub-slab soil vapor samples. At location SV-3, one compound, PCE, exceeded the maximum sub-slab concentration of 100 micrograms per cubic meter ($\mu g/m^3$) that triggers a requirement for periodic monitoring for vapor intrusion in the DOH guidance, with a reported concentration of 131 $\mu g/m^3$. The compound most prevalent in the soil vapors and with the highest concentrations was acetone. An analytical summary table of the results is provided in Appendix A.

- In the Building 9K and 4K samples, a wide range of both CHC and non-chlorinated VOCs were reported present, all at relatively low concentrations. Reported concentrations of PCE and TCE were all below the >100 and >50 $\mu g/m^3$ DOH guidance value for monitoring (Table 7).

The results were also evaluated by estimating indoor air concentrations using published empirical attenuation factors that could be caused by intrusion of soil vapors into an overlying structure. The projected indoor air concentrations were then compared to draft DOH indoor air guidance values, if available, background indoor air concentrations for office buildings[8] and Occupational Safety and Health Administration (OSHA) permissible exposure levels (PELs).[9]

The indoor air concentration was estimated by multiplying the maximum soil vapor concentration on the Site by the attenuation factor. A conservative (over-estimate) was made using an attenuation factor of 10^{-1} from shallow soil vapor to indoor air concentrations, according to screening values published by the EPA.[10] This factor provides an estimate of worst-case conditions. An estimate of indoor air concentrations was also made using an attenuation factor of 10^{-6}, that is considered more representative of site-specific conditions. This factor is based on published data and our own experience. This attenuation factor is appropriate for concrete slabs in good condition without preferential pathways and without negative indoor air pressure. The results of this evaluation show no compounds exceed the DOH guidelines, background indoor air concentration or OSHA PELs when estimates are made using the site-specific attenuation factor. When using the conservative EPA screening attenuation factor, the estimated indoor concentration for PCE at location SV-3 exceeds the DOH guidance value of 3 $\mu g/m^3$, with an estimated concentration of 13 $\mu g/m^3$, and acetone exceeds typical indoor background concentrations under the worst-case scenario. Although many compounds were reported present in the Building 9K and 4K samples, concentrations were generally lower and none of the estimated concentrations exceeded the DOH guidance values for PCE and TCE. None of the compound concentrations at any of the locations approach the OSHA PELs, which are approximately four orders of magnitude higher than the guidance values or background values.

5.10 TENTATIVELY IDENTIFIED COMPOUNDS (TICS)

SVOC and VOC TICs were analyzed for in subsurface soil, surface soil and groundwater samples and concentrations reported by the project laboratory. It should be noted, however, that

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[8]Background Indoor Air (Office), Building Assessment and Survey Evaluation (BASE '94-'98) by Indoor Environments Division, EPA per Draft DOH Vapor Intrusion Guidance.

[9]Occupational Safety and Health Standards, 29CFR1910, Tables Z-1 and Z-2, Time-Weighted Average – 8 hours.

[10]United States Environmental Protection Agency *Draft Guidance for Evaluating Vapor Intrusion*, dated November 2002.

the reporting of TICs as a concentration is semi-quantitative. The TICs data are summarized as follows:

- No SVOC or VOC TICs were reported for the groundwater samples collected from the eight wells installed for the RI.

- VOC and SVOC TICs were reported present in all subsurface soil samples analyzed for the RI, except for one SVOC analysis for sample SB-30 (Tables 3A and 3B). The range of concentrations for the SVOC soils samples was 3,301 to 886,900 µg/kg. The range of VOC TIC concentrations was 301 to 152,900 µg/kg.

- There is a direct correlation between the absence or presence of field indicators of contamination and the reported TIC concentrations for the VOCs and SVOCs. Samples with oily material and inferred staining with elevated PIDs had the higher TIC concentrations, while locations with no visual or PID indicators of contamination had the lowest TIC concentrations.

- SVOC and VOC TICs were also reported for the four surface soil samples collected from the yard areas of the Site. The range of TIC concentrations were lower than for subsurface soils. VOC TIC concentrations ranged from 73 to 5,142 µg/kg and SVOC TIC concentrations ranged from 14,641 to 27,704 µg/kg.

- There are no SCOs for TICs in the Part 375 soil cleanup objectives.

5.11 NATURE AND EXTENT OF SUBSURFACE SOIL AND GROUNDWATER CONTAMINATION

This section of the report discusses the nature and extent of subsurface soil and groundwater contamination. As previously discussed (Section 5.2), the site has been divided into six "data evaluation areas" (1 through 6; Figure 5) on appropriate tables to assist in evaluating trends. The following discussion focuses on the distribution of the detected COCs at the site, including frequency of occurrence, concentrations (with and without regard to exceedances of SCGs), location on the site (e.g., in plan view) and in context of the subsurface hydrogeology. Available information regarding the potential sources for the COCs is also discussed.

5.11.1 Subsurface Soil

- The concentrations of the detected VOCs and SVOCs in subsurface soil were low with relatively few exceedances of SCOs (Tables 3A and 3B). Total VOC concentrations in 97% of the samples were either non-detect or less than 10 mg/kg (82% less than 1 mg/kg), and total SVOC concentrations in 83% of the samples were either non-detect or less than 10 mg/kg. Only nine out of 38 samples (24%) had VOCs exceeding any of the SCOs, and only two out of 23 samples (9%) of the SVOC sample analyses. Acetone was the VOC most frequently exceeding SCOs (13% of the samples). SCOs for the CHCs, including VC, DCE and TCE, were exceeded in 3 to 5% of the samples. VOC exceedances were most numerous involving CHCs in the former Building 2K area. VOC exceedances for NCHC were most numerous in the area north of Building 4K. The degree of exceedances for VOCs and SVOCs were by relatively small factors (usually less than order of magnitude).

- Exceedances for metals have a similar, though somewhat higher level of occurrence (Tables 3C and 8). Exceedances were reported for six of the 13 metals analyzed, with exceedances reported in 5 to 29% of the samples. Metal exceedances occurred most frequently in outdoors areas north of the building.

- CHCs in subsurface soil were not detected at any of the interior locations in Building 4K (including TW-11A) or Building 3K/5K. Low concentrations of only CHCs (TCE and PCE) below SCOs) were detected at TW-10 inside Building 9K.

- CHCs are the dominant contaminant type in the former Building 2K outdoor area (Table 3A). This area also had the highest concentrations of all CHCs (Table 8). As degreasing operations were conducted in Building 2K, this is taken as confirmation of a source area for CHCs. CHCs are also present outdoors in the area north of Buildings 9K and 4K, all at concentrations below SCOs. As will be discussed in further detail, the source of the CHCs indoors at TW-10 and outdoors across the area north of Buildings 9K and 4K in soil and groundwater could also have been from this area.

- NCHC contaminants without detected CHCs characterize the VOCs found inside the building and at the outdoor locations near Building 3K/5K (Table 3A).

- NCHCs and CHCs are both present in the outdoor area north of Buildings 9K and 4K, with the NCHCs occurring at a slightly greater frequency (Table 3A). NCHCs have the highest concentration in evaluation areas 2 and 4, located outdoors north of Building 4K and near Building 3K/5K, respectively (Table 8).

- A zone of oily material in subsurface soils was found in two clustered outdoor areas (Figure 12): near Building 14K and north of Buildings 9K and 4K, straddling the driveway. Oily soil was also present at the two locations drilled inside Building 4K and at TW-11A. Two samples of oily material analyzed during the SI activities from SB-11 and SB-13, located north of Buildings 1K and 4K, contained non-chlorinated VOC compounds, including naphthalene, isoproylbenzene and n-butylbenzene, which are also prevalent in these areas. One of the most frequently reported SVOCs was 2-methylnaphthalene at four locations. Oil identification (GC/FID) analyses on these samples indicated "possibly a mix of weathered transmission fluid and fuel oil" at SB-13 (north of Building 4K) and "possibly a weathered transmission oil" at SB-11 (near Building 3K/5K). These results suggest degraded material that could be from two different sources. Petroleum fuel and lubricating oils were both used in plant operations. Petroleum storage tanks were also located in these areas (Figure 12).

- A few SVOCs (PAHs) were detected present at some locations north of and inside the building (Table 3B). Concentrations were the highest in the outdoor areas north of Building 4K and near Building 3K/5K (Table 8). These could be from a number of different sources, including natural background, buried industrial hard fill materials (e.g., cinders), constituents of petroleum fuel and combustion byproducts (SVOCs have a greater occurrence level in surface soils).

- The majority of the RCRA Metals occur in 70 to 100% of the subsurface soil samples analyzed, with similar frequencies in the surface soil samples analyzed. The highest subsurface soil concentrations of all metals were in the outdoor evaluation areas north of the building, especially in areas 2 and 4 (north of Buildings 4K and 3K/5K).

- No samples had PCB concentrations exceeding SCOs. Traces of PCBs were detected in six of the 18 subsurface samples analyzed, all of which were at outdoor locations north of the building and in the retention pond (Table 3D). No PCBs were detected in any of the five locations inside the building, nor at TW-11A. PCBs were also present in trace levels in the site surface soils (Table 4D). Known uses at the site include oil for use in electrical transformers.

5.11.2 Groundwater

CHCs were the only organic contaminants detected above groundwater standards in the groundwater samples collected from all of the Site wells for the RI, with the exception of toluene in TW-3, located outdoors in the former Building 2K area (Table 6). Wells TW-1 and TW-9 had reported detections of toluene in the first round of VOC sample analysis, but not the second. CHC concentrations exceeded groundwater standards in six of the 13 wells (46% of the samples). CHC concentrations were the highest outdoors in the Building 2K area and north of the Building 9K (Figure 14). Concentrations of metals in groundwater were non-detect or slightly above standards (Table 6A). SVOCs and PCBs have been ruled out as Site COCs in groundwater (Table 6A).

The source of the CHCs in groundwater at the Site is concluded as being mainly or entirely from degreasing operations within the former Building 2K. Considering the groundwater flow direction (Figure 14), the occurrence of trace VOCs in TW-10 is also likely from this area. Groundwater samples collected from wells TW-12 and MW-2 installed elsewhere in delineated areas of subsurface soil impact do not have concentrations of dissolved phase COCs (Figures 12 and 14). This interpretation requires or implies that the building foundations are not a substantial diversionary barrier to groundwater flow from the Building 2K area or that buried utilities in the area are having an influence on migration pathways.

5.11.3 Fate and Transport Properties of Site COCs

The fate and transport properties of contaminants have a bearing on their ability to persist, migrate or attenuate in the subsurface or aboveground environments. Hence, their importance in understanding the nature and extent of contamination and potential human health and environmental exposures. The fate and transport properties of the site COC chemical classes are summarized as follows:

Non-Chlorinated VOCs: Tend to have relatively high values of solubility in water and are more easily leached in the soil column. Their relatively high vapor pressures tend to increase their occurrence in the vapor phase. These compounds are lighter than water and will float in groundwater and form a LNAPL if present in sufficient quantities (e.g., pure liquids).

Chlorinated VOCs: Tend to be less soluble in water than non-chlorinated VOCs, but sufficiently soluble to create dissolved groundwater plumes. They have relatively high vapor pressures and will readily migrate into the vapor phase. These compounds are heavier than water and will sink in groundwater and form a DNAPL if present in sufficient quantities (e.g., pure liquids).

SVOCs: Tend to have low values of water solubility and a relatively high affinity for portioning (absorbing to)in the soil phase. Their vapor pressures are low and do not easily volatilize.

Metals: Tend to be relatively immobile in the soil and atmospheric environments, due to their strong affinity for soil and their very low solubility in water.

NAPL: NAPL (Non-Aqueous Phase Liquid, or "free product") has not been found present at the Site. If the material is lighter than water (LNAPL), it can accumulate (float) on the groundwater and migrate with groundwater flow. Denser than water liquids (DNAPL) can sink through the groundwater column and accumulate on confining beds. Downward migration of free phase liquid is controlled by gravity through the vadose zone, preferentially following more pervious zones or structures, if present above the water table.

PCBs: Have low values of water solubility and a relatively high affinity for soil. They do not volatilize significantly.

5.11.4 Hydrogeology Considerations

The hydrogeology conditions established for the site with particular bearing on the extent of contamination are summarized as follows:

- Except for the impacts in the upper elevation area of the Site containing Building 3K/5K, field indicators and detections of subsurface impacts elsewhere at the Site are associated with the water table. Indicators are found variously present at and below the uppermost water table, which occurs generally at depths of 6 to 9 feet.

- The subsurface indicators of impact involving the water table occur in a more permeable, near-surface unit of gravelly sand. This sand unit has underlying clay and silt units forming an "aquifer-confining bed" two-unit sequence. This near-surface sequence is a key stratigraphic boundary at the Site along the northern and lower elevation area of the Site, where the majority of the subsurface indicators of contamination have been found.

- Groundwater flow within the near-surface gravelly sand unit will be principally in horizontal directions, as opposed to vertical, given that the "aquifer" is relatively thin and bounded beneath by confining units. Groundwater gradients and flow direction involving the water table are non-uniform, but are generally suited for inducing an overall flow direction toward the northwest and north. Building foundations, more deeply buried utilities, the former Oneida Creek sluiceway and shallow clay units with "perched" groundwater are all potential factors in locally influencing groundwater migration. It is reasonably concluded that the occurrence of dissolved phase CHCs in groundwater north of the building has migrated from the former Building 2K source area via this mechanism.

- The interlayered nature of the overburden sequence containing appreciable units of fine-grained lake clay and silt deposits will afford a considerable impedance to vertical contaminant migration and potential impacts to deeper aquifer type soils or bedrock. Glacial till is likely present overlying the bedrock at the site. The areas of highest impact delineated at the Site are either distinctly above the water table or contained above the first, near-surface clay-silt confining unit. No DNAPL has been found nor suggested to be present at the Site.

- The current Oneida Creek channel is at the same elevation interval as the near-surface gravelly sand/clay unit sequence. Groundwater flow data indicates the creek along the northern section of the Site is a groundwater discharge feature. With the exception of TW-2, which contains elevated levels of CHCs, soil borings and groundwater wells installed furthest downgradient north of the driveway indicate no or relatively minor impact.

5.11.5 Evidence of Contaminant Degradation

The following findings suggest site contaminants have undergone degradation in the subsurface:

- PCE and TCE are common industrial solvents, which were detected in some of the subsurface soil and groundwater sample locations. VC and DCE compounds, known to be common natural degradation byproducts of TCE and PCE, are also present at higher occurrence rates (Table 8).
- VOC and SVOC TICs were present in all subsurface soil samples analyzed, showing a correlation between the semi-quantitative reported concentrations and the presence of field indicators of contamination (PID readings, olfactory and visual indicators). Their presence at higher concentrations in samples with elevated field indictors may be an indication these are related to degraded contaminants.
- GC/FID product identification analyses completed on the oily material for the SI suggested degraded source materials.

Manufacturing operations on the Site have occurred for decades, beginning in the late 1800's, and the facility build-out of the Site evolved over several decades. Given the long history of the Site operations, absence of free product, evidence of contaminant degradation, the relatively low concentrations of detectable COCs and the affinity for many of the COCs detected present to absorb to soil (PCBs, SVOCs and metals), it is likely that the contamination is naturally attenuated.

5.12 DELINEATION OF AREAS OF CONCERN

The investigation work supports the delineation of the following AOCs (Figure 15):

AOC #1 – Former Building 2K Degreaser

This AOC pertains to a small area of elevated groundwater contamination within the footprint of the former Building 2K. Main characteristics include:

- The former Building 2K contained solvent degreasing facilities. CHCs are the characteristic COC in this area.

- CHCs are present as lightly impacted soils near and below the water table at approximately 8 feet and as dissolved phase contaminants. Field indicator data indicate moderately elevated PID readings without staining, typically 2 to 3 feet thick, with thin staining noted at only one location (B-102). Some low-order exceedances of soil SCOs for CHCs occur.

- Groundwater CHC concentrations exceed groundwater standards in and downgradient of the former building area (Figure 14). Dissolved phase CHCs associated with this area are the highest on the Site. CHCs in groundwater north along Buildings 9K and 4K likely migrated from the Building 2K source area via anomalies in the groundwater flow direction and/or subsurface migration pathways associated with buried building structures or utilities.

AOC #2 –Exterior Oil Plume 9K-4K

This AOC pertains to outdoor subsurface soil impacts adjacent to and north of Buildings 9K and 4K (Figure 12). Characteristics include:

- Features of potential pertinence include: former petroleum fuel storage facilities to fire plant boilers, including a fuel oil aboveground storage tank (AST) facility located adjacent to Building 9K, a UST located north of the driveway with a feed line back to the building, and outdoor yard areas.

- Subsurface soils at various depths of 6 to11 feet contain an absorbed oil material, possible contaminant staining, moderately elevated PIDs, elevated SVOC and VOC TICs. The thickness of the impacted zones with visual indicators and elevated PIDs was typically 1 to 3 feet and were found at and below the water table.

- The impact is found within the near-surface unit of gravelly sand, with limited vertical extent above underlying clay and silt units.

- Subsurface soil contains both CHCs and NCHCs at low concentrations with few, low-order exceedances of SCOs. PCBs were detected present at five locations, but at levels below

SCOs. GC/FID analysis of the oily material suggested degraded petroleum and lubricating oils.

- With the exception of TW-7, which had a total VOC concentration of 257 µg/L and concluded to have likely migrated as dissolved phase contamination from the Building 2K area, groundwater quality in, near and downgradient of the oil impact area either meets or nearly meets groundwater standards.

- The source of these impacts has not been documented. However, known usage of fuel oil for boilers and petroleum storage facilities outdoors in close proximity are likely possible sources. Lubricating oils were also used at the Site. The former sluiced raceway for Oneida Creek is a potential migration pathway linking the Building 4K area (which has similar oily impact) with the outdoor area of impact.

AOC #3 – Exterior Oil Plume 14K

This AOC is located outdoors, adjacent to Buildings 3K/5K and 14K (Figure 11). Main characteristics include:

- The area occurs at the higher site grade with a deeper depth to the water table. A reported UST fuel oil storage facility was located within the area of impact.

- Subsurface soils impacted with an absorbed oil material, some staining, low-level PIDs and SVOC and VOC TICs occur adjacent to the building at shallow depths (1.5 to 6 feet) above the water table. The thickness of the impacted subsurface soil zones with visual indicators and elevated PIDs was typically a few inches to 2 to 4 feet. The impacts are associated with the finer-grained, cohesive clay-silt unit soils and surface fill materials.

- Subsurface soil contains NCHCs and some SVOCs at low concentrations, with no exceedances of SCOs. PCBs were detected present at one location, but at levels below SCOs. No CHCs were detected.

- Groundwater in TW-1, located downgradient of this AOC, has a low total VOC concentration of 79 µg/L.

- The cause of these conditions has not been documented. Known usage of boiler petroleum fuel oil is a possible contributing source. Outdoor storage and incidental surface spills are also suggested by the shallow occurrence of the impact.

AOC #4 – Interior Building 4K

This area refers to impacted subsurface soil located inside Building 4K, which is partially constructed into the hillside to the south forming a basement elevation to second floor building elevations and meets the ground surface grade with the yard area on the north side. Main characteristics of the area are as follows (Figures 11 and 12):

- Two locations drilled in the building (TW-12 and SB-31) both contained black subsurface soil with moderate to high PID readings, TICs and some absorbed oil material, similar to the outside of the building (AOC #1-9K-4K). The impact is present in groundwater-saturated soil in gravelly sand soil underlain by clay, as elsewhere at the Site. Field indicators were more pronounced in the northern location (TW-12) than at the southern location (SB-31).

- The number of detected COCs and their concentrations are lower than the outdoor area of oily impact to the north of Buildings 9K and 4K. A few NCHCs and SVOCs were detected in the subsurface soil samples from the zone of impact, but no exceedances of any SCOs were detected. PCBs were not detected present.

- Groundwater from TW-12 was non-detect for all site COCs.

- TW-11A, located outside the building but tightly against the 9K-4K building wall, had similar oily material and sampling and analysis results as TW-12.

- The source of this oily material has not been documented. Petroleum oil was used to fire boilers located inside Building 9K and lubricating oils were used in plant processes, and are the most likely source materials.

- Soil vapor results indicate the presence of a few CHCs and NCHCs at relatively low concentrations.

- The former raceway for Oneida Creek is located through Building 4K and could be a groundwater migration pathway leading to or from the outdoors.

AOC #5 – Interior Building 3K-5K

This AOC refers to relatively low-level subsurface soil and groundwater impact inside Building 3K/5K. The slab-on-grade building was constructed at the higher plant elevation and contained forges. Main characteristics are:

- Field indicators of contamination included low to moderately elevated PID readings with no visual indicators. No staining or oily material was observed present.

- COCs in soils included only NCHCs, similar to the outdoor area adjacent to the wall and Building 14K. Field indicators were the highest at depths of 4 to 8 feet. None of the soil samples analyzed exceeded any of the SCOs. PCBs were not detected present. Groundwater from TW-13 had a total VOC concentration of 10 µg/L and slightly exceeded groundwater standards for VC.

- Soil vapor results indicate the presence of both CHCs and NCHC at relatively low concentrations.

- No incident or source for these conditions has been documented. The most likely source mechanism is the leaching of contaminants from the adjacent shallower impact area outdoors back inside.

AOC #6 – Retention Pond and Surface Soils

The retention pond and the Site surface soils are retained as an AOC for further consideration, based on the widespread occurrence of PCBs, the detection of SVOCs and some metals in the surface soils about the Site and in the retention pond at low concentrations (primarily less than SCGs), but which could potentially be a source of additional off-site contaminant release of COCs into Oneida Creek via stormwater and soil erosion mechanisms. Characteristics include:

- The stormwater retention pond contains an overflow outfall to Oneida Creek. Approximately 60% of the Site is unpaved grass or gravel yard areas (which were sampled for the surface soil analytical program), with the remainder containing the building, pavement or concrete ground covers. The area north of the driveway adjacent to and uphill of the creek has a well-established cover of vegetation, primarily grass and shrubs.

- No visual indicators were observed in the retention pond and PID readings were ~1 ppm or less, recorded only in the first few inches of soil. No visual indicators of surface soil impacts were noted anywhere on the Site.

- A few SVOCs and RCRA Metals were exceeded at limited locations in the surface soils and retention pond. No VOCs were detected in any of the surface soils.

- PCBs were detected present in all surface soil sampled in the yard areas and retention pond, but at levels below SCOs.

The following site features and conditions have been ruled out as AOCs, detailed as follows:

Oneida Creek Surface Water and Sediments:

- SI surface water sampling and analysis activities did not indicate any surface water impacts in the creek. The RI has indicated that the majority of the AOC impacts do not involve the creek.

- To date, four sediment samples from the creek north of the building have been collected and only one sample, collected for SI activities, contained VOCs at relatively low concentrations. No SVOCs, VOCs or PCBs were detected in the two RI samples.

- A few metals were detected present exceeding sediment criteria by relatively small factors.

Transformer Area:

PCBs were detected in all surface samples from the transformer area, but at concentrations below the SCOs. No PCBs were detected in the shallow subsurface soil sample collected in the area for the RI.

6.0 EXPOSURE ASSESSMENT

6.1 INTRODUCTION

The purpose of qualitative exposure assessment (EA) is to assess the potential pathways involving human health or sensitive environmental features to the Site COCs for use in guiding decisions regarding the need and objectives of Site remediation. This evaluation considers current Site conditions, as well as reasonably expected future Site conditions. For each potentially exposed receptor, Site conceptual pathways have been evaluated to determine the exposure route, medium and exposure point. If any exposure pathways are found to be potentially complete, investigation measures to further assess impacts or measures to close the pathway, such as engineering controls, institutional controls or remediation, can be considered. Table 9 summarizes the EA.

6.2 SITE CONCEPTUAL MODEL

The Site is located in an area zoned for manufacturing on the south side of the City of Sherrill. The properties surrounding the Site include undeveloped, wooded lands to the east and west, Oneida Creek to the north, a residential area to the north across the Creek and an industrial area to the south (Figure 2). The Site is served by the City's public water supply and sewer system. The City's water is obtained from the City of Oneida Water District. No water supply wells are present on the Site. The nearest known wells are located beyond the termination of the public water supply main, approximately 1,600 to 1,800 feet south of Kenwood Avenue.

The nearest sensitive environmental habitat to the Site is Oneida Creek. The nearest regulated wetland area is approximately 1,100 feet to the southwest. A pond (Sunset Lake) is located approximately 400 feet west of the Site, across Oneida Creek from the Site and distinctly cross-gradient with respect to the Site's groundwater flow direction. The Oneida Creek valley has been mapped as a potential (principal) aquifer that is not currently used for municipal supply.

The plant had a long history of silverware manufacturing and an earlier period of textile and canning operations. Manufacturing began in the late 1800's and extended into 2006.

The building complex was expanded over the decades, spanning through the 1900's. Construction was of stone and masonry, with a combination of steel and wood structural elements and mainly brick siding. Concrete floors, 6 inches thick, were poured throughout the complex on all grade level sections. Interior floor drains and exterior stormwater catch basins were tied into gravity pipelines that discharged into the retention pond. The majority of the utilities servicing the building are present in the area north of the building, including water, gas, drains, storm and sanitary sewer lines. Many of the building utilities are routed into Building 4K. Sewer and stormwater mains run in a general east-west direction, roughly parallel with the creek, through the driveway/lawn area north of the building. The Site is no longer in use, and is fenced and monitored by Oneida Silversmiths, Inc. personnel.

The site hydrogeology has been described in Section 4.0. The key attributes for the EA are as follows (Sheet 1):

- Till overlying the Vernon shale bedrock formation was determined present south of the site. The top of the bedrock, and presumably the till, slopes down into the subsurface in northerly directions toward Oneida Creek, where a thick sequence of glacial lake deposits occur as an on-lapping sequence beneath the Site.

- Two main soil types in the overburden sequence at the Site include fluvial-derived deposits of sand and gravelly sand interbedded with clay and silt lake deposits. Stratigraphic analysis of the subsurface units indicates a near-surface unit of gravelly sand forming a thin water table "aquifer" interbedded with clay-silt is the primary stratigraphic interval of interest with regard to the extent of subsurface contamination. Hydraulic conductivity of the fluvial sands will be several orders of magnitude greater than the clay-silt units.

- The subsurface zones of impact characteristic of AOCs #1, #2 and #4 are associated with the water table and the near-surface unit of gravelly sand. Prevalent units of clay and silt form a basal confining bed condition to the gravelly sand.

- Clay and silt deposits comprise a considerable portion of the overburden sequence and provide a considerable, overall confining bed buffer to the bedrock and deeper potential aquifers.

- Groundwater seepage directions (and any related contaminant migration) will be substantially in horizontal directions in all Site units, controlled by the laminated and thinly bedded structure of the clay-silt units and the interbedded aquifer confining bed arrangement of the fluvial sands and lake clay-silt deposits.

- Groundwater flow direction is generally toward the north and north-northwest (Figure 14), with an overall gradient of approximately 2.5%. During high river stages, Oneida Creek could temporarily turn to a losing stream with a backflow (southerly) of surface water into the Site near-surface gravelly sand unit. If this does occur, we expect these to be relatively infrequent, short-lived events.

- The Site water table slopes to the surface water elevation of the creek and it is concluded the creek is a groundwater discharge feature likely in hydraulic connection with the near surface unit of gravelly sand.

- The lateral and vertical limits of the main areas of impact have been determined to occur on the Site (no off-site migration) at relatively shallow depths (6 to 12 feet) associated with key Site units that have been well delineated. With the exception of one monitoring well near the creek (TW-2), soil borings and monitoring wells have shown the downgradient limits of impact to be short of the creek.

- Grossly impacted source areas containing free-phase liquids (LNAPL, DNAPL) or high contaminant concentrations are not a characteristic of the AOCs. Investigation data indicates the contamination within the impacted areas delineated is degraded and attenuated on the Site.

6.3 CURRENT AND FUTURE USES

The Site is a manufacturing facility in an area zoned for manufacturing. The building complex is currently not being used or occupied, and has been closed since the late 1990's. No manufacturing or commercial uses are anticipated in the near future, as the facility is old and in need of significant improvements prior to any occupancy and use. Demolition of the building complex is being considered by the Site owner.

The anticipated future use of the property is for industrial purposes.

6.4 HUMAN HEALTH

6.4.1 Potential Receptors

As the current and expected future use of the property is industrial, identification of potential human health receptors has focused on the maintenance and operational activities related to industrial uses. The same receptors will be evaluated for both, as follows:

- On-Site workers for industrial uses of the site (future).
- On-Site maintenance personnel (current and future).
- On-Site construction workers (current and future).

The following receptors have been specifically ruled out at this time, based on the SI and RI results.

Off-Site Residential Inhabitants and Sensitive Building Developments (e.g., schools): There are large separation distances from the Site to the nearest such areas, located across Oneida Creek (Figure 2). The RI has demonstrated the main areas of impact associated with the AOCs are contained on the Site and except for a relatively small area around TW-2 downgradient of AOC #1, dissolved phase contamination has decreased to trace or non-detected concentrations short of the creek.

Adolescents and Trespassers: The industrial use of the Site justifies excluding adolescents as significant potential receptors. On-Site workers (full-time employees) are included in the analysis, providing a more conservative evaluation than short-term occupancy of the Site by the occasional trespasser.

Water Supply Wells: No water supply wells are located on the Site and there is a large separation distance (±¼ to ⅓ mile) between the Site and the nearest known water wells, located to the south (upgradient). The AOC impacts are contained in the shallow, near-surface overburden deposits with underlying confining bed soils.

Intensive use of potential aquifers in the Oneida Creek Valley is not anticipated based on the established availability of existing municipal water supply for the area. Current subsurface data suggests there is no highly productive groundwater aquifer on-site.

6.4.2 Site Conceptual Exposure Scenarios

An analysis of the potentially completed human health exposure pathways is detailed in the attached Table 9. The most likely scenarios with potentially completed exposure pathways are related to exposure to potentially impacted subsurface soils and groundwater by workers taking part in current or future intrusive construction activities at the Site. On-Site day-to-day exposures to personnel do not exist under the current (unused) conditions.

The exposure risk to the current maintenance personnel overseeing the buildings and grounds is considered insignificant. If the building remains into the future, there is a minimal to low risk of soil vapor exposure scenarios for future indoor site workers.

6.5 FISH AND WILDLIFE RESOURCE IMPACT ASSESSMENT (FWRIA) – ONEIDA CREEK

6.5.1 Resource Identification and Description

Fish and Wildlife Resources (FWRs) in proximity of the Site are described below:

- FWR habitat associated with Sunset Pond and the identified nearest freshwater wetlands west of the Site (Figure 2).

- Oneida Creek is a Class C stream. The creek is regularly stocked with trout. The Oneida Creek corridor upstream (toward the wetlands) and downstream of the Site into more wooded ground covers support wildlife species typical of woodlands. The commercial and industrial development on both sides of the creek has largely eliminated bordering wooded habitat along the segment of the creek immediately adjacent the site.

- Sediment dwelling fauna and bottom feeding fish in the creek are to be expected. The condition of the creek bed adjacent to the Site is characterized by a moderately flowing current and generally a gravelly-silt sand, free of aqueous weed beds.

- There are no known or threatened endangered species or rare ecological communities recorded in the vicinity within a ½-mile radius of the Site.[11]

- There are no known consumptive fish advisories for the creek. No physical signs of distressed vegetation are evident.

6.5.2 Pathway Analysis

The investigation provided the basis for identifying the following potential contaminant pathways:

- Seepage of groundwater containing dissolved phase COCs (CHCs in particular) into the surface water or sediment of the creek adjacent to the Site, particularly in the TW-2 area downgradient (north) of AOC #1 (former Building 2K).

- Potential discharge of soil-absorbed contaminants from stormwater runoff and erosion and control problems involving surface soils and Site drainage features to the creek potentially contributing additional, low concentrations of Site COCs, particularly PCBs, SVOCs and Metals.

Based on the identified potential pathways, the most likely completed pathway for FWR is concluded to involve the sediment-dwelling fauna and fish in Oneida Creek. However, the exposure scenario has been ruled out, based on:

- The investigation work indicates the main areas of impact associated with the delineated AOCs do not extend to the creek.

[11] DEC Environmental Resource Mapper, October 2010

- Dissolved phase groundwater contaminant migration is not a significant source pathway to creek water or sediments. Surface water analytical results obtained during the SI work were non-detect for VOCs. Sampling and analysis data of creek sediments have not indicated significant impacts (Section 5.6).

- The stormwater retention pond can be ruled out as a significant contributing source, based on the characterization of soil borings and sampling and analysis data completed for the RI (Section 5.0). The Site does not pose a significant risk of sediment loading to the creek via erosion problems, given the established ground cover conditions and surface soil COC concentrations that generally meet SCGs.

6.6 MITIGATION OF POTENTIAL HUMAN HEALTH EXPOSURES

The potential human health exposures identified for construction workers associated with intrusive activities on the Site can be mitigated by one or more of the following:

- Implementing an appropriate soil and groundwater management plan for the Site.

- Property deed restrictions.

- Site remediation of contamination.

For future indoor industrial workers potentially exposed in the subsurface soil vapor scenario, assuming the building remains into the future, the concrete floors throughout are currently and would continue to provide a resistant barrier to vapor intrusion. Soil vapor concentrations are relatively low and expected to be at levels well below OSHA standards for the COCs (Section 5.9). Also:

- Additional soil vapor intrusion evaluation work could be completed to determine if the exposure route is a completed pathway of concern.

- If the building complex is taken down to allow construction of new facilities, mitigating measures could be incorporated into the new development plan, involving vapor barriers and/or sub-slab depressurization.

7.0 CONCLUSIONS

7.1 HYDROGEOLOGY

The geologic sequence of overburden units at the Site is comprised of fine-grained lake clay and silt deposits forming fining upward sequences with more permeable fluvial-derived sands and gravelly sand deposits. These geologic relations are consistent with a deltaic depositional model and glacial lake sediments mapped in the Oneida Creek – Oneida Lake valley areas by the United States Geological Survey (USGS). The top of the Vernon Shale bedrock formation with overlying till present in the shallow subsurface south of the Site drops in elevation northward toward Oneida Creek, while the overburden lake sequence forms a thickening on-lap sequence beneath the Site. A near-surface gravelly sand unit with an underlying clay confining bed, occurring at and below the shallow water table at depths of 6 to 9 feet, is a key stratigraphic interval delineated in the AOCs of the northern section of the Site. The unit is present in the northern portion of the Site and thins out to the south and east.

North to northwesterly groundwater flow directions are indicated, generally consistent with the topography and surface water features in the area. Groundwater flow directions involving the water table will be principally in horizontal directions, controlled by the bedding characteristics of the lake sediments and permeability contrasts between the coarser-grained fluvial-derived and fine-grained clay-silt. Groundwater elevation data for the water table indicates Oneida Creek is a groundwater discharge feature.

7.2 NATURE AND EXTENT OF CONTAMINATION

Historical records review and Site characterization activities have identified some VOCs, including both CHCs and NCHCs, SVOCs (PAHs), Metals and PCBs as Site COCs. An oily material, believed to be degraded petroleum and lubricating oils used at the site, is present as a characteristic subsurface "plume" condition in some of the AOCs. The oil is concluded as being adsorbed to the soil, as no visual or monitoring well observations have indicated the presence of any free-phase (saturated) liquids.

The investigation activities have led to delineating the following areas of concern:

AOC #1 is located within the footprint of former Building 2K, which contained solvent degreasing facilities. This AOC is characterized most significantly by the presence of CHCs in groundwater. No subsurface zones of gross impact were found. Dissolved phase CHCs are concluded as having migrated downgradient to or near Oneida Creek and spreading somewhat easterly into the subsurface area north of the building.

AOC #2 involves an area of oily subsurface impact with moderately elevated soil PID readings located outside, north of Building 9K/4K. Subsurface soil contains a mix of NCHCs and CHCs at low concentrations with few, relatively low-order exceedances of SCOs. PCBs were detected present at several of the locations, but at levels below SCOs. With the exception of TW-7, which contains CHCs exceeding groundwater standards concluded to have migrated from AOC #1, groundwater quality in, near and downgradient of the oily impact area either meets or nearly meets groundwater standards. The impacts occur at and below the water table in the near-surface unit of gravelly sand. The downgradient extent of the subsurface soil impact and groundwater contamination is short (south) of Oneida Creek and vertically attenuated either within the gravelly sand or at the top of the underlying clay unit. Former petroleum fuel oil storage tank facilities (for plant boiler fuel) were present in the area.

AOC #3 involves another area of oily impact in subsurface soils outdoors adjacent to Building 3K/5K. The characteristics are different than AOC #2, in that the impact is at shallower depths above the water table, has a lower PID soil signature and CHCs have not been detected as a contaminant. Absorbed oil and some staining in subsurface soils occurs in a relatively small area tightly against Building 3K/5K at depths of 1.5 to 6 feet. NCHCs and some SVOCs are detected in soils at low concentrations, with no exceedances of SCOs. PCBs were detected present at one location, but at levels below SCOs. The impact is contained in surface fills and fine-grained clay-silt soils. A buried petroleum fuel oil tank was reportedly located in the area of impact.

AOC #4 refers to drilling locations inside Building 4K and TW-11A, which also contained subsurface soil with oily impact and moderately elevated soil PIDs in the near-surface gravelly sand unit. A few NCHCs and SVOCs were detected in the subsurface soil samples from the zone of impact, but no exceedances of any SCOs were detected. PCBs were not detected present. Groundwater from the most highly impacted location, based on field indicators (TW-12), was non-detect for all Site COCs. Drilled locations inside Building 4K are believed to be located in an area along a former sluiced raceway channel for Oneida Creek water used in the earliest period of plant operations.

AOC #5 is also an indoor AOC, located in the upper plant Building 3K/5K. Characteristics are generally similar to those in AOC #3, located outdoors next to the adjoining wall, in that the field indicators of impact are primarily in the shallow, fine-grained soils above the water table and subsurface soil samples contained only NCHCs. However, no staining or oily materials were noted. PCBs were not detected present. Groundwater from TW-13 had a total VOC concentration of 10 μg/L and slightly exceeded groundwater standards for VC. The source of the contamination was likely from the outdoor area of impact of AOC #3.

AOC #6 refers to the stormwater retention pond and site surface soils which pose a minimal risk of contaminated sediment releases to the Oneida Creek. Surface soil in the yard and retention pond areas are retained as an AOC, based on the localized detection of a few SVOCs and RCRA Metals exceeding SCOs by small factors and PCBs detected present in all surface soil samples, but at levels below SCOs.

A preliminary AOC for the RI work plan involving the outdoor transformer location behind Building 3K/5K, where PCBs were detected present in SI activities, has been eliminated as an AOC by the RI, based on the results of additional sampling in the area. Results indicated the presence of PCBs in the surface soils in the area, but at levels below SCOs. Surface soils were also collected from other yard areas of the Site for analysis of Site COCs. With the exception of two SVOC compounds slightly exceeding SCOs in one sample, no detections or exceedances were reported in the analyses. PCBs were present in all surface samples from the yard areas, but at concentrations below the SCOs.

Oneida Creek surface water and sediments have been ruled out as an AOC on the basis of the surface water and sediment sampling and analysis completed for Site COCs, indicating a diffused occurrence of few COCs. With the exception of one sample of sediment containing a few CHCs collected during SI activities, no other detections of VOCs or SVOCs were reported in any of the other samples, and only four RCRA Metals were detected present exceeding sediment criteria by relatively small factors. No PCBs were detected in the RI sediment samples.

The chemical class of compounds detected present are generally consistent with industrial activities at the Site. CHCs include the detection of degreasing solvents TCE and PCE and their common degradation compounds (DCE, VC). The NCHCs detected are compounds consistent with components of the petroleum fuels stored and used to fire the boilers at the plant during operation. Petroleum fuel storage facilities were located near AOCs #2 and #3, both of which have subsurface oily impact. CHCs were most prevalent in AOC #1, where solvent degreasing facilities were located, and also present in AOC #2, where they likely migrated as dissolved phase constituents in groundwater from AOC #1. NCHCs are characteristic of AOCs #3 and #5, but also present in AOC #2. Petroleum fuel storage facilities were located in or near these areas as likely sources. AOC #4, involving the interior of Building 4K, contains oily material but a distinct lack of chemical detections compared to other areas. Lubricating oils were used in plant operations and are another likely source. Cinder-bearing fill materials in the subsurface, particularly north of the building, have also been observed and is a likely contributing to the low-level detections of some of the SVOCs. These relations suggest there are several source mechanisms involved.

A noteworthy characteristic of the subsurface AOCs is the statistical infrequency of COC concentrations exceeding regulatory criteria in samples selected and analyzed from subsurface zones of highest impact based on field indicators. Excluding acetone, only 4 of 38 samples had compounds with VOC exceedances, 2 of 23 samples had SVOC exceedances and 9 of 21 had exceedances for the various metals. Many of the samples were non-detect for VOCs and SVOCs. The reasons for the relatively limited occurrence of regulated compounds, low concentrations and few samples with SCO exceedances are believed to be a result of some combination of the following:

- Low spill source strength (no areas of grossly impacted source materials contributing to detected COCs).

- Long history of operation, beginning in the late 1800's, and evidence of subsurface degradation of source materials.

- Some of the subsurface oily material may be a refined lubricating oil.

The data obtained from the investigation activities for the Site has provided a basis for delineating the extent of subsurface AOC impact as described. The main conclusions involving these AOCs are:

- Impact in AOCs #1, #2 and #4 involving the subsurface in the northern and lower elevation area of the Site, is present in the uppermost sandy gravel unit involving the water table. Impact in AOCs #3 and #5 occurs at shallower depths above the water table.

- The vertical extent of contamination has been limited in all AOCs to shallow depths by the presence of fine-grained clay and silt deposits.

- AOC #1 is the only AOC which clearly has a dissolved-phase groundwater plume associated with it.

- No upgradient contributions of contamination from Lot 2 are evident. In AOC #4, involving the interior of Building 4K at location SB-31, some oily material and elevated PIDs were recorded at the furthest southern location. However, the degree of impact is distinctly less than at the downgradient TW-12 location to the north, and no exceedances of groundwater standards or soil SCOs are indicated.

- AOC #1 has highest frequency of SCG exceedances. Impact in the rest of the AOCs has few or no exceedances.

- No areas of gross impact involving high strength source materials is present.

7.3 EXPOSURE ASSESSMENT

The main conclusions regarding the qualitative human health and environmental exposure assessments completed are as follows:

- No currently completed human health pathways of concern have been identified for the existing or current condition scenarios for the current and anticipated future industrial use of the property. On-Site construction workers undertaking excavation activities in the AOCs have been identified as the most likely potential receptors. Future indoor industrial workers could potentially be involved with a soil vapor intrusion pathway.

- Some combination of institutional and engineering controls will be viable in addressing the potentially complete human health exposure pathways for site workers.

- FWRIA has identified the Class C Oneida Creek and aquatic wildlife associated with it involving the creek sediments as the most significant potential environmental pathway receptor. Direct sampling and analysis data to evaluate this pathway supports a conclusion of minimal, diffused contaminant impact in the sediments and surface water, and therefore the pathway has been ruled out.

- Low-level detections of PCBs, SVOCs and metals in Site surface soils could potentially be mobilized as additional low concentration loadings to the creek sediment via adverse stormwater and erosion control mechanisms. A Site Management Plan could be implemented to eliminate this as a significant pathway.

8.0 RECOMMENDATIONS

We recommend the following remedial action objectives (RAOs) for consideration:

- *Groundwater RAOs for Public Health Protection*: Prevent incidental contact with contaminated or potentially contaminated groundwater in AOCs #1, #2 and #4 during future Site excavation activities by Site workers.

- *Groundwater RAOs for Environmental Protection:* Restore the groundwater in AOC #1 to pre-release conditions to the extent practicable.

- *Subsurface Soil RAOs for Public Health Protection:* Prevent incidental contacts and inhalation of volatiles associated with impacted or potentially contaminated subsurface soils during future Site excavation activities by Site workers.

  Prevent inhalation of soil vapors by future indoor Site workers volatizing from subsurface soils and impacting the indoor air quality via soil vapor intrusion.

- *Surface Soil RAOs for Environmental Protection:* Prevent potential mobilization of Site contaminants in surface soils to Oneida Creek via stormwater related runoff and soil erosion problems.

An agreement on the RAOs with the DEC should be reached prior to completing a remedial alternatives assessment report.

FIGURES

REF.: USGS - VERNON (NY) QUAD., 1955, 7.5 MIN. SCALE: 1"=2000'

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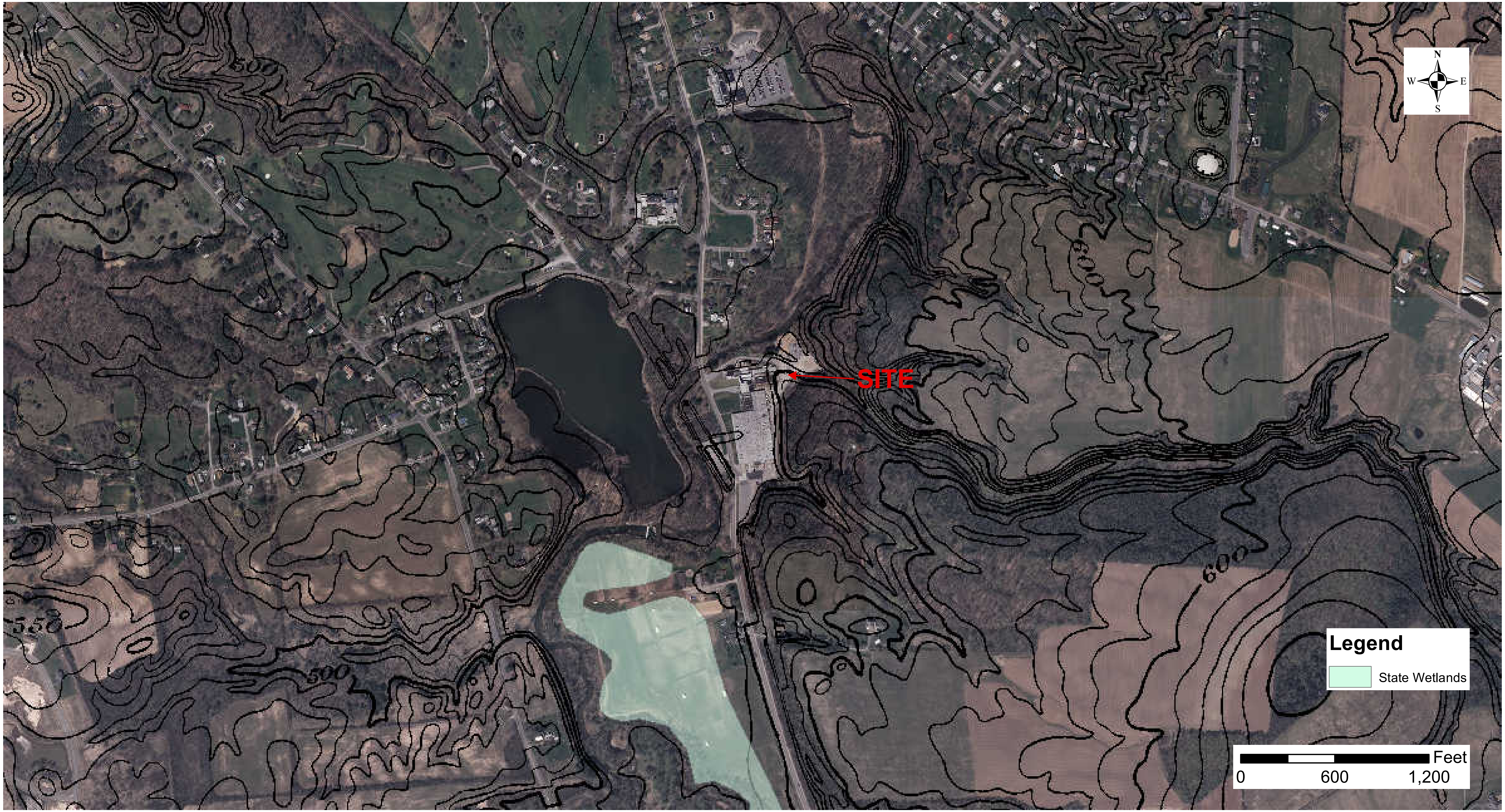
PROJECT:	FORMER ONEIDA KNIFE PLANT - LOT 1 REMEDIAL INVESTIGATION REPORT
DWG. TITLE:	TOPOGRAPHIC SITE LOCATION MAP
CLIENT:	ONEIDA SILVERSMITH, INC.
LOCATION:	CITY OF SHERRILL, ONEIDA COUNTY, NEW YORK

Note: No alteration permitted hereon except as provided under Section 7209 Subdivision 2 of the New York State Education Law.

PROJECT No.:	2006065
FILE NAME.:	FIGURE 1
SCALE:	AS NOTED
DATE:	NOV. 2010
ENG'D BY:	DRV
DRAWN BY:	JMD
CHECKED BY:	DRV



DOT Topo - Vernon (NY) Quad., 1955 Contours, 1978. NYS GIS Clearinghouse - City of Sherrill, Oneida County, New York, 1-Foot and 2-Foot Resolution Natural Color Orthoimagery, April 2008.

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PROJECT: FORMER ONEIDA KNIFE PLANT - LOT 1

CLIENT: ONEIDA SILVERSMITHS, INC.

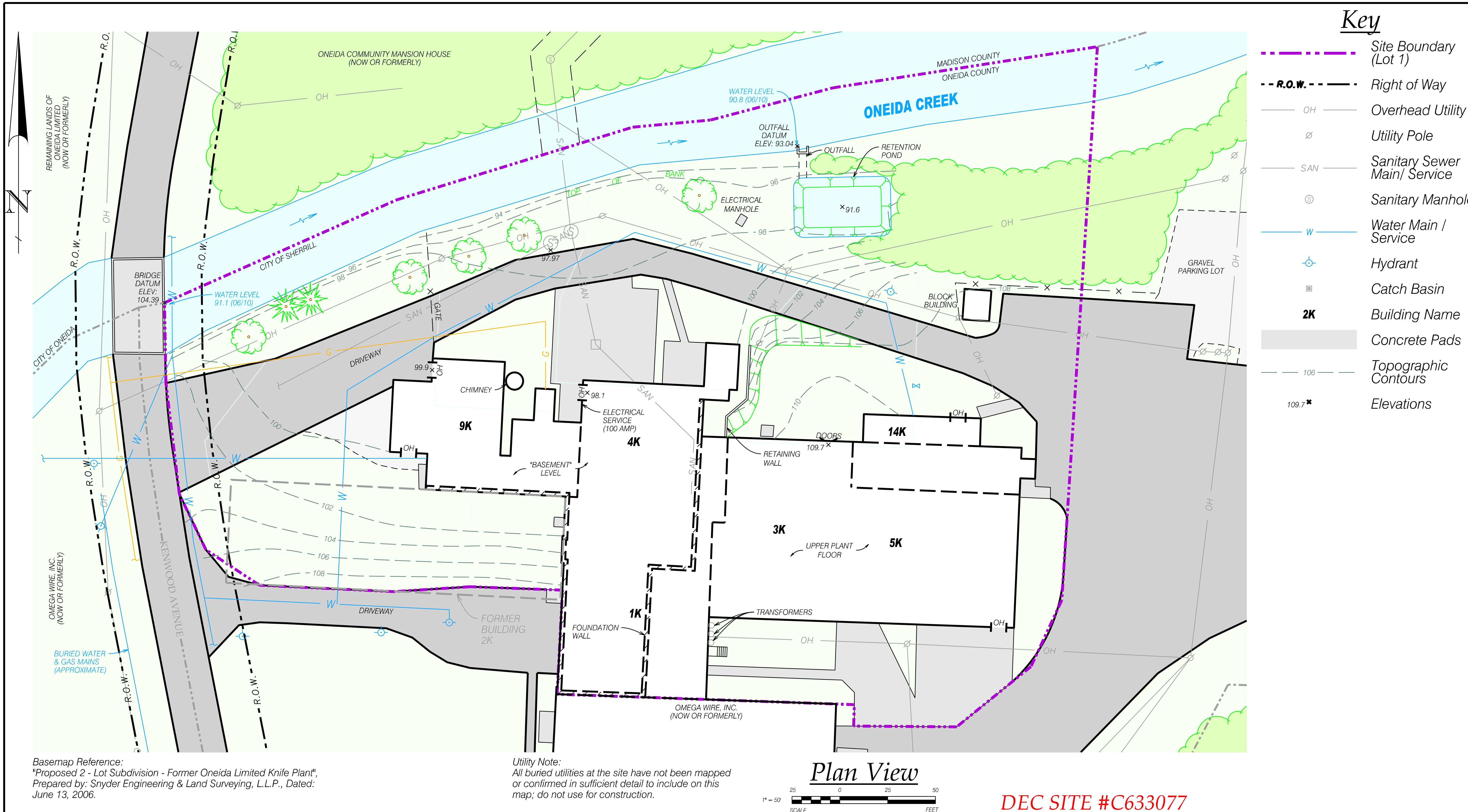
LOCATION: CITY OF SHERRILL, ONEIDA COUNTY, NEW YORK

TITLE: AERIAL VICINITY MAP

PROJECT No.: 2006065

DATE: November 2010

FIGURE 2



Basemap Reference:
"Proposed 2 - Lot Subdivision - Former Oneida Limited Knife Plant",
Prepared by: Snyder Engineering & Land Surveying, L.L.P., Dated:
June 13, 2006.

Utility Note:
All buried utilities at the site have not been mapped
or confirmed in sufficient detail to include on this
map; do not use for construction.

DEC SITE #C633077

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REVISIONS:	DATE:	BY:
REMEDIAL INVESTIGATION	07/10	FAK

PROJECT: FORMER ONEIDA KNIFE PLANT - LOT 1 REMEDIAL INVESTIGATION REPORT

DWG. TITLE: **EXISTING CONDITIONS**

CLIENT: ONEIDA SILVERSMITHS, INC.

LOCATION: CITY OF SHERRILL, ONEIDA COUNTY, NEW YORK

Note: No alteration permitted hereon except as provided under Section 7209 Subdivision 2 of the New York State Education Law.

PROJECT No.:	2006065
FILE NAME.:	EV01P
SCALE:	AS NOTED
DATE:	NOV. 2010
ENG'D BY:	FAK
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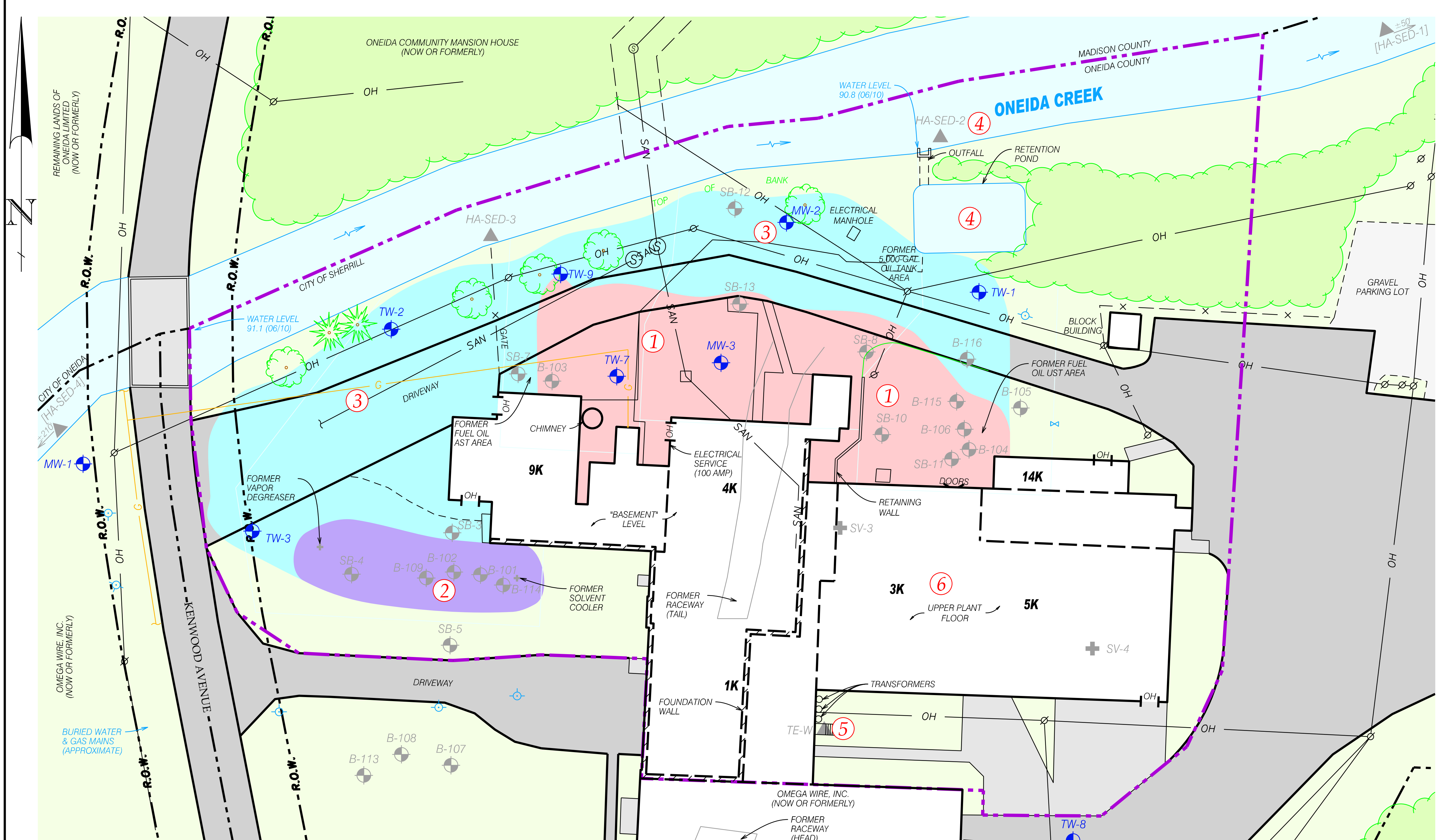
SHEET NO.: FIGURE 3



Note:
All buried utilities at the site have not been mapped or confirmed in sufficient detail to include on this map; do not use for construction.

Plan View

1" = 50' SCALE 25 0 25 50 FEET

DEC SITE #C633077

Key

	Site Boundary
R.O.W.	Right of Way
OH	Overhead Utility
	Utility Pole
SAN	Sanitary Sewer Main/ Service
	Sanitary Manhole
	Hydrant
	Catch Basin
2K	Building Name
SB-1	Soil Boring
TW-1	Test Well Location
SV-4	Soil Vapor Sample
HA-SED 2	Sediment Sample
TE-E	Surface Sample
1	AOC #1 (Subsurface Oil Plume)
2	AOC #2 (2K Degreaser)
3	AOC #3 (Dissolved Phase Groundwater Plume)
4	AOC #4 (Retention Pond and Creek Sediments)
5	AOC #5 (Transformers)
6	AOC #6 (Building Interior)

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REVISIONS:	DATE:	BY:

PROJECT: FORMER ONEIDA KNIFE PLANT - LOT 1 REMEDIAL INVESTIGATION WORK PLAN

DWG. TITLE: **WORK PLAN AREAS OF CONCERN (AOCs)**

CLIENT: ONEIDA SILVERSMITHS, INC.

LOCATION: CITY OF SHERRILL, ONEIDA COUNTY, NEW YORK

Note: No alteration permitted hereon except as provided under Section 7209 Subdivision 2 of the New York State Education Law.

PROJECT No.:	2006065
FILE NAME.:	Figure4
SCALE:	AS NOTED
DATE:	NOV. 2010
ENG'D BY:	FAK
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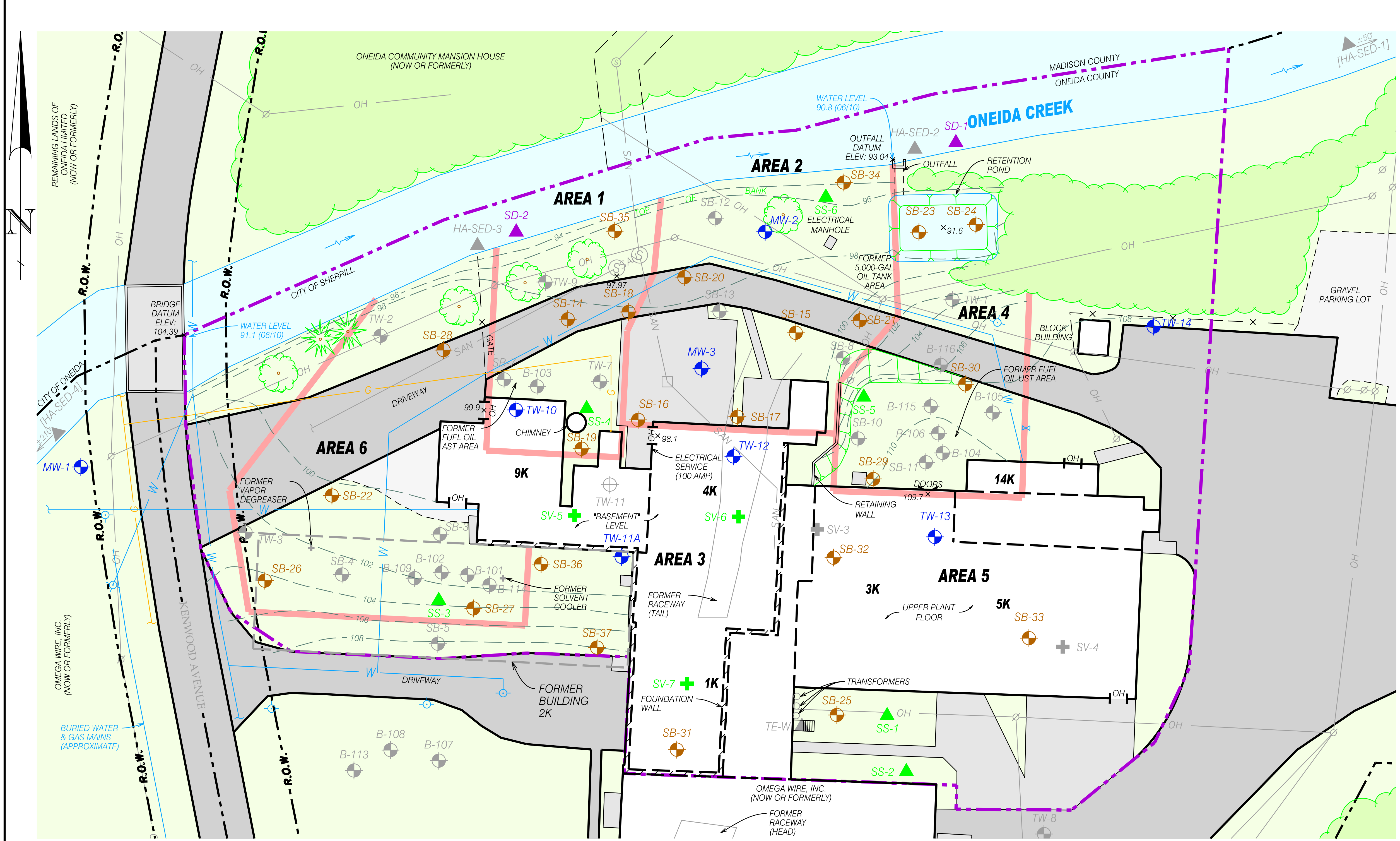
SHEET NO.: FIGURE 4



Utility Note:
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Plan View

1" = 50' SCALE 25 0 25 50 FEET

DEC SITE #C633077

Key

	Site Boundary
R.O.W.	Right of Way
OH	Overhead Utility
	Utility Pole
SAN	Sanitary Sewer Main/ Service
	Sanitary Manhole
W	Water Main/ Service
	Hydrant
	Catch Basin
2K	Building Name
	Concrete Pad
110	Topographic Contour

Locations for Prior Site Investigation

TE-E	Soil Boring
TW-1	Test Well Location
SV-4	Soil Vapor Sample
HA-SED 2	Sediment Sample
TE-E	Surface Sample

Locations Completed May 2010 for Remedial Investigation

	Soil Boring
	Monitoring Well
	Soil Vapor Sample
	Sediment Sample
	Surface Sample
AREA 1	Data Evaluation Area Discussed in Report

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PROJECT: FORMER ONEIDA KNIFE PLANT - LOT 1 REMEDIAL INVESTIGATION REPORT

DWG. TITLE: **BORING AND SAMPLING LOCATION PLAN**

CLIENT: ONEIDA SILVERSMITHS, INC.

LOCATION: CITY OF SHERRILL, ONEIDA COUNTY, NEW YORK

Note: No alteration permitted hereon except as provided under Section 7209 Subdivision 2 of the New York State Education Law.

PROJECT No.:	2006065
FILE NAME.:	Figure5
SCALE:	AS NOTED
DATE:	NOV. 2010
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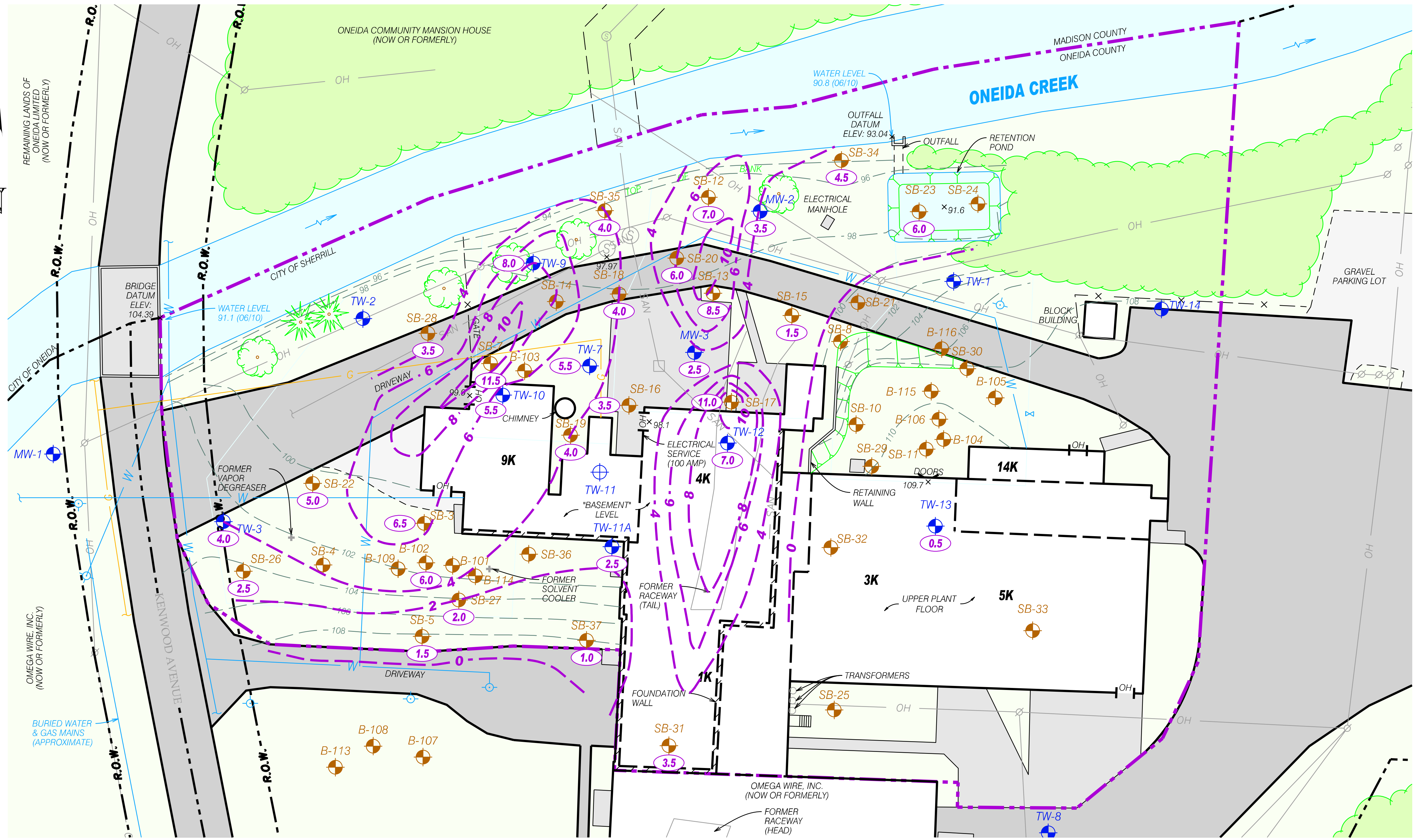
SHEET NO.: FIGURE 5



Key

- Site Boundary
- Right of Way
- Overhead Utility
- Utility Pole
- Sanitary Sewer Main/ Service
- Sanitary Manhole
- Water Main/ Service
- Hydrant
- Catch Basin
- 2K Building Name
- Concrete Pad
- Topographic Contour
- Soil Boring
- Monitoring Well
- Soil Vapor Sample
- Sediment Sample
- Surface Sample
- 6.5 Thickness (ft) of Gravelly Sand Unit
- 4 Thickness Contours

Utility Note:
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Plan View

1" = 50' SCALE 25 0 25 50 FEET

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PROJECT: FORMER ONEIDA KNIFE PLANT - LOT 1 REMEDIAL INVESTIGATION REPORT

DWG. TITLE: **ISOPACH MAP FOR GRAVELLY SAND UNIT**

CLIENT: ONEIDA SILVERSMITHS, INC.

LOCATION: CITY OF SHERRILL, ONEIDA COUNTY, NEW YORK

Note: No alteration permitted hereon except as provided under Section 7209 Subdivision 2 of the New York State Education Law.

PROJECT No.:	2006065
FILE NAME.:	Figure6
SCALE:	AS NOTED
DATE:	NOV. 2010
ENG'D BY:	FAK
DRAWN BY:	JMD
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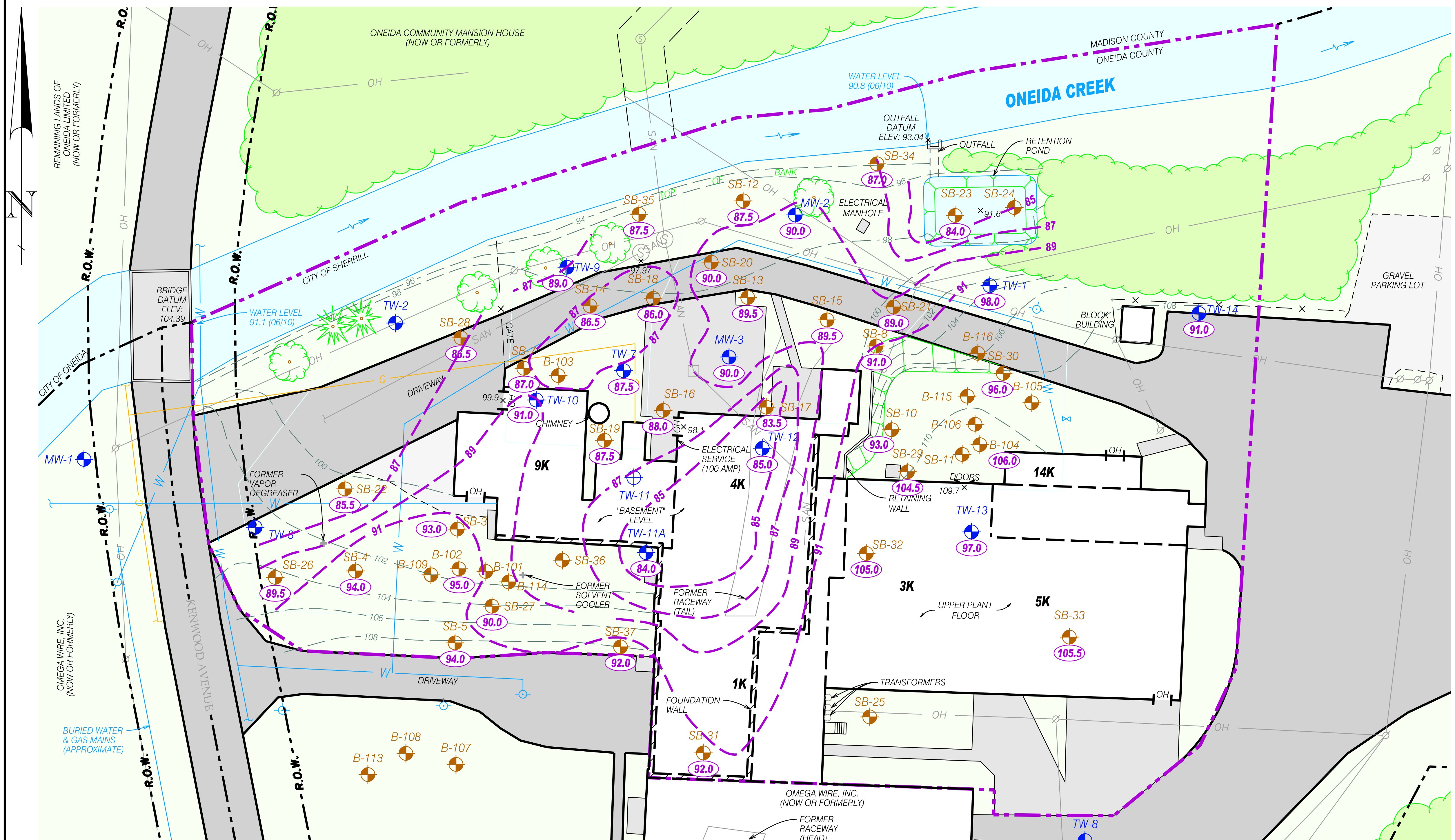
SHEET NO.: FIGURE 6



Utility Note:
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Plan View

1" = 50' SCALE 25 0 25 50 FEET

DEC SITE #C633077

Key

- Site Boundary
- R.O.W. — Right of Way
- OH — Overhead Utility
- Utility Pole
- SAN — Sanitary Sewer Main/ Service
- Sanitary Manhole
- W — Water Main/ Service
- Hydrant
- Catch Basin
- 2K — Building Name
- Concrete Pad
- 110 — Topographic Contour
- Soil Boring
- Monitoring Well
- Soil Vapor Sample
- Sediment Sample
- Surface Sample
- 106.0 — Top of Clay Elevations
- 91 — Elevation Contours on Top of Clay - Bottom of Gravelly Sand Unit

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PROJECT: FORMER ONEIDA KNIFE PLANT - LOT 1 REMEDIAL INVESTIGATION REPORT

DWG. TITLE: ELEVATION CONTOURS FOR TOP OF CLAY - BOTTOM OF GRAVELLY SAND UNIT

CLIENT: ONEIDA SILVERSMITHS, INC.

LOCATION: CITY OF SHERRILL, ONEIDA COUNTY, NEW YORK

Note: No alteration permitted hereon except as provided under Section 7209 Subdivision 2 of the New York State Education Law.

PROJECT No.: 2006065
FILE NAME.: Figure7
SCALE: AS NOTED
DATE: NOV. 2010
ENG'D BY: FAK
DRAWN BY: JMD
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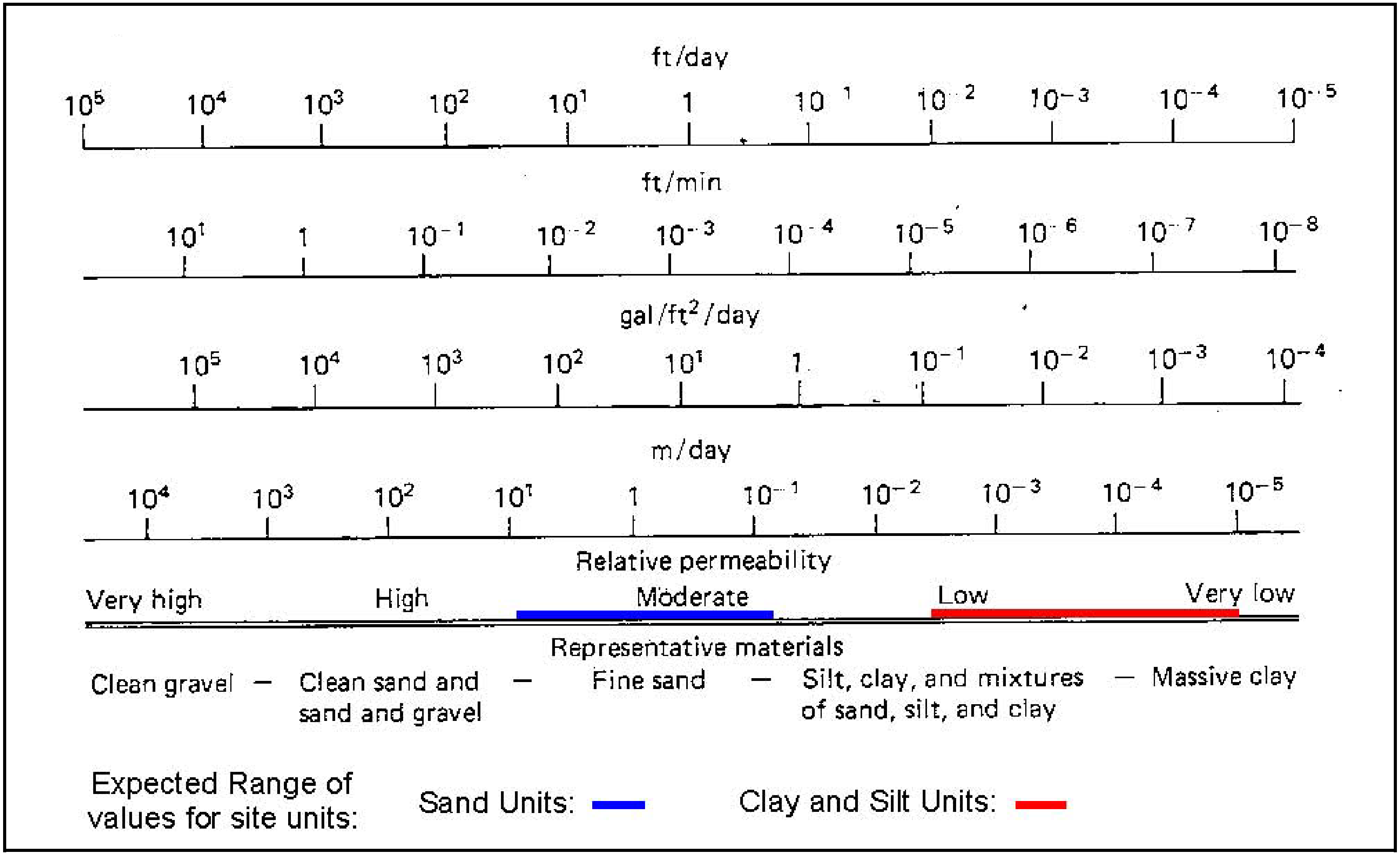
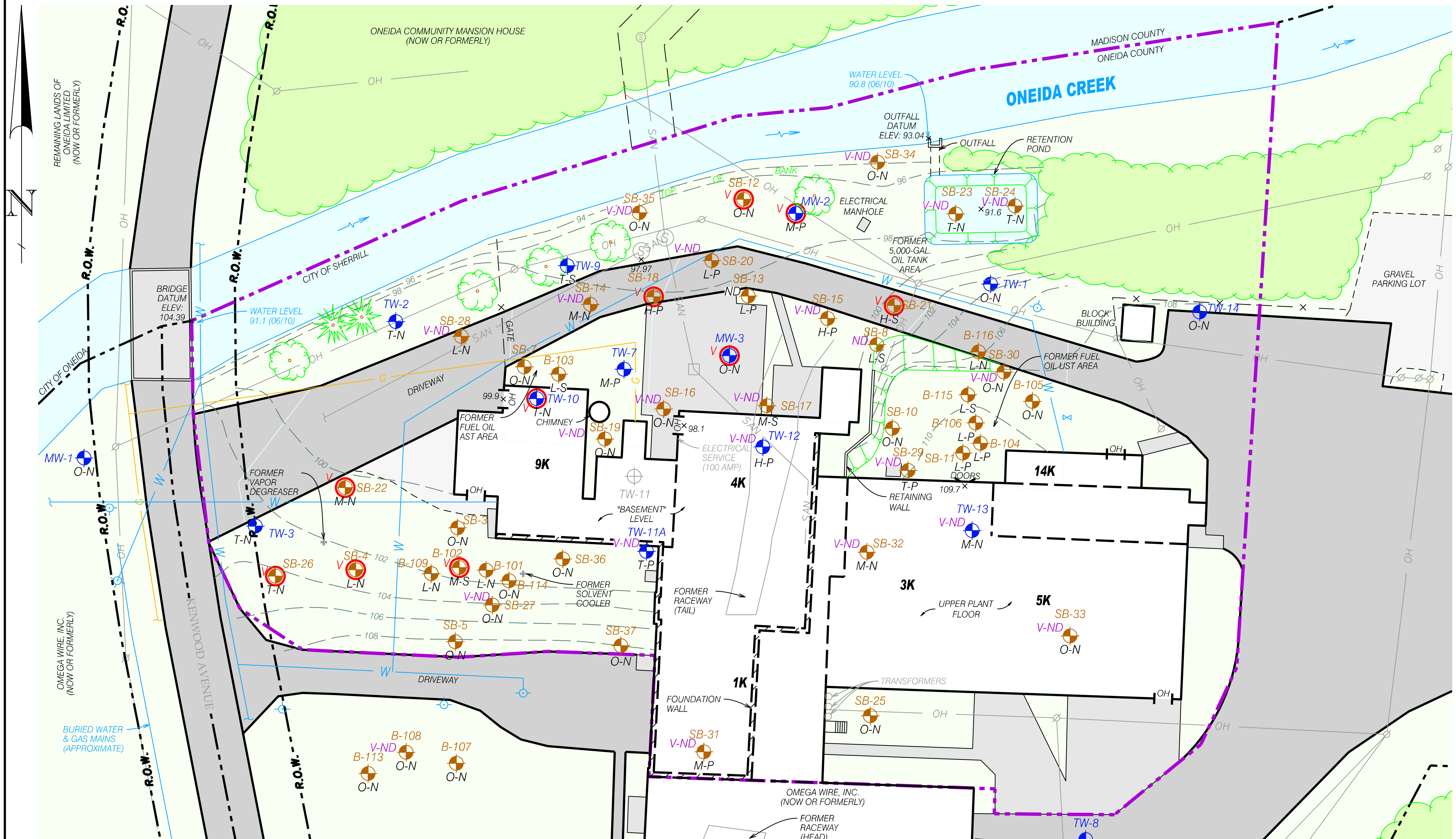
SHEET NO.: FIGURE 7

FORMER ONEIDA KNIFE PLANT
Village of Sherrill, Oneida County, New York
DEC Site No. C633077
Project No. 2006065

FIGURE 8 – HYDRAULIC CONDUCTIVITY





Utility Note:
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Plan View

1" = 50' SCALE 25 0 25 50 FEET

DEC SITE #C633077

Key

- Site Boundary
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- SAN — Sanitary Sewer Main/ Service
- Sanitary Manhole
- W — Water Main/ Service
- Hydrant
- Catch Basin
- 2K — Building Name
- 110 — Topographic Contour
- Soil Boring
- Well Location

Summary of Subsurface Soil Field Indicators

PID Soil Sample Screening (PPM)	Visual Indicators Observed
O - No Detections	N - None
T - Trace; <5	S - Staining
L - Low; >5, <25	P - Oily Material Present
M - Medium; >25, <100,	
H - High; >100	

Analytical Summary Results

V-ND - No VOC Detections Above SCGs
V - VOC Detections Above SCGs*

*Project Standards Criteria and Guidance Values

Sample Locations with Analytical Results Above SCGs are Circled

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REVISIONS:	DATE:	BY:
REMEDIAL INVESTIGATION.	07/10	FAK

PROJECT: FORMER ONEIDA KNIFE PLANT - LOT 1 REMEDIAL INVESTIGATION REPORT

DWG. TITLE: **SUBSURFACE SOIL DATA - VOC AND FIELD INDICATORS**

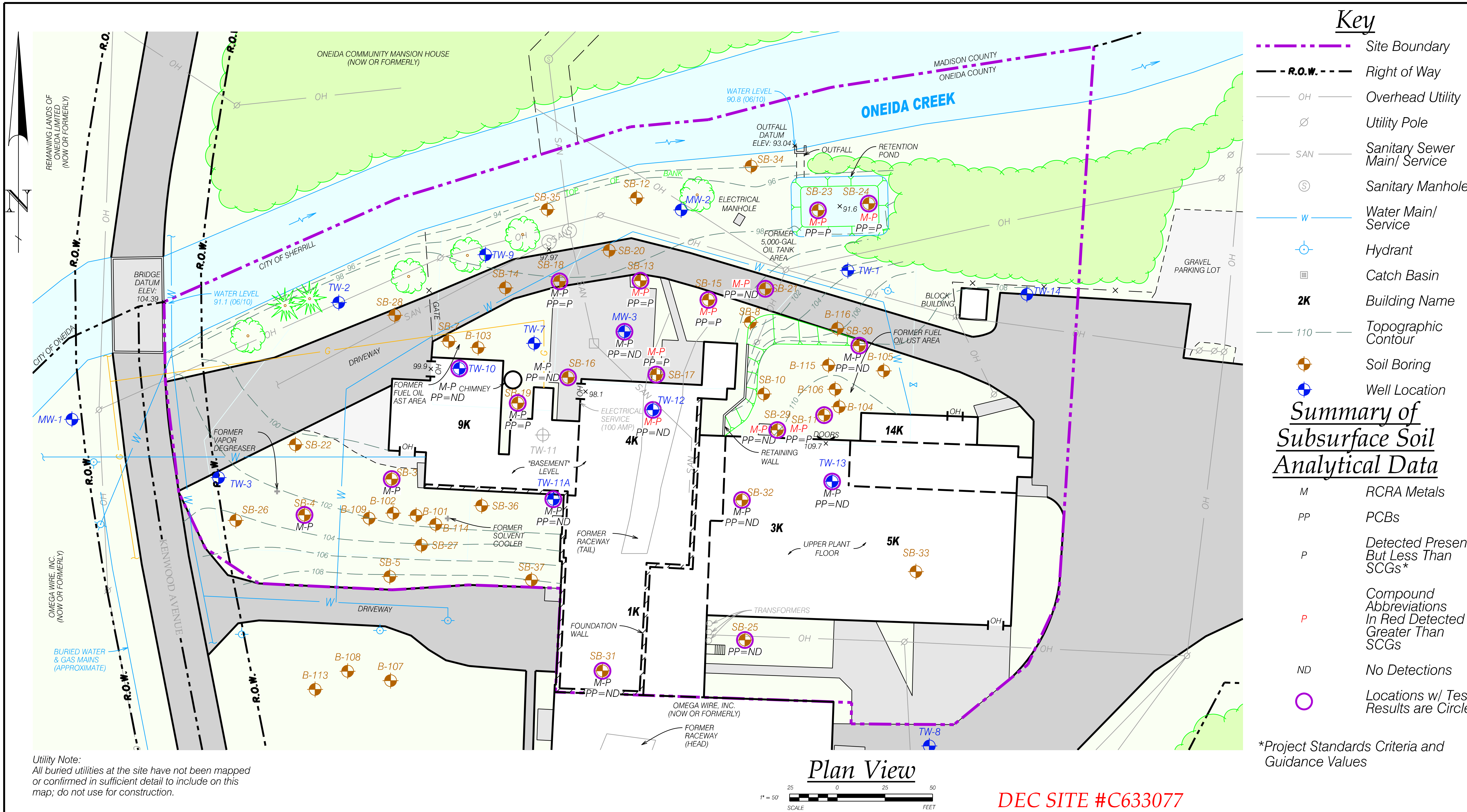
CLIENT: ONEIDA SILVERSMITHS, INC.

LOCATION: CITY OF SHERRILL, ONEIDA COUNTY, NEW YORK

Note: No alteration permitted hereon except as provided under Section 7209 Subdivision 2 of the New York State Education Law.

PROJECT No.: 2006065
FILE NAME.: Figure9
SCALE: AS NOTED
DATE: NOV. 2010
ENG'D BY: FAK
DRAWN BY: JMD
CHECKED BY: DRV

SHEET NO.: FIGURE 9



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REVISIONS:	DATE:	BY:
REMEDIAL INVESTIGATION.	07/10	FAK

PROJECT: FORMER ONEIDA KNIFE PLANT - LOT 1 REMEDIAL INVESTIGATION REPORT

DWG. TITLE: SUBSURFACE SOIL DATA - METALS AND PCBS

CLIENT: ONEIDA SILVERSMITHS, INC.

LOCATION: CITY OF SHERRILL, ONEIDA COUNTY, NEW YORK

Note: No alteration permitted hereon except as provided under Section 7209 Subdivision 2 of the New York State Education Law.

PROJECT No.:	2006065
FILE NAME.:	Figure10
SCALE:	AS NOTED
DATE:	NOV. 2010
ENG'D BY:	FAK
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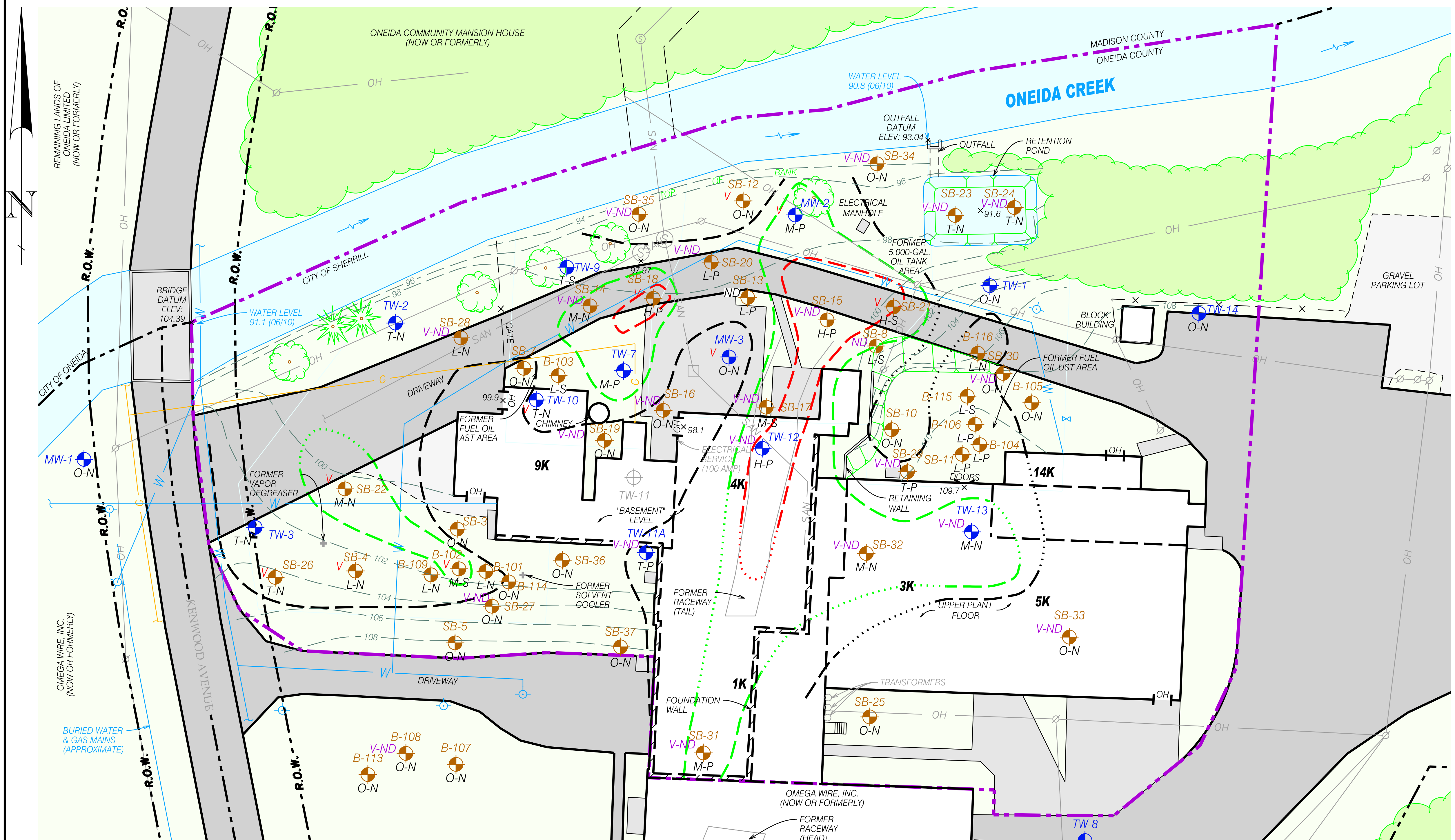
SHEET NO.: FIGURE 10



Key

- Site Boundary
- R.O.W. — Right of Way
- OH — Overhead Utility
- Utility Pole
- SAN — Sanitary Sewer Main/ Service
- Sanitary Manhole
- W — Water Main/ Service
- Hydrant
- Catch Basin
- 2K — Building Name
- 110 — Topographic Contour
- Soil Boring
- Well Location

Summary of Subsurface Soil Field Indicators

PID Soil Sample Screening (PPM)	Visual Indicators Observed
O - No Detections	N - None
T - Trace; <5	S - Staining
L - Low; >5, <25	P - Oily Material Present
M - Medium; >25, <100,	
H - High; >100	

Analytical Summary Results

V-ND - No VOC Detections Above SCGs

V - VOC Detections Above SCGs

PID Contours

- Trace-No Detection
- Medium
- High

Utility Note:
All buried utilities at the site have not been mapped or confirmed in sufficient detail to include on this map; do not use for construction.

Plan View

1" = 50' — 25 0 25 50 — SCALE FEET

DEC SITE #C633077

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REVISIONS:	DATE:	BY:
REMEDIAL INVESTIGATION.	07/10	FAK

PROJECT: FORMER ONEIDA KNIFE PLANT - LOT 1 REMEDIAL INVESTIGATION REPORT

DWG. TITLE: SUBSURFACE SOIL DATA - PID FIELD SCREENING

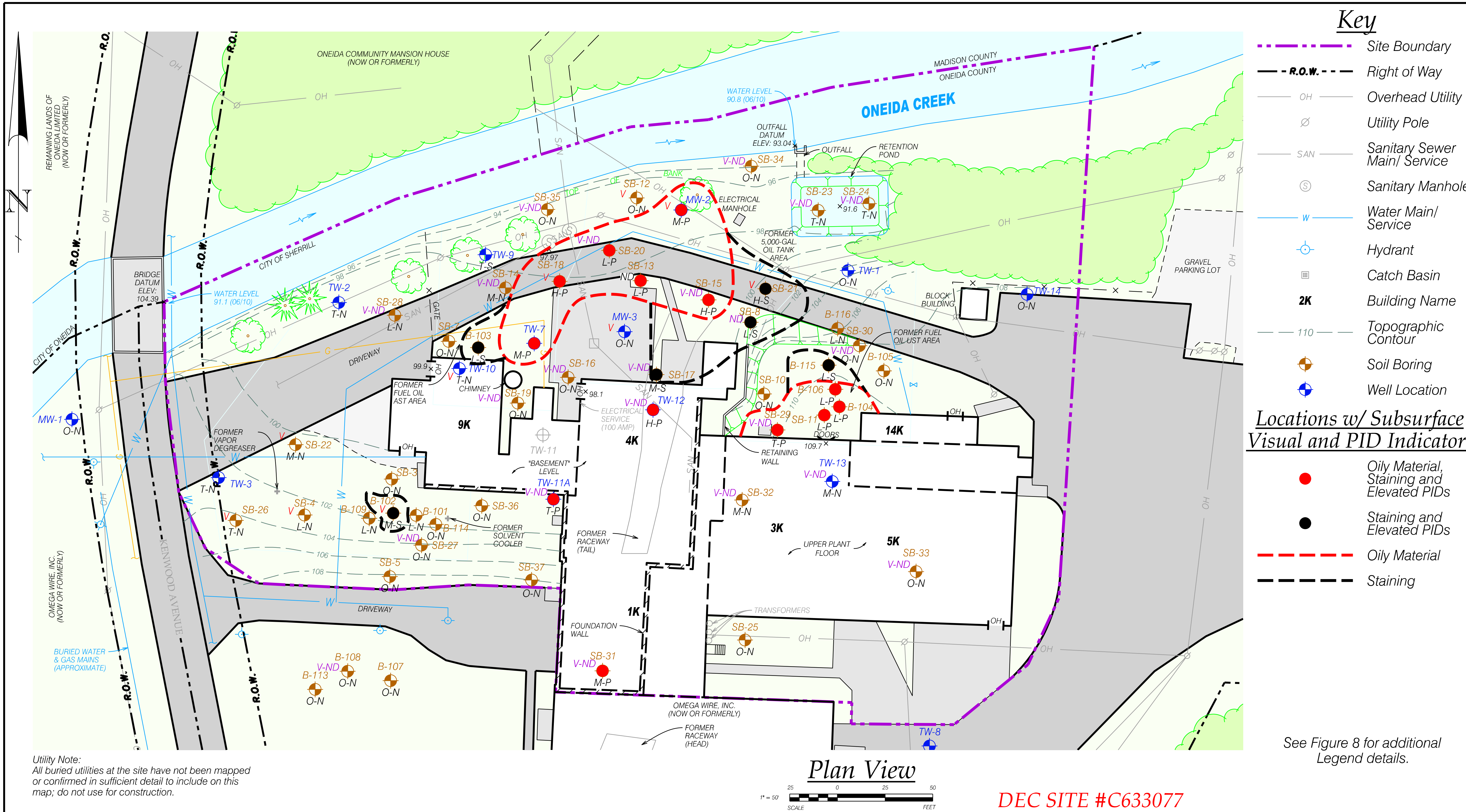
CLIENT: ONEIDA SILVERSMITHS, INC.

LOCATION: CITY OF SHERRILL, ONEIDA COUNTY, NEW YORK

Note: No alteration permitted hereon except as provided under Section 7209 Subdivision 2 of the New York State Education Law.

PROJECT No.:	2006065
FILE NAME.:	Figure11
SCALE:	AS NOTED
DATE:	NOV. 2010
ENG'D BY:	FAK
DRAWN BY:	JMD
CHECKED BY:	DRV

SHEET NO.: FIGURE 11



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PROJECT: FORMER ONEIDA KNIFE PLANT - LOT 1 REMEDIAL INVESTIGATION REPORT

DWG. TITLE: **AREAS OF SUBSURFACE SOIL IMPACT**

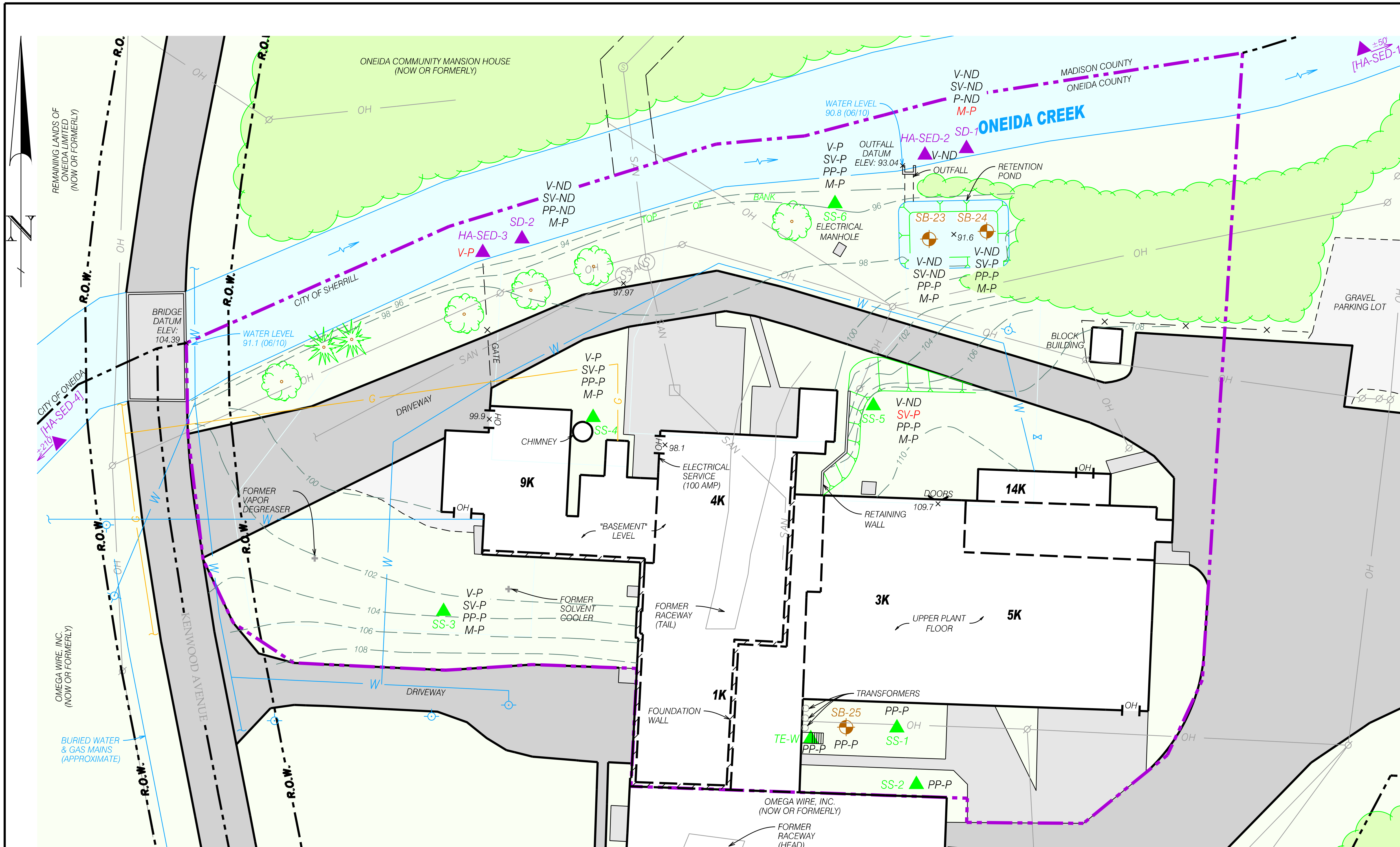
CLIENT: ONEIDA SILVERSMITHS, INC.

LOCATION: CITY OF SHERRILL, ONEIDA COUNTY, NEW YORK

Note: No alteration permitted hereon except as provided under Section 7209 Subdivision 2 of the New York State Education Law.

PROJECT No.:	2006065
FILE NAME.:	Figure12
SCALE:	AS NOTED
DATE:	NOV. 2010
ENG'D BY:	FAK
DRAWN BY:	JMD
CHECKED BY:	DRV

SHEET NO.: FIGURE 12



Key

- Site Boundary
- R.O.W. — Right of Way
- OH — Overhead Utility
- Utility Pole
- SAN — Sanitary Sewer Main/ Service
- Sanitary Manhole
- W — Water Main/ Service
- Hydrant
- Catch Basin
- 2K — Building Name
- Concrete Pad
- 110 — Topographic Contour
- Soil Boring
- Sediment Sample
- Surface Soil Sample

Analytical Surface Soil Data Summary

V	VOCs (EPA 8260)
SV	SVOCs (EPA 8270)
PP	PCBs (EPA 8082)
M	RCRA Metals
P	Detected Present but Less Than SCGs*
ND	No Detections
P	Compound Abbreviations In Red Detected Greater Than SCGs

*Project Standards Criteria and Guidance Values

Utility Note:
All buried utilities at the site have not been mapped or confirmed in sufficient detail to include on this map; do not use for construction.

Plan View

1" = 50' — SCALE 25 0 25 50 FEET

DEC SITE #C633077

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PROJECT: FORMER ONEIDA KNIFE PLANT - LOT 1 REMEDIAL INVESTIGATION REPORT

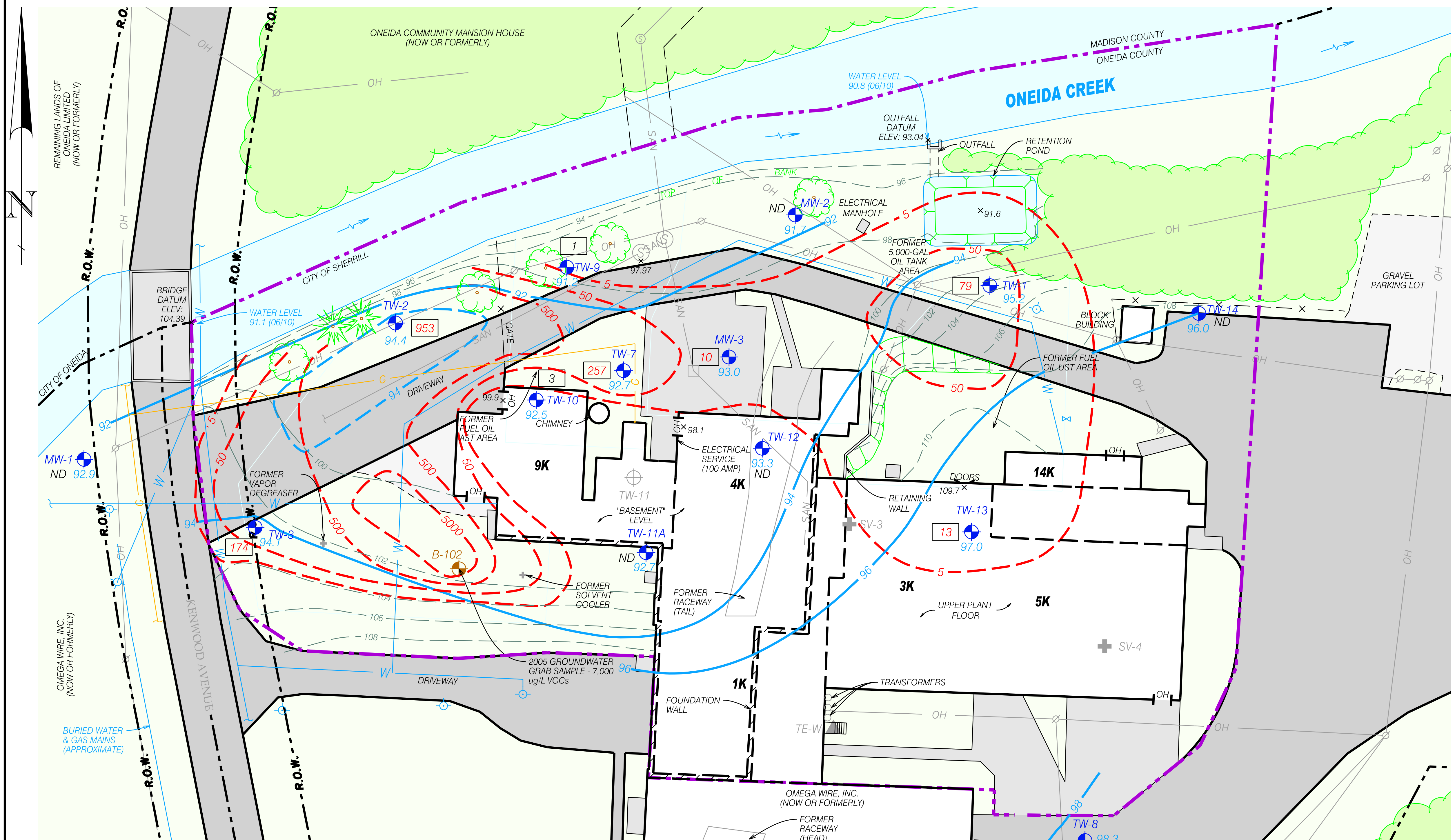
DWG. TITLE: **SURFACE SOIL AND SEDIMENT DATA**

CLIENT: ONEIDA SILVERSMITHS, INC.

LOCATION: CITY OF SHERRILL, ONEIDA COUNTY, NEW YORK

PROJECT No.:	2006065
FILE NAME.:	Figure13
SCALE:	AS NOTED
DATE:	NOV. 2010
ENG'D BY:	FAK
DRAWN BY:	JMD
CHECKED BY:	DRV

SHEET NO.: FIGURE 13



Key

- Site Boundary
- R.O.W. — Right of Way
- OH — Overhead Utility
- Utility Pole
- SAN — Sanitary Sewer Main/ Service
- Sanitary Manhole
- W — Water Main/ Service
- Hydrant
- Catch Basin
- 2K — Building Name
- Concrete Pad
- 110 — Topographic Contour
- Groundwater Well
- 93.0 — Groundwater Elevation (Based on 06/11/10 data)
- 94 — Groundwater Contour (Based on 06/11/10 Data)

VOC Data (EPA 8260); 5/3/10 & 6/15/10 Data

- 174 — Total VOCs (ug/L)
- ND — No Detected VOCs
- 50 — Total VOC Concentration Isopleths (ug/L)

Numbers in red indicate VOCs present exceeding groundwater standards.

Utility Note:
All buried utilities at the site have not been mapped or confirmed in sufficient detail to include on this map; do not use for construction.

Plan View

1" = 50' — SCALE 25 0 25 50 FEET

DEC SITE #C633077

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PROJECT: FORMER ONEIDA KNIFE PLANT - LOT 1 REMEDIAL INVESTIGATION REPORT

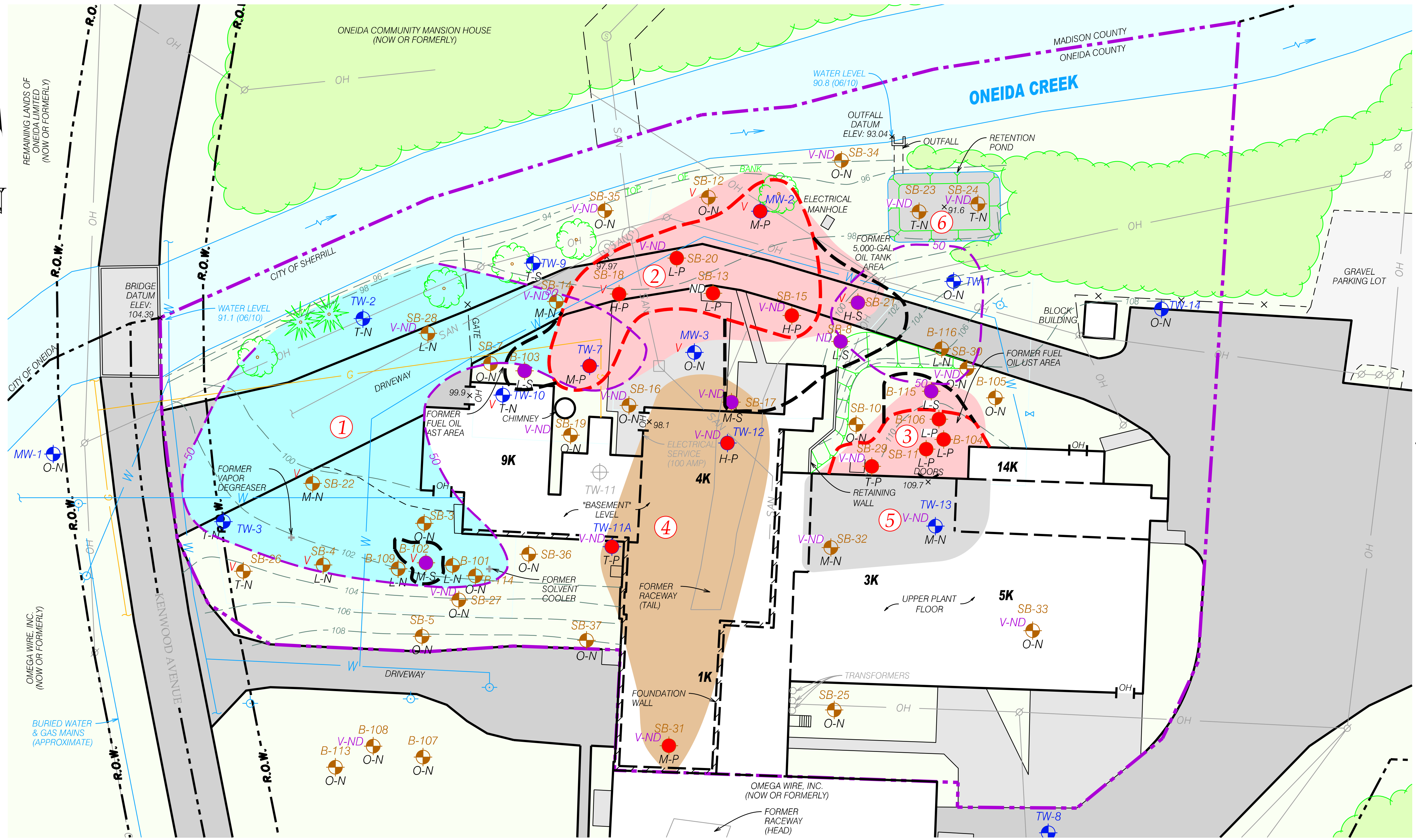
DWG. TITLE: GROUNDWATER DATA

CLIENT: ONEIDA SILVERSMITHS, INC.

LOCATION: CITY OF SHERRILL, ONEIDA COUNTY, NEW YORK

PROJECT No.:	2006065
FILE NAME.:	Figure14
SCALE:	AS NOTED
DATE:	NOV. 2010
ENG'D BY:	FAK
DRAWN BY:	JMD
CHECKED BY:	DRV

SHEET NO.: FIGURE 14



Utility Note:
All buried utilities at the site have not been mapped or confirmed in sufficient detail to include on this map; do not use for construction.

Key

1 AOC #1 (Dissolved Phase Groundwater Plume)

2 AOC #2 (Subsurface Oil Impact)

3 AOC #3 (Subsurface Oil Impact)

4 AOC #4 (Subsurface Oil Impact)

5 AOC #5 (Building 3K/ 5K interior)

6 AOC #6 (Retention Pond)

Locations w/ Subsurface Visual and PID Indicators

- Oily Material Staining and Elevated PIDs
- Staining and Elevated PIDs
- Oily Material
- Staining
- 50 Total VOCs Concentration Isopleths (ug/L)

See Figure 8 for additional Legend details.

Plan View

1" = 50' SCALE 25 0 25 50 FEET

DEC SITE #C633077

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REVISIONS:	DATE:	BY:
REMEDIAL INVESTIGATION.	07/10	FAK

PROJECT: FORMER ONEIDA KNIFE PLANT - LOT 1 REMEDIAL INVESTIGATION REPORT

DWG. TITLE: REMEDIAL INVESTIGATION AREAS OF CONCERN (AOCS)

CLIENT: ONEIDA SILVERSMITHS, INC.

LOCATION: CITY OF SHERRILL, ONEIDA COUNTY, NEW YORK

Note: No alteration permitted hereon except as provided under Section 7209 Subdivision 2 of the New York State Education Law.

PROJECT No.:	2006065
FILE NAME.:	Figure15
SCALE:	AS NOTED
DATE:	NOV. 2010
ENG'D BY:	FAK
DRAWN BY:	JMD
CHECKED BY:	DRV

SHEET NO.: FIGURE 15

TABLES

FORMER ONEIDA KNIFE PLANT
City of Sherrill, Oneida County, New York
DEC Site No. C633077

TABLE 1 - MONITORING WELL AND GROUNDWATER ELEVATION DATA

MONITORING WELL CONSTRUCTION DATA	MONITORING WELL													CREEK		OFF-SITE MONITORING WELLS			
	TW-1	TW-2	TW-3	TW-7	TW-9	TW-10	TW-11A	TW-12	TW-13	TW-14	MW-1	MW-2	MW-3	Bridge[2]	Outfall[3]	TW-4	TW-5	TW-6	TW-8
Top-of-Casing Elevation	103.70	98.40	102.60	98.80	97.40	100.15	99.16	98.23	109.91	110.13	105.44	96.52	98.00	104.39	93.04	107.30	106.90	106.90	108.50
Ground Elevation	104.0	98.7	103.3	99.3	97.8	99.9	99.5	98.1	109.7	108.0	102.9	97.0	98.4	-	-	107.5	107.1	107.2	108.6
Total Well Depth	19.1	5.0	15.5	11.6	10.2	16.1	15.5	13.1	20.2	19.1	25.3	14.5	11.2	-	-	9.3	15.6	15.6	18.0
Bottom of Well Elevation	84.9	93.7	87.8	87.7	87.6	83.8	84.0	85.0	89.5	88.9	77.6	82.5	87.2	-	-	98.2	91.5	91.6	90.6
Diameter (inches)	1	1	1	2	1	1	1	1	1	1	2	2	2	-	-	1	1	1	1
MEASUREMENT DATE	**GROUNDWATER ELEVATIONS[1]**																		
04/11/2006	95.40	96.30	94.20	93.10	91.80	NI	NI	NI	NI	NI	NI	NI	NI	NM	NM	104.60	101.80	98.50	98.90
04/13/2006	95.40	95.80	94.30	93.00	91.60	NI	NI	NI	NI	NI	NI	NI	NI	NM	NM	104.60	101.60	98.00	98.80
05/03/2010	95.11	94.88	96.32	92.52	91.20	NI	NI	NI	NI	NI	NI	NI	NI	NM	NM	103.74	101.57	98.04	98.38
06/11/2010	95.18	94.35	94.10	92.67	91.21	92.50	92.70	93.28	96.99	95.95	92.87	91.67	92.95	91.09	90.84	103.62	101.72	97.89	98.32

Notes:

[1]Relative elevations are based on an arbitrary datum of 100.0 feet.
[2]Surveyed benchmark on bridge guard rail for measuring depth to river level; field marked.
[3]Surveyed benchmark on top of concrete wall of retention pond outfall for measuring depth to river level; field marked.
NI Not Installed
NM Not Measured

FORMER ONEIDA KNIFE PLANT
City of Sherrill, Oneida County, New York
DEC Site No. C633077

TABLE 2 - SUMMARY OF FIELD INDICATOR DATA

SOIL SAMPLE/ BORING LOCATION	DEPTH (feet)	PID READING (ppm)	DEPTH TO TOP OF FIRST/SECOND SILT OR CLAY UNIT (feet)	VISUAL CONTAMINATION INDICATORS*
Area 1 - Outdoor 9K				
SB-14	0 to 4	0	12	None noted
	4 to 8	12@6' / **72@7.5-8'**		
	8 to 12	1@11' / 0.6@12'		
	12 to 16	0		
SB-18	0 to 4	0	12	Oily shine at 7-9'
	4 to 8	2@5' / **105@7-8'**		
	8 to 12	14@10'		
	12 to 16	0 @12' / **0@15-16'**		
SB-19	0 to 4	0	5.5 / 11.5	None noted
	4 to 8	0		
	8 to 12	**0 @9-11'**		
	12 to 16	0		
SB-35	0 to 4	0	9	None noted
	4 to 8	0		
	8 to 12	0		
TW-10	0 to 4	1.5@2'	6 / 9	None noted
	4 to 8	0		
	8 to 12	**1.9@9'**		
	12 to 16	0		
Area 2 - Outdoor 4K				
SB-15	0 to 4	0	2 / 9.5	Gray soil with oily shine at 7-9'
	4 to 8	**174@7-9'**		
	8 to 12	25@9' / 0@11'		
	12 to 16	0		
SB-16	0 to 4	0	1 / 10	None noted
	4 to 8	0		
	8 to 12	0		
	12 to 16	0		
SB-20	0 to 4	0	8	Slight oily shine 7-8'
	4 to 8	1.5@7' / **15@7-8'**		
	8 to 12	0		
	12 to 16	**0 @ 15-16'**		
SB-21	0 to 4	0	3 / 11.5	Gray soil at 9-11'
	4 to 8	0		
	8 to 12	110@9-11'		
	12 to 16	0		
SB-34	0 to 4	0	1.5 / 9	None noted
	4 to 8	0		
	8 to 12	0		
MW-2	0 to 4	0	7 / 13.5	Slight oily shine in cuttings
	4 to 8	**25@6-8'**		
	8 to 12	0		
	12 to 16	24@14-15'		
	16 to 20	0		
MW-3	0 to 4	0	2.5 / 9	None noted
	4 to 8	0		
	8 to 12	0		
	12 to 16	0		
Area 3 - Indoor 4K				
SB-31	0 to 2	2.5	6	Black soil, oily 2-6'
	2 to 4	27		
	4 to 6	33		
	6 to 8	8.7		
	8 to 10	0.1		
	10 to12	0		
TW-11A	0 to 4	0	4 / 15.5	Yellowish product film13-15'
	4 to 8	0		
	8 to 12	0.5@8-11'		
	12 to 16	**2.8@14'** / 0 @15-16'		
TW-12	0 to 4	0.8@2'	13	Black, oily soil ~6-11
	4 to 8	2.4@6' / 1**76 @7-8'**		
	8 to 12	263@10-11'		
	12 to 16	0		
Area 4 - Outdoor 3K/5K				
SB-29	0 to 4	0@0-2' / **4@2-4'**	5	Oily cinder zone at 1.5-2' Oily shine in thin sandy seams 2-5'
	4 to 8	1@5'		
	8 to 12	0		
	12 to 16	0		
SB-30	0 to 4	0	1 / 12	None noted
	4 to 8	0		
	8 to 12	0		
	12 to 16	0		

FORMER ONEIDA KNIFE PLANT
City of Sherrill, Oneida County, New York
DEC Site No. C633077

TABLE 2 - SUMMARY OF FIELD INDICATOR DATA

SOIL SAMPLE/ BORING LOCATION	DEPTH (feet)	PID READING (ppm)	DEPTH TO TOP OF FIRST/SECOND SILT OR CLAY UNIT (feet)	VISUAL CONTAMINATION INDICATORS*
Area 5 - Indoor 3K/5K				
SB-32	0 to 4	1.8@3' / **25@4'**	4.5	None noted
	4 to 8	2.8@7'		
	8 to 12	0		
	12 to 16	0		
	16 to 20	0		
SB-33	0 to 4	0	4	None noted
	4 to 8	0		
	8 to 12	0		
	12 to 16	0		
TW-13	0 to 4	30@3-4'	12.5	None noted
	4 to 8	**91@4-5'** / 1.3@7-8		
	8 to 12	2.6@8-10'		
	12 to 16	35@ 12-13' / 0.2@14-15'		
	16 to 20	**0.3@16-17'** / **0.1@19-20'**		
Area 6 - Outdoor Former 2K				
SB-17	0 to 4	6.5@1' / 0 @3'	1.5 / 15	Gray soil with odor at 1'; black soil with odor at 5'
	4 to 8	**95@6-8'**		
	8 to 12	21@11'		
	12 to 16	0		
SB-22	0 to 4	0	7 / 15	None noted
	4 to 8	0		
	8 to 12	0		
	12 to 16	**80@13-14'** / 0@15-16'		
SB-26	0 to 4	0	9 / 15.5	None noted
	4 to 8	0		
	8 to 12	**1.1@10'** 0.4@12'		
	12 to 16	0		
	16 to 20	0		
	20 to 24	0		
	24 to 28	0		
	28 to 32	0		
	32 to 36	0		
	36 to 40	0		
SB-27	0 to 4	0	14	None noted
	4 to 8	0		
	8 to 12	0		
	12 to 16	0		
SB-28	0 to 4	0	12.5	None noted
	4 to 8	0.8@7' / 0@8'		
	8 to 12	**14@10'** / 0.1@12'		
	12 to 16	0		
Retention Pond				
SB-23	0 to 4	**1.2@1-2'** / 0.2@4'	8	None noted
	4 to 8	0		
	8 to 12	0		
SB-24	0 to 2	0@0-1' / **0.3@1-2'**		None noted
	2 to 4	0		
Transformer				
SB-25	0 to 4	0		None noted
SB-36 Area 3 - Indoor 4K Area 6 - Outdoor Former 2K	0 to 4	0	5	None noted
	4 to 8	0		
	8 to 12	0		
SB-37 Area 3 - Indoor 4K Area 6 - Outdoor Former 2K	0 to 4	0	9 / 16.5	None noted
	4 to 8	0		
	8 to 12	0		
	12 to 16	0		
	16 to 20	0		
	20 to 24	0		
TW-14	0 to 4	0	17	None noted
	4 to 8	0		
	8 to 12	0		
	12 to 16	0		
	16 to 20	0		
MW-1	0 to 4	0	12	None noted
	4 to 8	0		
	8 to 12	0		
	12 to 16	0		
	16 to 20	0		
	20 to 24	0		

Notes:

PID Photoionization detection meter reading
* Staining, sheens, free-product.
Approximate sample intervals submitted for laboratory analysis are shaded. Numbers in bold indicate sample depths selected.

FORMER ONEIDA KNIFE PLANT
City of Sherrill, Oneida County, New York
DEC Site No. C633077

TABLE 3A - SUMMARY OF SUBSURFACE SOIL ANALYTICAL RESULTS - DETECTED VOCs
EPA METHOD 8260

Date Sampled: May 20-26, 2010

Compound	Recommended Soil Cleanup Objective[1] (µg/kg)		Area 1 - Outdoor 9K						Area 2 - Outdoor 4K											Area 3 - Indoor 4K		
			Compound Concentration (µg/kg)																			
			SB-14	SB-18-1	SB-18-2	SB-19	SB-35	TW-10	SB-8	SB-12	SB-13	SB-15	SB-16	SB-20-1	SB-20-2	SB-21	SB-34	MW-2	MW-3	TW-11A	TW-12-1	SB-31
	Industrial Restricted Use	Protection of Groundwater	Depth Below Grade (feet)																	Depth Below Grade (feet)		
			7.5-8.0	7-8	15-16	9-11	7-9	8.5-10	11-12	7.5-8	8-9	7-9	8-10	7-8	15-16	9-11	5-7	7.5-8	8-10	13-15	7-8	3-5
Vinyl Chloride	27,000	20	ND<5.18	ND<5.68	ND<4.85	ND<5.41	ND<5.44	ND<6.01	ND<10	ND<10	ND<5	ND<95.9	ND<7.54	ND<5.32	ND<3.81	ND<104	ND<4.63	8.34	ND<4.31	ND<108	ND<104	ND<7.31
Acetone	1,000,000	50	48.8	***55***	ND<24.3	ND<27.1	ND<27.2	***85.7***	ND<10	ND<10	ND<5	ND<479	ND<37.7	29.4	ND<19	ND<521	ND<23.1	***61.4***	***74.30***	ND<540	ND<520	ND<35.7
Carbon Disulfide			6.78	ND<5.68	ND<4.85	7.57	ND<5.44	10.1	ND<10	ND<10	ND<5	ND<95.9	8.99	7.78	ND<3.81	ND<104	ND<4.63	7.58	7.77	ND<108	ND<104	ND<7.31
trans-1,2-Dichloroethene	1,000,000	190	ND<5.18	ND<5.68	ND<4.85	ND<5.41	ND<5.44	ND<6.01	ND<10	ND<10	ND<5	ND<95.9	ND<7.54	ND<5.32	ND<3.81	ND<104	ND<4.63	ND<4.68	ND<4.31	ND<108	ND<104	ND<7.31
2-Butanone	1,000,000	120	ND<5.18	15.6	ND<4.85	ND<5.41	ND<5.44	16.3	ND<10	ND<10	ND<5	ND<95.9	ND<7.54	20.2	ND<3.81	ND<104	ND<4.63	12.2	16.10	ND<108	ND<104	ND<7.31
cis-1,2-Dichloroethene	1,000,000	250	ND<5.18	ND<5.68	11	ND<5.41	ND<5.44	ND<6.01	ND<10	57	ND<5	ND<95.9	ND<7.54	15.2	ND<3.81	ND<104	33.4	30.9	ND<4.31	ND<108	ND<104	ND<7.31
Benzene	89,000	60	ND<5.18	ND<5.68	ND<4.85	ND<5.41	ND<5.44	ND<6.01	ND<10	ND<10	ND<5	ND<95.9	ND<7.54	ND<5.32	ND<3.81	ND<104	ND<4.63	ND<4.68	ND<4.31	ND<108	ND<104	ND<7.31
Trichloroethene	400,000	470	ND<5.18	ND<5.68	5.37	ND<5.41	ND<5.44	92.3	ND<10	13	ND<5	ND<95.9	ND<7.54	33.1	ND<3.81	ND<104	10.4	9.12	ND<4.31	ND<108	ND<104	ND<7.31
Toluene	1,000,000	700	ND<5.18	ND<5.68	ND<4.85	ND<5.41	ND<5.44	ND<6.01	ND<10	ND<10	ND<5	ND<95.9	ND<7.54	ND<5.32	ND<3.81	ND<104	ND<4.63	ND<4.68	ND<4.31	ND<108	ND<104	ND<7.31
Tetrachloroethene	300,000	1,300	ND<5.18	ND<5.68	ND<4.85	ND<5.41	ND<5.44	8.17	ND<10	ND<10	ND<5	ND<95.9	ND<7.54	ND<5.32	ND<3.81	ND<104	ND<4.63	ND<4.68	ND<4.31	ND<108	ND<104	ND<7.31
m&p-Xylene	1,000,000	1,600	ND<5.18	9.28	ND<4.85	ND<5.41	ND<5.44	ND<6.01	ND<10	ND<10	ND<5	ND<95.9	ND<7.54	ND<5.32	ND<3.81	ND<104	ND<4.63	ND<4.68	ND<4.31	ND<108	ND<104	ND<7.31
o-Xylene	1,000,000	1,600	ND<5.18	ND<5.68	ND<4.85	ND<5.41	ND<5.44	ND<6.01	ND<10	ND<10	ND<5	ND<95.9	ND<7.54	ND<5.32	ND<3.81	ND<104	ND<4.63	ND<4.68	ND<4.31	ND<108	ND<104	ND<7.31
Isopropylbenzene			ND<5.18	ND<5.68	ND<4.85	ND<5.41	ND<5.44	ND<6.01	ND<10	ND<10	32	ND<95.9	ND<7.54	ND<5.32	ND<3.81	2,070	ND<4.63	ND<4.68	ND<4.31	ND<108	ND<104	ND<7.31
n-Butylbenzene	1,000,000	12,000	ND<5.18	ND<5.68	ND<4.85	ND<5.41	ND<5.44	ND<6.01	ND<10	ND<10	32	ND<95.9	ND<7.54	ND<5.32	ND<3.81	ND<104	ND<4.63	ND<4.68	ND<4.31	ND<108	ND<104	ND<7.31
n-Propylbenzene	1,000,000	3,900	ND<5.18	11.9	ND<4.85	ND<5.41	ND<5.44	ND<6.01	ND<10	ND<10	ND<5	ND<95.9	ND<7.54	ND<5.32	ND<3.81	***4,530***	ND<4.63	ND<4.68	ND<4.31	ND<108	ND<104	ND<7.31
1,3,5-Trimethylbenzene	380,000	8,400	ND<5.18	ND<5.68	ND<4.85	ND<5.41	ND<5.44	ND<6.01	ND<10	ND<10	ND<5	ND<95.9	ND<7.54	ND<5.32	ND<3.81	ND<104	ND<4.63	ND<4.68	ND<4.31	ND<108	ND<104	ND<7.31
1,2,4-Trimethylbenzene	380,000	3,600	ND<5.18	9.54	ND<4.85	ND<5.41	ND<5.44	ND<6.01	ND<10	ND<10	ND<5	300	ND<7.54	ND<5.32	ND<3.81	1,010	ND<4.63	ND<4.68	ND<4.31	ND<108	305	ND<7.31
sec-Butylbenzene	1,000,000	11,000	ND<5.18	17.1	ND<4.85	ND<5.41	ND<5.44	ND<6.01	ND<10	ND<10	81	296	ND<7.54	13.4	ND<3.81	7,380	ND<4.63	ND<4.68	ND<4.31	ND<108	567	ND<7.31
4-Isopropyltoluene			ND<5.18	ND<5.68	ND<4.85	ND<5.41	ND<5.44	ND<6.01	ND<10	ND<10	ND<5	509	ND<7.54	ND<5.32	ND<3.81	2,200	ND<4.63	ND<4.68	ND<4.31	463	396	ND<7.31
Naphthalene	1,000,000	12,000	11.6	34.9	ND<4.85	ND<5.41	ND<5.44	ND<6.01	ND<10	ND<10	43	ND<95.9	9.66	17.8	ND<3.81	10,700	ND<4.63	ND<4.68	ND<4.31	ND<108	ND<104	30.9
Total VOC Concentrations	---	---	67	153	16	8	ND	213	ND<10	70	188	1,105	19	137	ND	27,890	44	130	98	463	0	31
Total VOC TICs²	---	---	24,550	20,930	505	2,489	443	1,798	NA	NA	NA	152,900	4,726	22,110	301	64,480	648	14,438	1,240	28,320	107,290	19,070

Compound	Recommended Soil Cleanup Objective[1] (µg/kg)		Area 4 - Outdoor 3K/5K			Area 5 - Indoor 3K/5K					Area 6 - Outdoor 2K								Retention Pond	
			Compound Concentration (µg/kg)																	
			SB-11	SB-29	SB-30	SB-32	SB-33	TW-13	TW-13-2	TW-13-3	SB-3	SB-4	SB-17	SB-22	SB-26	SB-27	SB-28	SB-37	SB-23-2	SB-24-2
	Industrial Restricted Use	Protection of Groundwater	Depth Below Grade (feet)																	
			6-6.5	2-4	12-16	4-5	14-14.5	4-6	16-16.5	19.5-20	9-10	7-8	5-6	13-14	10-12	10-12	9-10	23-23.5	1-2	1-2
Vinyl Chloride	27,000	20	ND<50	ND<97	ND<8.08	ND<7.83	ND<4.66	ND<5.38	ND<6.47	ND<7.97	ND<10	**2,800**	ND<117	***42.3***	ND<6.45	ND<9.9	ND<6.07	ND<6.94	ND<11.7	ND<11.7
Acetone	1,000,000	50	ND<50	ND<485	ND<40.4	ND<39.2	ND<23.3	ND<26.9	47.9	41	ND<10	ND<130	ND<585	37.2	***263***	ND<49.5	ND<30.4	ND<34.7	ND<58.7	ND<58.6
Carbon Disulfide			ND<50	ND<97	ND<8.08	ND<7.83	ND<4.66	ND<5.38	ND<6.47	ND<7.97	ND<10	ND<130	ND<117	14.3	ND<6.45	ND<9.9	7.98	ND<6.94	ND<11.7	ND<11.7
trans-1,2-Dichloroethene	1,000,000	190	ND<50	ND<97	ND<8.08	ND<7.83	ND<4.66	ND<5.38	ND<6.47	ND<7.97	ND<10	ND<130	ND<117	18.9	ND<6.45	ND<9.9	ND<6.07	ND<6.94	ND<11.7	ND<11.7
2-Butanone	1,000,000	120	ND<50	ND<97	ND<8.08	ND<7.83	ND<4.66	ND<5.38	ND<6.47	ND<7.97	ND<10	ND<130	ND<117	6.42	39.8	ND<9.9	ND<6.07	ND<6.94	17	26
cis-1,2-Dichloroethene	1,000,000	250	ND<50	ND<97	ND<8.08	ND<7.83	ND<4.66	ND<5.38	ND<6.47	ND<7.97	ND<10	ND<130	ND<117	***4,050***	ND<6.45	ND<9.9	7.48	ND<6.94	ND<11.7	ND<11.7
Benzene	89,000	60	ND<50	***101***	ND<8.08	ND<7.83	ND<4.66	ND<5.38	ND<6.47	ND<7.97	ND<10	ND<130	ND<117	ND<5.68	ND<6.45	ND<9.9	ND<6.07	ND<6.94	ND<11.7	ND<11.7
Trichloroethene	400,000	470	ND<50	ND<97	ND<8.08	ND<7.83	ND<4.66	ND<5.38	ND<6.47	ND<7.97	ND<10	ND<130	ND<117	***3,710***	ND<6.45	ND<9.9	ND<6.07	ND<6.94	ND<11.7	ND<11.7
Toluene	1,000,000	700	ND<50	114	ND<8.08	ND<7.83	ND<4.66	ND<5.38	ND<6.47	ND<7.97	ND<10	ND<130	ND<117	ND<5.68	ND<6.45	ND<9.9	ND<6.07	ND<6.94	ND<11.7	ND<11.7
Tetrachloroethene	300,000	1,300	ND<50	ND<97	ND<8.08	ND<7.83	ND<4.66	ND<5.38	ND<6.47	ND<7.97	ND<10	ND<130	ND<117	934	ND<6.45	ND<9.9	ND<6.07	ND<6.94	ND<11.7	ND<11.7
m&p-Xylene	1,000,000	1,600	ND<50	127	ND<8.08	14.2	ND<4.66	ND<5.38	ND<6.47	ND<7.97	ND<10	ND<130	ND<117	ND<5.68	ND<6.45	17	ND<6.07	ND<6.94	ND<11.7	ND<11.7
o-Xylene	1,000,000	1,600	ND<50	120	ND<8.08	9.74	ND<4.66	ND<5.38	8.28	ND<7.97	ND<10	ND<130	ND<117	ND<5.68	ND<6.45	ND<9.9	ND<6.07	ND<6.94	ND<11.7	ND<11.7
Isopropylbenzene			ND<50	ND<97	ND<8.08	8.65	ND<4.66	ND<5.38	14.3	ND<7.97	ND<10	ND<130	ND<117	ND<5.68	ND<6.45	ND<9.9	ND<6.07	ND<6.94	ND<11.7	ND<11.7
n-Butylbenzene	1,000,000	12,000	63	ND<97	ND<8.08	ND<7.83	ND<4.66	ND<5.38	ND<6.47	ND<7.97	ND<10	ND<130	ND<117	ND<5.68	ND<6.45	ND<9.9	ND<6.07	ND<6.94	ND<11.7	ND<11.7
n-Propylbenzene	1,000,000	3,900	69	ND<97	ND<8.08	13.4	ND<4.66	ND<5.38	20.1	ND<7.97	ND<10	ND<130	ND<117	ND<5.68	ND<6.45	ND<9.9	ND<6.07	ND<6.94	ND<11.7	ND<11.7
1,3,5-Trimethylbenzene	380,000	8,400	ND<50	108	ND<8.08	70.3	ND<4.66	5.82	27.2	ND<7.97	ND<10	ND<130	ND<117	ND<5.68	ND<6.45	ND<9.9	ND<6.07	ND<6.94	ND<11.7	ND<11.7
1,2,4-Trimethylbenzene	380,000	3,600	62	294	ND<8.08	216	ND<4.66	ND<5.38	136	ND<7.97	ND<10	ND<130	ND<117	ND<5.68	ND<6.45	ND<9.9	ND<6.07	ND<6.94	ND<11.7	ND<11.7
sec-Butylbenzene	1,000,000	11,000	ND<50	ND<97	ND<8.08	ND<7.83	ND<4.66	7.11	52.2	ND<7.97	ND<10	ND<130	ND<117	ND<5.68	ND<6.45	ND<9.9	ND<6.07	ND<6.94	ND<11.7	ND<11.7
4-Isopropyltoluene			ND<50	124	ND<8.08	122	ND<4.66	29	143	ND<7.97	ND<10	ND<130	ND<117	ND<5.68	ND<6.45	ND<9.9	ND<6.07	ND<6.94	ND<11.7	ND<11.7
Naphthalene	1,000,000	12,000	110	2,490	ND<8.08	2,380	ND<4.66	14.8	193	ND<7.97	ND<10	ND<130	ND<117	ND<5.68	ND<6.45	ND<9.9	ND<6.07	ND<6.94	ND<11.7	ND<11.7
Total VOC Concentrations	---	---	304	3,478	ND	2,834	ND	57	642	41	ND	2,800	ND	8,813	303	17	15	ND	17	26
Total VOC TICs²	---	---	NA	36,080	1,115	22,360	441	2,416	16,020	2,558	NA	NA	60,630	538	10,449	1,629	1,003	600	10,021	16,041

Notes:

[1]New York Codes, Rules and Regulations, Title 6 (6NYCRR) Part 375-6, *Remedial Soil Cleanup Objectives* .

²Tenatively Identified Compounds

µg/kg micrograms per kilogram equivalent to parts per billion (ppb)

ND Not detected above the laboratory method detection limit.

Concentrations exceeding soil cleanup objectives denoted in ***BOLD*** .

FORMER ONEIDA KNIFE PLANT
City of Sherrill, Oneida County, New York
DEC Site No. C633077

TABLE 3B - SUMMARY OF SUBSURFACE SOIL ANALYTICAL RESULTS - DETECTED SVOCs
EPA METHOD 8270

Date Sampled: May 20-26, 2010			**Area 1 - Outdoor 9K**			**Area 2 - Outdoor 4K**								**Area 3 -Indoor 4K**			**Area 4 - Outdoor 3K/5K**			**Area 5 - Indoor 3K/5K**		**Area 6 - Outdoor 2K**		**Retention Pond**	
Compound	**Recommended Soil Cleanup Objective¹ (ug/kg)**		**Compound Concentration (µg/kg)**																						
			SB-18-1	**SB-19**	**TW-10**	***SB-8***	***SB-12***	***SB-13***	**SB-15**	**SB-16**	**SB-17**	**SB-21**	**MW-3**	**TW-11A**	**TW-12-1**	**SB-31**	***SB-11***	**SB-29**	**SB-30**	**SB-32**	**TW-13**	***SB-3***	***SB-4***	**SB-23-2**	**SB-24-2**
	Industrial Restricted Use	**Protection of Groundwater**	**Depth Below Grade (feet)**																						
			7-8	**9-11**	**8.5-10**	**11-12**	**7.5-8**	**8-9**	**7-9**	**8-10**	**5-6**	**9-11**	**8-10**	**13-15**	**7-8**	**3-5**	**6-6.5**	**2-4**	**12-16**	**4-5**	**4-6**	**9-10**	**7-8**	**1-2**	**1-2**
Naphthalene	1,000,000	12,000	ND<406	ND<398	ND<450	ND<165	ND<165	ND<830	ND<812	ND<514	ND<480	7,610	ND<388	ND<2310	9,850	ND<394	680	4,130	ND<391	ND<381	ND<382	ND<165	ND<165	ND<523	ND<556
2-Methylnaphthalene			ND<406	ND<398	ND<450	ND<165	ND<165	ND<830	ND<812	ND<514	ND<480	69,700	ND<388	ND<2310	51,100	ND<394	330	ND<2130	ND<391	2,630	777	ND<165	ND<165	ND<523	ND<556
Phenanthrene	1,000,000	1,000,000	ND<406	ND<398	ND<450	ND<165	ND<165	ND<830	ND<812	ND<514	ND<480	2,600	ND<388	ND<2310	ND<4410	ND<394	3,800	5,170	ND<391	501	ND<382	280	ND<165	1,560	ND<556
Fluoranthene	1,000,000	1,000,000	ND<406	ND<398	ND<450	ND<165	ND<165	ND<830	ND<812	ND<514	ND<480	ND<2100	ND<388	ND<2310	ND<4410	ND<394	2,800	ND<2130	ND<391	ND<381	ND<382	600	240	3,540	808
Flourene	1,000,000	386,000	ND<406	ND<398	ND<450	ND<165	ND<165	ND<830	ND<812	ND<514	ND<480	ND<2100	ND<388	ND<2310	ND<4410	ND<394	1,200	ND<2130	ND<391			ND<165	ND<165		
Pyrene	1,000,000	1,000,000	ND<406	ND<398	ND<450	ND<165	ND<165	ND<830	ND<812	ND<514	ND<480	ND<2100	ND<388	ND<2310	ND<4410	ND<394	2,200	ND<2130	ND<391	ND<381	ND<382	500	210	2,280	676
bis(2-Ethylhexyl)phthalate			ND<406	ND<398	ND<450	ND<165	ND<165	ND<830	ND<812	ND<514	ND<480	ND<2100	897	ND<2310	ND<4410	ND<394	ND<330	ND<2130	ND<391	ND<381	ND<382	720	ND<165	ND<523	ND<556
Acenaphthene	1,000,000	98,000	ND<406	ND<398	ND<450	ND<165	ND<165	ND<830	ND<812	ND<514	ND<480	ND<2100	ND<388	ND<2310	ND<4410	ND<394	760	ND<2130	ND<391			ND<165	ND<165		
Anthracene	1,000,000	1,000,000	ND<406	ND<398	ND<450	ND<165	ND<165	ND<830	ND<812	ND<514	ND<480	ND<2100	ND<388	ND<2310	ND<4410	ND<394	1,200	ND<2130	ND<391			ND<165	ND<165		
Benzo(a)anthracene	11,000	1,000	ND<406	ND<398	ND<450	ND<165	ND<165	ND<830	ND<812	ND<514	ND<480	ND<2100	ND<388	ND<2310	ND<4410	ND<394	***1,400***	ND<2130	ND<391	ND<381	ND<382	300	ND<165	***1,610***	ND<556
Chrysene	110,000	1,000	ND<406	ND<398	ND<450	ND<165	ND<165	ND<830	ND<812	ND<514	ND<480	ND<2100	ND<388	ND<2310	ND<4410	ND<394	***1,600***	ND<2130	ND<391	ND<381	ND<382	310	ND<165	***1,240***	ND<556
Dibenzofuran			ND<406	ND<398	ND<450	ND<165	ND<165	ND<830	ND<812	ND<514	ND<480	ND<2100	ND<388	ND<2310	ND<4410	ND<394	460	ND<2130	ND<391			ND<165	ND<165		
Benzo(b)fluoranthene	11,000	1,700	ND<406	ND<398	ND<450	ND<165	ND<165	ND<830	ND<812	ND<514	ND<480	ND<2100	ND<388	ND<2310	ND<4410	ND<394	950	ND<2130	ND<391	ND<381	ND<382	290	ND<165	1,030	ND<556
Benzo(k)fluoranthene	110,000	1,700	ND<406	ND<398	ND<450	ND<165	ND<165	ND<830	ND<812	ND<514	ND<480	ND<2100	ND<388	ND<2310	ND<4410	ND<394	100	ND<2130	ND<391	ND<381	ND<382	270	ND<165	907	ND<556
Benzo(a)pyrene	1,100	22,000	ND<406	ND<398	551	ND<165	ND<165	ND<830	ND<812	ND<514	ND<480	ND<2100	ND<388	ND<2310	ND<4410	ND<394	790	ND<2130	ND<391	ND<381	ND<382	290	ND<165	***1,340***	ND<556
Indeno(1,2,3-cd)pyrene	11,000	8,200	ND<406	ND<398	ND<450	ND<165	ND<165	ND<830	ND<812	ND<514	ND<480	ND<2100	ND<388	ND<2310	ND<4410	ND<394	ND<330	ND<2130	ND<391	ND<381	ND<382	ND<165	ND<165	528	ND<556
Benzo(g,h,i)perylene	1,000,000	1,000,000	ND<406	ND<398	ND<450	ND<165	ND<165	ND<830	ND<812	ND<514	ND<480	ND<2100	ND<388	ND<2310	ND<4410	ND<394	ND<330	ND<2130	ND<391	ND<381	ND<382	ND<165	ND<165	632	ND<556
Total SVOC Concentrations	---	---	ND<406	ND<398	551	ND<165	ND<165	ND<830	ND<812	ND<514	ND<480	79,910	897	ND<2310	60,950	ND<394	18,270	9,300	ND<391	3,131	777	3,560	450	14,667	1,484
Total SVOC TICs²	---	---	171,000	8,885	16,080	NA	NA	NA	57,980	4,303	39,400	254,600	3,301	159,870	886,900	20,548	NA	389,200	0	33,062	15,418	NA	NA	36,270	35,340

TABLE 3C - SUMMARY OF SUBSURFACE SOIL ANALYTICAL RESULTS - DETECTED RCRA METALS

Date Sampled: May 20-26, 2010			**Area 1 - Outdoor 9K**			**Area 2 - Outdoor 4K**						**Area 3 -Indoor 4K**			**Area 4 - Outdoor 3K/5K**			**Area 5 - Indoor 3K/5K**		**Area 6 - Outdoor 2K**		**Retention Pond**	
Compound	**Recommended Soil Cleanup Objective¹ (mg/kg)**		**Compound Concentration (mg/kg)**																				
			SB-18-1	**SB-19**	**TW-10**	***SB-13***	**SB-15**	**SB-16**	**SB-17**	**SB-21**	**MW-3**	**TW-11A**	**TW-12-1**	**SB-31**	***SB-11***	**SB-29**	**SB-30**	**SB-32**	**TW-13**	**SB-3**	**SB-4**	**SB-23-2**	**SB-24-2**
	Industrial Restricted Use	**Protection of Groundwater**	**Depth Below Grade (feet)**																				
			7-8	**9-11**	**8.5-10**	**8-9**	**7-9**	**8-10**	**5-6**	**9-11**	**8-10**	**13-15**	**7-8**	**3-5**	**6-6.5**	**2-4**	**12-16**	**4-5**	**4-6**	**9-10**	**7-8**	**1-2**	**1-2**
Arsenic	16	16	5.69	ND<3.92	6.23	**46**	***143***	ND<5.05	***21.9***	ND<79.7	ND<3.75	7.24	ND<43.4	6.24	5	ND<40	ND<3.79	6.64	4.19	7	5	***20***	***27.3***
Barium	10,000	820	57.2	22.8	43.8	NA	32.3	36.9	63.8	142	44	52.9	79.3	65.3	NA	292	89	64.9	80.9	NA	NA	59.1	94.3
Beryllium	2,700	47	0.762	0.169	0.286	1	ND<1.57	0.336	0.848	ND<1.61	0.186	0.286	ND<0.875	0.452	0.2	ND<0.807	0.507	0.394	0.439	ND<0.1	0.2	0.209	ND<0.107
Cadmium	60	7.5	ND<0.243	ND<0.237	ND<0.266	3	ND<4.17	ND<0.306	4.19	ND<4.82	ND<0.227	ND<0.274	ND<2.63	0.238	4	ND<2.42	ND<0.23	ND<0.225	ND<0.222	0.5	0.3	1.62	***13.5***
Chromium, Trivalent	6,800	NS	7.39	5.9	11.8	53	***35,300***	14.3	1180	2,290	5.53	28.6	6,190	12.9	1760	931	13.2	10.6	12.7	26	14	2030	4290
Copper	10,000	1,720	23.6	24.1	20.1	236	288	24.4	93.6	89	6.90	20	109	22.1	70	81	21.3	18.9	23.5	29	26	118	314
Lead	3,900	450	10.8	ND<4.79	7.41	37	***13,700***	6.23	***648***	***3,870***	ND<4.58	30.5	***2,850***	30.8	***870***	***30,200***	5.13	10.1	193	42	48	44.1	75.5
Manganese	10,000	2,000	497	375	457	NA	1,490	302	251	596	206	261	608	669	NA	590	465	517	491	NA	NA	391	379
Nickel	10,000	130	71.9	6.4	8.95	48	***562***	9.55	49.3	92	24.2	9.98	125	16.5	***182***	162	18.2	15	16.4	19	16	67.2	***155***
Silver	6,800	8.3	ND<1.35	ND<1.32	ND<1.48	ND<0.3	ND<26.2	ND<1.7	ND<1.53	ND<26.8	ND<1.26	ND<1.52	ND<14.6	ND<1.29	***32***	ND<13.4	ND<1.28	ND<1.25	ND<1.23	ND<0.3	ND<0.3	ND<1.72	5.52
Zinc	10,000	2,480	224	15.4	24.2	557	74.3	29.6	910	138	148	29.8	315	61.9	86	57.6	33.7	27.6	36.6	63	50	311	2020
Mercury	5.7	1	ND<2.94	ND<0.021	0.0455	ND<0.1	0.224	ND<0.0279	***2.01***	0.0459	0.0446	0.0526	0.678	0.0403	ND<0.1	ND<0.292	ND<0.284	0.0763	ND<0.0221	ND<0.1	ND<0.1	ND<1.18	0.325
Cyanide	10,000	40	ND<0.0213	ND<0.292	ND<0.292	NA	ND<0.89	0.449	ND<0.99	1.86	0.275	0.383	ND<0.884	ND<0.291	NA	0.045	ND<0.0209	ND<0.258	ND<0.269	NA	NA	1.32	ND<1.11

TABLE 3D - SUMMARY OF SUBSURFACE SOIL ANALYTICAL RESULTS - DETECTED PCBs
EPA METHOD 8082

Date Sampled: May 20-26, 2010			**Area 1 - Outdoor 9K**			**Area 2 - Outdoor 4K**						**Area 3 -Indoor 4K**			**Area 4 - Outdoor 3K/5K**			**Area 5 - Indoor 3K/5K**			**Retention Pond**	
Compound	**Recommended Soil Cleanup Objective¹ (mg/kg)**		**Compound Concentration (mg/kg)**																			
			SB-18-1	**SB-19**	**TW-10**	**SB-13**	**SB-15**	**SB-16**	**SB-17**	**SB-21**	**MW-3**	**TW-11A**	**TW-12**	**SB-31**	**SB-11**	**SB-29**	**SB-30**	**SB-25**	**SB-32**	**TW-13**	**SB-23-2**	**SB-24-2**
	Industrial Restricted Use	**Protection of Groundwater**	**Depth Below Grade (feet)**																			
			7-8	**9-11**	**8.5-10**	**8-9**	**7-9**	**8-10**	**5-6**	**9-11**	**8-10**	**8.5-10**	**8.5-11**	**3-5**	**6-6.5**	**2-4**	**12-16**	**2-3**	**2-4**	**2-5**	**1-2**	**1-2**
Aroclor 1254	---	---	ND<0.0623	0.673	ND<0.0653	ND<0.017	ND<0.0602	ND<0.0777	ND<0.0724	ND<0.0631	ND<0.0543	ND<0.0689	ND<0.0666	ND<0.0581	ND<0.017	ND<0.0643	ND<0.059	ND<0.0589	ND<0.0562	ND<0.0568	1.51	0.376
Aroclor 1260	---	---	0.0189	ND<0.0601	ND<0.0653	0.27	0.0797	ND<0.0777	0.447	ND<0.0631	ND<0.0543	ND<0.0689	ND<0.0666	ND<0.0581	0.15	ND<0.0643	ND<0.059	ND<0.0589	ND<0.0562	ND<0.0568	0.455	0.206
TOTAL	25	3.2	0.019	0.673	ND<0.0653	0.270	0.080	ND<0.0777	0.447	ND<0.0631	ND<0.0543	ND<0.0689	ND<0.0666	ND<0.0581	0.150	ND<0.0643	ND<0.059	ND<0.0589	ND<0.0562	ND<0.0568	1.965	0.582

Notes:

¹New York Codes, Rules and Regulations, Title 6 (6NYCRR) Part 375-6, Remedial Program Soil Cleanup Objectives.
²Tenatively Identified Compounds.
mg/kg milligrams per kilogram, equivalent to parts per million (ppm).
µg/kg micrograms per kilogram, equivalent to parts per billion (ppb).
NA Not analyzed
ND Not detected above the laboratory method detection limit.
Concentrations exceeding soil cleanup objectives denoted in ***BOLD***.

FORMER ONEIDA KNIFE PLANT
City of Sherrill, Oneida County, New York
DEC Site No. C633077

TABLE 4A - SUMMARY OF SURFACE SOIL ANALYTICAL RESULTS - DETECTED VOCs
EPA Method 8260

Date Sampled: May 20-26, 2010

Compound	Recommended Soil Cleanup Objective[1] (µg/kg) Industrial Restricted Use	Protection of Groundwater	Area 6 - Outdoor 2K	Area 1 - Outdoor 9K	Area 2 - Outdoor 4K	Area 4 - Outdoor 3K/5K and Retention Pond		
			Compound Concentration (µg/kg)					
			SS-3	SS-4	SS-6	SS-5	SB-23-1	SB-24-1
			Depth Below Grade					
			0-2"	0-2"	0-2"	0-2"	0-2"	0-2"
Tetrachloroethene	300,000	1,300	ND<4.32	15.4	ND<4.62	ND<4.37	ND<8.07	ND<8.74
m&p-Xylene	1,000,000	1,600	4.35	ND<4.64	12.5	ND<4.37	ND<8.07	ND<8.74
1,3,5-Trimethylbenzene	380,000	8,400	ND<4.32	ND<4.64	4.9	ND<4.37	ND<8.07	ND<8.74
1,2,4-Trimethylbenzene	380,000	3,600	4.87	ND<4.64	12.6	ND<4.37	ND<8.07	ND<8.74
Total VOC Concentrations	---	---	9.22	15.4	30	0	0	0

TABLE 4B - SUMMARY OF SURFACE SOIL ANALYTICAL RESULTS - DETECTED SVOCs
EPA Method 8270

Date Sampled: May 20-26, 2010

Compound	Recommended Soil Cleanup Objective[1] (µg/kg) Industrial Restricted Use	Protection of Groundwater	Area 6 - Outdoor 2K	Area 1 - Outdoor 9K	Area 2 - Outdoor 4K	Area 4 - Outdoor 3K/5K		
			Compound Concentration (µg/kg)					
			SS-3	SS-4	SS-6	SS-5	SB-23-1	SB-24-1
			Depth Below Grade					
			0-2"	0-2"	0-2"	0-2"	0-2"	0-2"
Phenanthrene	1,000,000	1,000,000	507	ND<691	ND<425	1,470	ND<576	1,810
Anthracene	1,000,000	1,000,000	ND<365	ND<691	ND<425	455	ND<576	ND<663
Carbazole			ND<365	ND<691	ND<425	389	ND<576	ND<663
Fluoranthene	1,000,000	1,000,000	999	771	ND<425	2,810	ND<576	2,550
Pyrene	1,000,000	1,000,000	608	ND<691	449	1,660	ND<576	1,360
Benzo(a)anthracene	11,000	1,000	451	ND<691	ND<425	***1,700***	ND<576	882
Chrysene	110,000	1,000	453	ND<691	ND<425	***1,170***	ND<576	822
Benzo(b)fluoranthene	11,000	1,700	454	ND<691	ND<425	920	ND<576	ND<663
Benzo(k)fluoranthene	110,000	1,700	ND<365	ND<691	ND<425	871	ND<576	ND<663
Benzo(a)pyrene	1,100	22,000	472	ND<691	ND<425	1,020	ND<576	703
Indeno(1,2,3-cd)pyrene	11,000	8,200	ND<365	ND<691	ND<425	526	ND<576	ND<663
Benzo(g,h,i)perylene	1,000,000	1,000,000	ND<365	ND<691	ND<425	523	ND<576	ND<663
Total SVOC Concentrations	---	---	3,944	771	449	13,514	ND<576	8,127

TABLE 4C - SUMMARY OF SURFACE SOIL ANALYTICAL RESULTS - DETECTED RCRA METALS

Date Sampled: May 20-26, 2010

Compound	Recommended Soil Cleanup Objective[1] (mg/kg) Industrial Restricted Use	Protection of Groundwater	Area 6 - Outdoor 2K	Area 1 - Outdoor 9K	Area 2 - Outdoor 4K	Area 4 - Outdoor 3K/5K		
			Compound Concentration (mg/kg)					
			SS-3	SS-4	SS-5	SS-6	SB-23-1	SB-24-1
			Depth Below Grade					
			0-2"	0-2"	0-2"	0-2"	0-2"	0-2"
Arsenic	16	16	4.38	ND<3.2	5.11	6	13.3	***29***
Barium	10,000	820	25.9	16.8	40.4	45	79.8	114
Beryllium	2,700	47	0.303	0.219	0.201	0.235	0.337	0.245
Cadmium	60	7.5	ND<0.208	ND<0.194	ND<0.218	ND<0.245	1.06	2.95
Chromium, Trivalent	6,800	NS	63.2	163	501	498	1,530	4,460
Copper	10,000	1,720	29.7	10.6	37.5	19	84.1	204
Lead	3,900	450	11.8	ND<3.91	62.3	16	26.5	63
Manganese	10,000	2,000	463	328	202	392	365	518
Nickel	10,000	130	12.5	11	19.3	23	83.4	***257***
Silver	6,800	8.3	ND<1.15	ND<1.08	ND<1.12	ND<1.36	2.28	7.15
Zinc	10,000	2,480	31.5	13.5	25	49	308	745
Mercury	5.7	1	ND<0.022	0.458	0.0458	0.0466	ND<0.415	0.131
Cyanide	10,000	40	ND<0.256	ND<0.748	0.308	ND<0.299	0.135	ND<0.473

TABLE 4D - SUMMARY OF SURFACE SOIL ANALYTICAL RESULTS - DETECTED PCBs
EPA Method 8082

Date Sampled: May 20-26, 2010

Compound	Recommended Soil Cleanup Objective[1] (mg/kg) Industrial Restricted Use	Protection of Groundwater	Area 6 - Outdoor 2K	Area 1 - Outdoor 9K	Area 2 - Outdoor 4K	Area 4 - Outdoor 3K/5K and Retention Pond			Transformer Area			
			Compound Concentration (mg/kg)									
			SS-3	SS-4	SS-5	SS-6	SB-23-1	SB-24-1	*TE-W*	SS-1	SS-2	SB-25-SS
			Depth Below Grade									
			0-2"	0-2"	0-2"	0-2"	0-2"	0-2"	0-6"	0-2"	0-2"	0-2"
Aroclor 1254	---	---	0.183	0.609	0.162	0.567	0.0893	0.177	1.03	0.239	0.177	1.01
Aroclor 1260			ND<0.0531	ND<0.0516	0.0646	ND<0.0626	ND<0.0862	ND<0.0993	2.13	ND<0.0533	ND<0.0527	0.631
TOTAL	25	3.2	0.18	0.61	0.23	0.57	0.09	0.18	3.16	0.24	0.18	1.64

Notes:

[1]New York Codes, Rules and Regulations, Title 6 (6NYCRR) Part 375-6, *Remedial Program Soil Cleanup Objectives* .

mg/kg milligrams per kilogram, equivalent to parts per million (ppm).

µg/kg micrograms per kilogram, equivalent to parts per billion (ppb).

ND Not detected above the laboratory method detection limit.

Concentrations exceeding soil cleanup objectives denoted in ***BOLD*** .

FORMER ONEIDA KNIFE PLANT
City of Sherrill, Oneida County, New York
DEC Site No. C633077

TABLE 5 - SUMMARY OF SEDIMENT ANALYTICAL RESULTS

Date Sampled: May 20-26, 2010

SELECTED ORGANIC ANALYSIS		
ANALYSIS	**Compound Concentration**	
	Midstream Location	**Downstream**
	SD-1	**SD-2**
Total Organic Carbon (TOC) in mg/kg	3,100	7,600
Volatile Organic Compounds (EPA 8260) in µg/kg	ND < 5.01	ND < 4.93
Semi-volatile Organic Compounds (EPA 8270) in µg/kg	ND < 446	ND < 433
Polychlorinated Biphenyls (EPA 8020) in µg/kg	ND < 67.4	ND < 63.5

SELECTED PRIORITY POLLUTANT METALS			
Compound	**Sediment Guidance Value[1] (mg/kg)**	**Compound Concentration (mg/kg)**	
		Midstream Location	**Downstream**
	Lowest / Highest Effect Level	**SD-1**	**SD-2**
Arsenic	6 / 33	***6.16***	**6.2**
Barium	---	45.1	39.7
Beryllium	---	0.235	0.257
Cadmium	0.6 / 9	ND	ND
Chromium	26 / 110	***498***	5.67
Copper	16 / 110	***18.7***	6.87
Lead	31 / 110	15.5	ND
Manganese	460 / 1,100	392	***463***
Nickel	16 / 50	***23.3***	14.4
Selenium	---	ND	ND
Silver	1 / 2.2	ND	ND
Zinc	120 / 270	48.9	19.3
Mercury	0.15 / 1.3	0.0466	ND

Notes:

[1]DEC *Sediment Criteria for Metals* per *Technical Guidance for Screening Contaminated Sediment*, dated January 1999.

mg/kg milligrams per kilogram, equivalent to parts per million (ppm)
µg/kg micrograms per kilogram, equivalent to parts per billion (ppb)
--- No DEC recommended sediment guidance value
ND Not detected above the laboratory method detection limit
Compounds that exceeded Sediment Guidance Values are denoted in ***BOLD***.

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TABLE 6A - SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
DETECTED COMPOUNDS - REMEDIAL INVESTIGATION WELLS

Date Sampled: June 15, 2010		**Area 6 - Outdoor 2K**	**Area 2 - Outdoor 4K**			**Area 1 - Indoor 9K**	**Area 3 - Indoor 4K**			**Area 5 - Indoor 3K/5K**		**Area 4 - Outdoor 3K/5K**
Compound	**State Groundwater Standards[1]**	**Compound Concentration**										
		MW-1	**MW-2**	**MW-3**	**MW-3 Dissolved**	**TW-10**	**TW-11A**	**TW-11A Dissolved**	**TW-12**	**TW-13**	**TW-13 Dissolved**	**TW-14**
Volatile Organic Compounds (EPA Method 8260) in µg/L												
1,2-Dichloroethene	5			***6***	NA			NA		3	NA	
Trichloroethene	5			2	NA	2		NA			NA	
Vinyl Chloride	2			2	NA	1		NA		***10***	NA	
Total VOCs		ND<1	ND<1	10	NA	3	ND<1	NA	ND<1	13	NA	ND<1
Semi Volatile Compounds (EPA Method 8270 B/N) in µg/L												
Total SVOCs	500	NA	ND<9.26	ND<9.26	NA	ND<9.26	ND<9.26	NA	ND<9.26	ND<9.26	NA	NA
Polychlorinated Biphenyls (EPA Method 8020) in µg/L												
Total PCBs	0.09	NA	ND<0.05	ND<0.05	NA	ND<0.05	ND<0.05	NA	ND<0.05	ND<0.05	NA	NA
Metals (EPA Method 7000 Series) in mg/L												
Arsenic	0.025	NA								***0.0477***		NA
Barium	2.000	NA	0.571	0.073	0.077	0.130	0.566	0.448	0.124	0.687	0.327	NA
Beryllliyum	0.003	NA								***0.00331***		NA
Chromium	0.05	NA								***0.0911***		NA
Copper	0.2	NA								0.187		NA
Lead	0.025	NA								***0.0428***		NA
Manganese	0.600	NA	0.134	***1.070***	***1.080***	0.339	***1.600***	***1.570***	0.159	***4.04***	0.125	NA
Nickel	0.1	NA								0.0915		NA
Zinc	2	NA		0.01	0.01		0.010	0.009		0.197		NA

Notes:

[1]DEC Division of Water's Technical and Operational Guidance Series (TOGS) 1.1.1, *Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations*, dated June 1998, with Addenda dated April 2000 and June 2004.

µg/L micrograms per liter, equivalent to parts per billion (ppb)
mg/L milligrams per liter, equivalent to parts per million (ppm)
NA Not analyzed
Blank cell indicates the compound was not detected.
Compounds that exceeded State Groundwater Standards are denoted in ***BOLD***.

FORMER ONEIDA KNIFE PLANT
City of Sherrill, Oneida County, New York
DEC Site No. C633077

TABLE 6B - SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
DETECTED COMPOUNDS - PREVIOUS WELLS

		Area 5 - Outdoor 3K/5K		**Area 6 - Outdoor 2K**				**Area 1 - Outdoor 9K**			
Compound	**State Groundwater Standards[1]**	**Compound Concentration**									
		TW-1		**TW-2**		**TW-3**		**TW-7**		**TW-9**	
Volatile Organic Compounds (EPA Method 8260) in µg/L		**Apr-06**	**May-10**	**Apr-06**	**May-10**	**Apr-06**	**May-10**	**Apr-06**	**May-10**	**Apr-06**	**May-10**
1,1-Dichloroethane	5				1						
cis-1,2-Dichloroethene	5	***6***	***8***	***640***	***784***	***100***	***76***	***430***	***87***	***21***	
Tetrachloroethene	5				***3***		***2***		***3***		
Toluene	5	***42***				***71***	***71***			***25***	
Trans-1,2-Dichloroethene	5				***13***						
Trichloroethene	5			***590***	***129***	***140***	***22***	***460***	***124***	***10***	
Vinyl Chloride	2	***6***	***71***	***10***	***23***	***15***	***3***	***95***	***43***	***48***	1
Total VOCs	10	***54***	***79***	***1,240***	***953***	***326***	***174***	***985***	***257***	***104***	1

Notes:

[1]DEC Division of Water's Technical and Operational Guidance Series (TOGS) 1.1.1, *Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations* , dated June 1998, with Addenda dated April 2000 and June 2004.
µg/L micrograms per liter, equivalent to parts per billion (ppb)
Blank cell indicates the compound was not detected.
Compounds that exceeded State Groundwater Standards are denoted in ***BOLD*** .

FORMER ONEIDA KNIFE PLANT
City of Sherrill, Oneida County, New York
DEC Spill No. C633077

TABLE 7 - SUMMARY OF SUB-SLAB SOIL VAPOR ANALYTICAL RESULTS
DETECTED COMPOUNDS

Date Sampled: June 15, 2010

Compound	Soil Vapor Concentration (μg/m³)					Indoor Air Concentration (μg/m³)				
	SV-5	SV-6	SV-7	Maximum Soil Vapor Concentration	Draft NYSDOH Sub-Slab Vapor Guideline[4]	Estimated Indoor Air Concentration		Background Indoor Air Concentration[3]	Draft NYSDOH Indoor Air Guideline[4]	OSHA Permissible Exposure Limit[5]
						EPA Screening[1]	Site Specific[2]			
1,2,4-Trimethylbenzene (1,2,4-TMB)	7.5	8.9	9.7	10	---	1.0	0.00001	1.7 - 5.1	---	---
1,3,5-Trimethylbenzene (1,3,5-TMB)	2.2	1.8	2.4	2	---	0.2	0.000002	<1.5	---	---
1,4-Dichlorobenzene	4.5	6.3	8.0	8	---	0.8	0.000008	<0.8 - 1.4	---	450,000
2,2,4-trimethylpentane	2.6	2.5	2.7	3	---	0.3	0.000003	---	---	---
4-Ethyltoluene	3.1	1.7	1.9	3	---	0.3	0.000003	---	---	---
Acetone (2-propanone)	18.0	16.0	27.0	27	---	2.7	0.000027	32 - 60	---	2,400,000
Benzene	0.9	0.9	0.9	1	---	0.1	0.000001	2.1 - 5.1	---	31,948
Ethylbenzene	6.6	3.8	3.9	7	---	0.7	0.000007	<1.6 - 3.4	---	435,000
Carbon Disulfide	0.4	0.7	0.4	1	---	0.1	0.000001	<0.8 - 2.1	---	311,000
Chloroform	5.5	4.7	0.8	6	---	0.6	0.000006	<0.4 - <1.2	---	240,000
cis-1,2-Dichloroethene	4.8	0.8	ND	5	---	0.5	0.000005	<0.8 - <1.2	---	---
Freon 11 (Trichlorofluoromethane)	7.3	4.6	30.0	30	---	3.0	0.000030	<3.7 - <6.7	---	5,600,000
Freon 12 (Dichlorodifloromethane)	2.5	2.5	2.4	3	---	0.3	0.000003	4.8 - 10.5	---	4,950,000
m/p-Xylenes	20.0	9.2	9.2	20	---	2.0	0.000020	4.1 - 12	---	435,000
MEK	3.0	3.1	4.0	4	---	0.4	0.000004	3.3 - 7.5	---	590,000
n-Heptane	ND	ND	1.0	1	---	0.1	0.000001	---	---	2,000,000
o-Xylene	6.8	4.3	4.1	7	---	0.7	0.000007	<2.4 - 4.4	---	435,000
Tetrachloroethene (PCE)	28.0	59.0	21.0	59	*Monitor if >100	5.9	0.000059	<1.9 - 5.9	100	678,241
Tetrahydrofuran	2.3	2.2	ND	2	---	0.2	0.000002	---	---	590,000
Toluene	17.0	7.3	7.3	17	---	1.7	0.000017	10.7 - 26	---	754,000
Trichloroethene	37	40	15	40	*Monitor if > 50	4	0.000040	<1.2 - 1.2	5	537,000

Notes:

[1]Values assume attenuation factor of 10^{-1} from shallow soil vapor to indoor air per EPA Draft Guidance for Evaluating Vapor Intrusion, Nov. 2002.
[2]Values assume attenuation factor of 10^{-6} from shallow soil vapor to indoor air, representative of structures with slabs in good condition, without preferential vapor pathways and without negative indoor air pressure.
[3]Values obtained from unpublished Background Indoor Air (office), Building Assessment and Survey Evaluation (BASE '94-'98) by Indoor Environments Division, EPA
[4]Values obtained from NYSDOH Draft Guidance for Evaluating Soil Vapor Intrusion in the State of New York (Feb 2005), Soil Vapor/Indoor, Air Matrix 1 and 2-Indoor Air Concentration of Compound values derived by NYSDOH.
[5]Occupational Safety and Health Standards, 29CFR1910, Tables Z-1 and Z-2, Time-weighted average - 8-hours.
μg/m³ micrograms per cubic meter
* Monitoring involves testing indoor air quality together with sub-slab vapors and ambient (outside) air.
--- No guideline or standard.

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TABLE 8 - SUMMARY OF CONTAMINANT STATISTICS

Media	Class	Contaminant of Concern	Units	Concentration Range	SCG[1] (µg/kg)	Evaluation Area of Highest Concentration	Number of Samples	Number of Samples with detections		Criteria Comparison: Number of Samples Exceeding SCGs	
								Number	Percent	Number	Percent
Surface Soils	Volatile Organic Compounds	Tetrachloroethene	µg/kg	ND - 15.4	1,300	1	6	1	17%	0	0%
		m&p-Xylene		ND - 12.5	1,600	2		2	33%	0	0%
		1,3,5-Trimethylbenzene		ND - 4.9	8,400	2		1	17%	0	0%
		1,2,4-Trimethylbenzene		ND - 12.6	3,600	2		2	33%	0	0%
	Semi-Volatile Organic Compounds	Phenanthrene	µg/kg	ND - 1810	1,000,000	4	6	3	50.00%	0	0%
		Anthracene		ND - 455	1,000,000	2		1	16.67%	0	0%
		Carbazole		ND - 389		2		1	16.67%	0	0%
		Fluoranthene		ND - 2810	1,000,000	2		4	66.67%	0	0%
		Pyrene		ND - 1660	1,000,000	2		4	66.67%	0	0%
		Benzo(a)anthracene		ND - 1700	1,000	2		3	50.00%	0	0%
		Chrysene		ND - 1170	1,000	2		3	50.00%	0	0%
		Benzo(b)fluoranthene		ND - 920	1,700	2		2	33.33%	1	17%
		Benzo(k)fluoranthene		ND - 871	1,700	2		1	16.67%	1	17%
		Benzo(a)pyrene		ND - 1020	22,000	2		3	50.00%	0	0%
		Indeno(1,2,3-cd)pyrene		ND - 526	8,200	2		1	16.67%	0	0%
		Benzo(g,h,i)perylene		ND - 532	1,000,000	2		1	16.67%	0	0%
	Metals	Arsenic	mg/kg	ND - 29	16	4	6	5	83.33%	1	17%
		Barium		16.8 - 114	820	4		6	100.00%	0	0%
		Beryllium		0.201 - 0.337	47	4		6	100.00%	0	0%
		Cadmium		ND - 2.9	7.5	4		2	33.33%	0	0%
		Chromium, Trivalent		63.2 - 4460	NS	4		6	100.00%	0	0%
		Copper		10.6 - 204	1,720	4		6	100.00%	0	0%
		Lead		ND - 63	450	4		5	83.33%	0	0%
		Manganese		202 - 518	2,000	4		6	100.00%	0	0%
		Nickel		11 - 257	130	4		6	100.00%	1	17%
		Silver		ND - 7.15	8.3	4		2	33.33%	0	0%
		Zinc		13.5 - 745	2,480	4		6	100.00%	0	0%
		Mercury		ND - 0.131	1	4		4	66.67%	0	0%
		Cyanide		ND - 0.308	40	2		2	33.33%	0	0%
	Total PCBs	PCBs	mg/kg	ND - 3.16	3.2	5	10	10	100.00%	0	0%
Sub-Surface Soils	Volatile Organic Compounds	Vinyl Chloride	µg/kg	ND - 42.3	20	6	38	3	7.89%	2	5%
		trans-1,2-Dichloroethene		ND - 18.9	190	6		1	2.63%	0	0%
		cis-1,2-Dichloroethene		ND - 4,050	250	6		7	18.42%	1	3%
		Trichloroethene		ND - 3,710	470	6		1	2.63%	1	3%
		Tetrachloroethene		ND - 934	1,300	6		2	5.26%	0	0%
		Benzene		ND - 101	60	4		1	2.63%	1	3%
		Toluene		ND - 114	700	4		1	2.63%	0	0%
		m&p-Xylene		ND - 127	1,600	4		4	10.53%	0	0%
		o-Xylene		ND - 120	1,600	4		3	7.89%	0	0%
		Isopropylbenzene		ND - 2,070		2		4	10.53%	0	0%
		n-Propylbenzene		ND - 4,530	3,900	2		4	10.53%	1	3%
		n-Butylbenzene		ND - 63	12,000	4		2	5.26%	0	0%
		1,3,5-Trimethylbenzene		ND - 108	8,400	4		4	10.53%	0	0%
		1,2,4-Trimethylbenzene		ND - 1,010	3,600	2		8	21.05%	0	0%
		sec-Butylbenzene		ND - 7,380	11,000	2		8	21.05%	0	0%
		4-Isopropyltoluene		ND - 2,200		2		7	18.42%	0	0%
		Naphthalene		ND - 10,700	12,000	2		9	23.68%	0	0%
		Acetone		ND - 263	50	6		10	26.32%	5	13%
		Carbon Disulfide		ND - 14.3		6		9	23.68%	0	0%
		2-Butanone		ND - 39.8	120	6		9	23.68%	0	0%
	Semi-Volatile Organic Compounds	Naphthalene	µg/kg	ND - 4130	12,000	4	23	4	17.39%	0	0%
		2-Methylnaphthalene		ND - 69700		2		5	21.74%	0	0%
		Phenanthrene		ND - 5170	1,000,000	4		6	26.09%	0	0%
		Fluoranthene		ND - 3540	1,000,000	4		5	21.74%	0	0%
		Flourene		ND - 1200	386,000	4		1	4.35%	0	0%
		Pyrene		ND - 2280	1,000,000	4		5	21.74%	0	0%
		bis(2-Ethylhexyl)phthalate		ND - 897		2		2	8.70%	0	0%
		Acenaphthene		ND - 760	98,000	4		2	8.70%	0	0%
		Anthracene		ND - 1200	1,000,000	4		2	8.70%	0	0%
		Benzo(a)anthracene		ND - 1610	1,000	4		3	13.04%	2	9%
		Chrysene		ND - 1240	1,000	4		3	13.04%	2	9%
		Dibenzofuran		ND - 460		4		1	4.35%	0	0%
		Benzo(b)fluoranthene		ND - 1030	1,700	4		3	13.04%	0	0%
		Benzo(k)fluoranthene		ND - 907	1,700	4		3	13.04%	0	0%
		Benzo(a)pyrene		ND - 1340	22,000	4		4	17.39%	1	4%
		Indeno(1,2,3-cd)pyrene		ND - 528	8,200	4		1	4.35%	0	0%
		Benzo(g,h,i)perylene		ND - 632	1,000,000	4		1	4.35%	0	0%

FORMER ONEIDA KNIFE PLANT
City of Sherrill, Oneida County, New York
DEC Site No. C633077

TABLE 8 - SUMMARY OF CONTAMINANT STATISTICS

Media	Class	Contaminant of Concern	Units	Concentration Range	SCG[1] (µg/kg)	Evaluation Area of Highest Concentration	Number of Samples	Number of Samples with detections		Criteria Comparison: Number of Samples Exceeding SCGs	
								Number	Percent	Number	Percent
Sub-Surface Soils	Metals	Arsenic	mg/kg	ND - 143	16	1	21	14	66.67%	5	24%
		Barium		32.3 - 292	820	4		17	80.95%	0	0%
		Beryllium		ND - 0.507	47	4		15	71.43%	0	0%
		Cadmium		ND - 13.5	7.5	4		8	38.10%	0	0%
		Chromium, Trivalent		5.9 - 35300	NS	2		21	100.00%	1	5%
		Copper		18.9 - 288	1,720	2		21	100.00%	0	0%
		Lead		ND - 30200	450	4		19	90.48%	6	29%
		Manganese		206 - 1490	2,000	2		17	80.95%	0	0%
		Nickel		6.4 - 562	130	2		21	100.00%	3	14%
		Silver		ND - 32	8.3	4		2	9.52%	1	5%
		Zinc		15.4 - 2020	2,480	4		21	100.00%	0	0%
		Mercury		ND - 2.01	1	2		10	47.62%	1	5%
		Cyanide		ND - 1.86	40	2		6	28.57%	0	0%
	PCB	PCBs	mg/kg	ND - 1.965	3.2	4	19	6	31.58%	0	0%
Groundwater	Volatile Organic Compounds	1,1-Dichloroethane	µg/kg	ND - 1	5	6	13	1	7.69%	0	0%
		cis-1,2-Dichloroethene		ND - 784	5	2		6	46.15%	5	38%
		Tetrachloroethene		ND - 3	5	1,6		3	23.08%	0	0%
		Toluene		ND - 71	5	6		1	7.69%	1	8%
		trans-1,2-Dichloroethene		ND - 13	5	6		1	7.69%	1	8%
		Trichloroethene		ND - 129	5	1,2		5	38.46%	3	23%
		Vinyl Chloride		ND - 43	2	5		8	61.54%	4	31%
		Total VOCs		ND - 13	10	5		8	61.54%	6	46%
	Semi-Volatile Organic Compounds	Total SVOCs	µg/kg	ND	NA	NA	11	1	9.09%	0	0%
	Metals	Arsenic	mg/kg	ND - 0.0477	0.025	5	12	4	33.33%	1	8.33%
		Barium		0.077 - 0.687	2.000	5		9	75.00%	0	0.00%
		Berylliyum		ND - 0.0033	0.003	5		1	8.33%	1	8.33%
		Chromium		ND - 0.0911	0.05	5		4	33.33%	1	8.33%
		Copper		ND - 0.187	0.2	5		4	33.33%	0	0.00%
		Lead		ND - 0.0428	0.025	5		3	25.00%	3	25.00%
		Manganese		0.125 - 4.04	0.600	5		9	75.00%	5	41.67%
		Nickel		ND - 0.0915	0.1	5		3	25.00%	0	0.00%
		Zinc		ND - 0.197	2	5		8	66.67%	0	0.00%

Notes:

[1]New York Codes, Rules and Regulations, Title 6 (6NYCRR) Part 375-6, *Remedial Program Soil Cleanup Objectives* .

mg/kg milligrams per kilogram, equivalent to parts per million (ppm)

µg/kg micrograms per kilogram, equivalent to parts per billion (ppb)

FORMER ONEIDA KNIFE PLANT
City of Sherrill, Oneida County, New York
DEC Site No. C633077

TABLE 9 - HUMAN HEALTH SITE CONCEPTUAL EXPOSURE SCENARIOS

Potentially Exposed Population	Exposure Route, Medium and Exposure Point	Pathway Complete?		Reason for Selection or Non-Selection	Exposure Risk
		Current	Future		
On-Site Industrial Worker	Inhalation of volatiles from subsurface soils and/or shallow groundwater	No	Maybe	Site is vacant. Complete an SVI evaluation if existing building is reused; existing building has concrete floors.	Minimal-Low
	Dermal contact / ingestion of groundwater	No	No	Site is vacant. Municipal water supply. Contacts with groundwater unlikely.	NA
	Dermal contact with surficial soils	No	Unlikely	Site is vacant. Possible exposure to low level PCBs in localized area being investigated	Minimal
	Dermal contact with subsurface soils	No	No	Site is vacant. Contacts with impacted subsurface soil unlikely beneath building and parking lots. Future site development can be governed by soil management plan (SMP).	NA
On-Site Maintenance Worker	Inhalation of volatiles from subsurface soils and/or shallow groundwater	No	No	Limited current activities at site. Existing building has concrete floors. Exposures unlikely during outdoor activities.	NA
	Dermal contact / ingestion of shallow groundwater	No	No	Limited current activities at site. Municipal water supply. Contacts with groundwater unlikely.	NA
	Dermal contact with surficial soils	No	Unlikely	Possible exposure to low level PCBs in localized area being investigated	Low
	Dermal contact with subsurface soils	No	No	Contacts with impacted subsurface soil unlikely beneath building and parking lots. Future site development can be governed by soil management plan.	NA
On-Site Construction Worker	Inhalation of volatiles from subsurface soils and/or shallow groundwater	Maybe	Maybe	Potential short term exposures during intrusive construction activities.	Low
	Dermal contact / ingestion of shallow groundwater	Maybe	Maybe	Municipal water supply. Potential short term exposures during intrusive construction activities. Future site development can be governed by soil management plan	Low
	Dermal contact with surficial soils	No	Unlikely	Possible exposure to low level PCBs in localized area being investigated	Minimal
	Dermal contact with subsurface soils	Maybe	Maybe	Potential exposures during intrusive construction activities. Future site development can be governed by soil management plan	Low

APPENDICES

APPENDIX A

SUBSURFACE INVESTIGATION REPORT SUMMARY TABLES

FORMER ONEIDA KNIFE PLANT
Village of Sherrill, Oneida County, New York

TABLE 1 - SUMMARY OF FIELD INDICATOR DATA

SOIL SAMPLE/ BORING LOCATION	SAMPLE DATE	DEPTH (feet)	PID READING (ppm)	CONTAMINATION INDICATORS*
SB-1	04/06/06	0 to 4	0	None noted
		4 to 8	0	
		8 to 12	0	
		12 to 16	0	
SB-2	04/06/06	0 to 4	0	None noted
		4 to 8	0	
		8 to 12	0	
		12 to 16	0	
SB-3	04/10/06	0 to 4	0	None noted
		4 to 8	0	
		8 to 12	0	
		12 to 16	0	
		16 to 20	0	
SB-4	04/10/06	0 to 4	0	None noted
		4 to 8	10@6-8'	
		8 to 12	0	
		12 to 16	0	
SB-5	04/10/06	0 to 4	0	None noted
		4 to 8	0	
		8 to 12	0	
		12 to 16	0	
		16 to 20	0	
SB-6	04/10/06	0 to 4	0	None noted
		4 to 8	0	
		8 to 12	0	
		12 to 16	0	
SB-7	04/10/06	0 to 4	0	None noted
		4 to 8	0	
		8 to 12	0	
		12 to 16	0	
SB-8	04/10/06	0 to 4	0	None noted
		4 to 8	0	None noted
		8 to 12	14@11-12'	Staining and odor
		12 to 16	0	None noted

FORMER ONEIDA KNIFE PLANT
Village of Sherrill, Oneida County, New York

TABLE 1 - SUMMARY OF FIELD INDICATOR DATA

SOIL SAMPLE/ BORING LOCATION	SAMPLE DATE	DEPTH (feet)	PID READING (ppm)	CONTAMINATION INDICATORS*
SB-10	04/11/06	0 to 4	0	None noted
		4 to 8	0	
		8 to 12	0	
		12 to 16	0	
SB-11	04/11/06	0 to 4	0	None noted
		4 to 6 (refusal)	5	Black oily material and odor 5-6'
SB-12	04/11/06	0 to 4	0	None noted
		4 to 8	0	None noted
SB-13	04/11/06	0 to 4	0	None noted
		4 to 8	14 @ 8'	Brown-gold, free product 7-9'
		8 to 12		None noted
TW-1	04/06/06	0 to 4	0	None noted
		4 to 8	0	
		8 to 12	0	
		12 to 16	0	
TW-2	04/07/06	0 to 4	0	None noted; gray mottling at 5.5
		4 to 5.5 (refusal)	1	
TW-3	04/07/06	0 to 4	0	None noted
		4 to 8	0	
		8 to 12	0	
		12 to 16	3 @ 13'	
TW-4	4/70/2006	0 to 4	0	None noted
		4 to 8	0	
		8 to 12	0	
		12 to 16	0	
TW-5	04/10/06	0 to 4	0	None noted
		4 to 8	0	
		8 to 12	0	
		12 to 16	0	
TW-6	04/10/06	0 to 4	0	None noted
		4 to 8	0	
		8 to 12	0	
		12 to 16	0	

FORMER ONEIDA KNIFE PLANT
Village of Sherrill, Oneida County, New York

TABLE 1 - SUMMARY OF FIELD INDICATOR DATA

SOIL SAMPLE/ BORING LOCATION	SAMPLE DATE	DEPTH (feet)	PID READING (ppm)	CONTAMINATION INDICATORS*
TW-7	04/10/06	0 to 4	5 @ 2'	Sheen on water table zone 6 to 8'
		4 to 8	11 @ 7- 8'	
		8 to 12	25 @ 12'	
		12 to 16	0	
TW-8	04/11/06	0 to 4	0	None noted
		4 to 8	0	None noted
		8 to 12	0	None noted
		12 to 16	0	None noted
		16-18.5 (refusal)	0	None noted
TW-9	04/11/06	0 to 4	0	Odor and greenish staining noted
		4 to 8	5 @ 7-8'	
		8 to 12	0	

Notes:

PID Photoionization detection meter reading
* Odors, staining, sheens, free-product.
bgs Below the groundsurface
Approximate sample interval submitted for laboratory analysis

FORMER ONEIDA KNIFE PLANT
Village of Sherrill, Oneida County, New York

TABLE 8 - SUMMARY OF SUB-SLAB SOIL VAPOR ANALYTICAL RESULTS
DETECTED COMPOUNDS

Date Sampled: April 13, 2006 **Matrix:** Sub-Slab Soil Vapor

Compound	Soil Vapor Concentration ($\mu g/m^3$)						Indoor Air Concentration ($\mu g/m^3$)				
	SV-1	SV-2	SV-3	SV-4	Maximum Soil Vapor Concentration	Draft NYSDOH Sub-Slab Vapor Guideline[4]	Estimated Indoor Air Concentration: EPA Screening[1]	Estimated Indoor Air Concentration: Site Specific[2]	Background Indoor Air Concentration[3]	Draft NYSDOH Indoor Air Guideline[4]	OSHA Permissible Exposure Limit[5]
1,2,4-Trimethylbenzene (1,2,4-TMB)		11			11	---	1.1	0.00001	1.7 - 5.1	---	---
1,3,5-Trimethylbenzene (1,3,5-TMB)		3			3	---	0.3	0.000003	<1.5	---	---
4-Ethyltoluene		20			20	---	2.0	0.000020	---	---	---
Acetone (2-propanone)	242	208	750	580	750	---	75	0.001	32 - 60	---	2,400,000
Benzene	7	2			7	---	0.7	0.000007	2.1 - 5.1	---	31,948
Ethylbenzene	10	6			10	---	1.0	0.000010	<1.6 - 3.4	---	435,000
Freon 11 (Trichlorofluoromethane)		3			3	---	0.3	0.00000	---	---	---
Isopropyl alcohol		93	450		450	---	45	0.0005	---	---	980,000
m/p-Xylenes	15	11			15	---	2	0.00002	4.1 - 12	---	435,000
n-Heptane		3			3	---	0.3	0.000003	---	---	2,000,000
n-Hexane		2			2	---	0.2	0.00000	1.6 - 6.4	---	1,800,000
o-Xylene	10	8			10	---	1	0.00001	<2.4 - 4.4	---	435,000
Tetrachloroethene (PCE)	50	8	131		131	*Monitor if >100	13	0.00013	<1.9 - 5.9	3	678,241
Tetrahydrofuran		6			6	---	1	0.00001	---	---	---
Toluene	46	23	25	58	58	---	6	0.0001	10.7 - 26	---	2,400,000

Notes:

[1]Values assume attenuation factor of 10^{-1} from shallow soil vapor to indoor air per EPA Draft Guidance for Evaluating Vapor Intrusion, Nov. 2002.
[2]Values assume attenuation factor of 10^{-6} from shallow soil vapor to indoor air, representative of structures with slabs in good condition, without preferential vapor pathways and without negative indoor air pressure.
[3]Values obtained from unpublished Background Indoor Air (office), Building Assessment and Survey Evaluation (BASE '94-'98) by Indoor Environments Division, EPA
[4]Values obtained from NYSDOH Draft Guidance for Evaluating Soil Vapor Intrusion in the State of New York (Feb 2005), Soil Vapor/Indoor, Air Matrix 2 - Indoor Air Concentration of Compound values derived by NYSDOH.
[5]Occupational Safety and Health Standards, 29CFR1910, Tables Z-1 and Z-2, Time-weighted average - 8-hours.
$\mu g/m^3$ micrograms per cubic meter
* Monitoring involves testing indoor air quality together with sub-slab vapors and ambient (outside) air.
--- No guideline or standard.

APPENDIX B

SOIL BORING LOGS
AND WELL CONSTRUCTION
AS-BUILT INFORMATION

PLUMLEY ENGINEERING, P.C.
TEST BORING LOG

PROJECT: Oneida LTD Knife Plant
LOCATION: Sherrill, NY
DATE STARTED: 4/6/06 **DATE COMPLETED: 4/6/06**

HOLE NO. SB-1
SURF. EL. Upper grade
JOB NO. 2006065
GROUNDWATER DEPTH WHILE DRILLING ~12'
BEFORE CASING REMOVED
AFTER CASING REMOVED

N -- NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" -- ASTM D-1586, STANDARD PENETRATION TEST

CASING TYPE
Percussion sampler by Geoprobe, 48" long sleeved samplers; truck and tractor mounted rigs used

SHEET 1 OF 1

Logged by: F. Karboski, PG

DEPTH	SAMPLE DEPTH (Ft.)	Recovery (Ft.)	PID (ppm)	ADDITIONAL	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
					Concrete floor	0.5
					Brown, dry, loose, fine-medium **sand**,	
					trace fine gravel	
	0-4	3.2	0			
5						
	4-8	3.3	0			8.5
10					Brown-gray, dry, medium-coarse **sand** and fine-	
					coarse **gravel**, little silt and fine sand; wet at tip	
	8-12	3	0			
						13.5
					Gray, wet, fine-coarse **gravel,** trace sand	14
15						
	12-16	3	0		Brown, soft, **silty clay**, traces fine sand, fine gravel;	
					Trace organics in upper part of sample	
					No field indicators	
					Sealed borehole with bentonite	

PLUMLEY ENGINEERING, P.C.
TEST BORING LOG

PROJECT: Oneida LTD Knife Plant
LOCATION: Sherrill, NY
DATE STARTED: 4/6/06 **DATE COMPLETED:** 4/6/06

HOLE NO. SB-2
SURF. EL. Upper grade
JOB NO. 2006065
GROUNDWATER DEPTH WHILE DRILLING ~12'
BEFORE CASING REMOVED
AFTER CASING REMOVED
SHEET 1 **OF** 1

N -- NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" -- ASTM D-1586, STANDARD PENETRATION TEST

CASING TYPE
Percussion sampler by Geoprobe, 48" long sleeved samplers; truck and tractor mounted rigs used

Logged by: F. Karboski, PG

DEPTH	SAMPLE DEPTH (Ft.)	Recovery (Ft.)	PID (ppm)	ADDITIONAL	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
					Concrete floor	0.5
	0.7-2.0	1.2	0		Brown, dry, loose, fine **sand**, trace silt	
	2-4	2	0			
5						
	4-8	2	0		Brown, dry, loose, fine-medium **sand**, trace gravel	9
10					Brown, dry, fine-coarse **sand** and fine-medium **gravel**, trace-little silt and fine sand; (2 thin wet seams)	
	8-12	4	0			12
					Gray, wet, fine-coarse **gravel**, trace sand	14.5
15						
	12-16	3.5	0		Brown, wet, soft, **silty clay**	
					No field indicators	
					Sealed borehole with bentonite	

PLUMLEY ENGINEERING, P.C.
TEST BORING LOG

PROJECT: Oneida LTD Knife Plant
LOCATION: Sherrill, NY
DATE STARTED: 4/10/06 **DATE COMPLETED: 4/10/06**

HOLE NO. SB-3
SURF. EL. Upper grade
JOB NO. 2006065
GROUNDWATER DEPTH WHILE DRILLING
BEFORE CASING REMOVED
AFTER CASING REMOVED
SHEET 1 OF 1

N -- NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" -- ASTM D-1586, STANDARD PENETRATION TEST

CASING TYPE
Percussion sampler by Geoprobe, 48" long sleeved samplers;
truck and tractor mounted rigs used

Logged by: F. Karboski, PG

DEPTH	SAMPLE DEPTH (Ft.)	Recovery (Ft.)	PID (ppm)	ADDITIONAL	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
					Brown, silty, fine-medium **sand**, trace gravel	1.5
5	0-4	2	0		Brown, dry, fine-coarse **sand** and fine-medium **gravel,** trace silt	
	4-8	2	0			8
10					Dark brown, wet, soft, **clayey silt**, trace fine organics	
	8-12	2	0			13.5
					Red-brown, wet, soft **clay**	14.5
15	12-16	4	0		Brown, wet, interbedded **silt** and **silty clay**	18
	16-20	4	0		Red-brown, fine-coarse **sand** and fine-coarse **gravel**, little fines, variable gravel colors, subrounded to subangular No field indicators Sealed borehole with bentonite	

PLUMLEY ENGINEERING, P.C.
TEST BORING LOG

PROJECT: Oneida LTD Knife Plant
LOCATION: Sherrill, NY
DATE STARTED: 4/10/06 **DATE COMPLETED: 4/10/06**

HOLE NO. SB-4
SURF. EL. Upper grade
JOB NO. 2006065
GROUNDWATER DEPTH WHILE DRILLING
BEFORE CASING REMOVED
AFTER CASING REMOVED

N -- NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" -- ASTM D-1586, STANDARD PENETRATION TEST

CASING TYPE **SHEET 1 OF 1**
Percussion sampler by Geoprobe, 48" long sleeved samplers;
truck and tractor mounted rigs used **Logged by: F. Karboski, PG**

DEPTH	SAMPLE DEPTH (Ft.)	Recovery (Ft.)	PID (ppm)	ADDITIONAL	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
					Brown, moist-wet, loose medium **sand**, traces fine sand and silt	
	0-4	3	0			
5						
				wet		
			10			7
	4-8	4			Red, firm, **clayey silt**	8
10					Dark brown, moist, loose to firm **clayey silt**, trace fine organics	
	8-12	2	0	peat in tip@10'		
15						
	12-16	4	0			
					No visual indicators	
					Sealed borehole with bentonite	

PLUMLEY ENGINEERING, P.C.
TEST BORING LOG

PROJECT: Oneida LTD Knife Plant
LOCATION: Sherrill, NY
DATE STARTED: 4/10/06 **DATE COMPLETED:** 4/10/06

HOLE NO. SB-5
SURF. EL. Upper grade
JOB NO. 2006065
GROUNDWATER DEPTH WHILE DRILLING
BEFORE CASING REMOVED
AFTER CASING REMOVED

N -- NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" -- ASTM D-1586, STANDARD PENETRATION TEST

CASING TYPE **SHEET 1 OF 1**
Percussion sampler by Geoprobe, 48" long sleeved samplers;
truck and tractor mounted rigs used **Logged by: F. Karboski, PG**

DEPTH	SAMPLE DEPTH (Ft.)	Recovery (Ft.)	PID (ppm)	ADDITIONAL	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0-4	3	0		Brown, moist-wet medium **sand**, trace fine sand and gravel	
5						6.5
	4-8	3.5	0		Brown, wet, firm, **clayey silt**, trace subrounded fine gravel, laminated	
10						
	8-12	3	0			12.5
					Brown, wet, fine-medium **sand**	14
15					Brown, soft-firm, moist **clayey silt**, laminated	
	12-16	2.5	0			17
					Brown, wet, fine-medium **sand**	18
	16-20	4	0		Brown, soft-firm, moist **clayey silt**, laminated	
					No field indicators Sealed borehole with bentonite	

PLUMLEY ENGINEERING, P.C.
TEST BORING LOG

PROJECT: Oneida LTD Knife Plant
LOCATION: Sherrill, NY
DATE STARTED: 4/10/06 **DATE COMPLETED:** 4/10/06

HOLE NO. SB-6
SURF. EL. Upper grade
JOB NO. 2006065
GROUNDWATER DEPTH WHILE DRILLING
BEFORE CASING REMOVED
AFTER CASING REMOVED

N -- NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" -- ASTM D-1586, STANDARD PENETRATION TEST

CASING TYPE
Percussion sampler by Geoprobe, 48" long sleeved samplers; truck and tractor mounted rigs used

SHEET 1 **OF** 1

Logged by: F. Karboski, PG

DEPTH	SAMPLE DEPTH (Ft.)	Recovery (Ft.)	PID (ppm)	ADDITIONAL	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0-4	3	0		Brow, dry fine - medium **sand**, little fine gravel	
5						5
	4-8	3.5	0		Brown, moist, soft **clayey silt**, traces fine-coarse sands and fine gravel (different gravel colors); diamictic	9
10	8-12	3.5	0		Gray, wet, loose medium-coarse **sand**, laminated, trace organics, white medium sands (shell fragments?)	~13
15	12-16	3	0		Red, wet, loose fine-coarse **gravel**, little fine-coarse **sand**, trace clay-silt; some roudned gravels of different colors; gravel-rich zones	
					No field indicators Sealed borehole with bentonite	

PLUMLEY ENGINEERING, P.C.
TEST BORING LOG

PROJECT: Oneida LTD Knife Plant
LOCATION: Sherrill, NY
DATE STARTED: 4/
DATE COMPLETED: 4/

HOLE NO. SB-7
SURF. EL. Upper grade
JOB NO. 2006065
GROUNDWATER DEPTH WHILE DRILLING
BEFORE CASING REMOVED
AFTER CASING REMOVED
SHEET 1 **OF** 1

N -- NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" -- ASTM D-1586, STANDARD PENETRATION TEST

CASING TYPE
Percussion sampler by Geoprobe, 48" long sleeved samplers; truck and tractor mounted rigs used

Logged by: F. Karboski, PG

DEPTH	SAMPLE DEPTH (Ft.)	Recovery (Ft.)	PID (ppm)	ADDITIONAL	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
					Brown, fine-medium **sand**	
				wet at 3.5		
	0-4	3	0			
5						
	4-8	2	0		Same, with gray gravel	
10						
	8-12	0			(loose sand in core)	~12
					Red, wet, soft **clay** with thin silt layers	
15						
	12-16	4	0			
					No field indicators Sealed borehole with bentonite	

PLUMLEY ENGINEERING, P.C.
TEST BORING LOG

PROJECT: Oneida LTD Knife Plant

LOCATION: Sherrill, NY

DATE STARTED: 4/11/06 **DATE COMPLETED: 4/11/06**

HOLE NO. SB-8
SURF. EL. 3' higher than lower plant grade
JOB NO. 2006065
GROUNDWATER DEPTH WHILE DRILLING
BEFORE CASING REMOVED
AFTER CASING REMOVED
SHEET 1 OF 1

N -- NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" -- ASTM D-1586, STANDARD PENETRATION TEST

CASING TYPE
Percussion sampler by Geoprobe, 48" long sleeved samplers; truck and tractor mounted rigs used

Logged by: F. Karboski, PG

DEPTH	SAMPLE DEPTH (Ft.)	Recovery (Ft.)	PID (ppm)	ADDITIONAL	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
					Gray, run-a-crush **fill**	
						1.5
	0-4	3	0		Reddish brown, dry-moist, firm **clayey silt**,	
5					traces fine-coarse sand and fine gravel	
				loose, wet		
	4-8	1.5	0			
10						10
					Brown, moist-wet, soft **silty clay**	
	8-12	3	14	at 11-12'		12
				odor and staining	Gray, wet, loose, silty fine **sand**, little gravel	
						14
15					Reddish brown, soft **clay**	
	12-16	2.5	0			
					Sealed borehole with bentonite	

PLUMLEY ENGINEERING, P.C.
TEST BORING LOG

PROJECT: Oneida LTD Knife Plant
HOLE NO. SB-10
LOCATION: Sherrill, NY
SURF. EL. Upper grade
DATE STARTED: 4/11/06 **DATE COMPLETED: 4/11/06**
JOB NO. 2006065
GROUNDWATER DEPTH WHILE DRILLING

N -- NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" -- ASTM D-1586, STANDARD PENETRATION TEST

BEFORE CASING REMOVED
AFTER CASING REMOVED

CASING TYPE
Percussion sampler by Geoprobe, 48" long sleeved samplers; truck and tractor mounted rigs used

SHEET 1 OF 1
Logged by: F. Karboski, PG

DEPTH	SAMPLE DEPTH (Ft.)	Recovery (Ft.)	PID (ppm)	ADDITIONAL	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
					Brown, dry, silty fine **sand** (some brick material)	
	0-4	4.0	0			3.5
5					Reddish brown, firm, dry-moist, **clayey silt**, trace medium to coarse and fine gravel	
	4-8	3.5	0			
10				wet silt layer		
				wet sand-silt layer		
	8-12	3.5	0			
15				wet fine sand layer		
	12-16	2.6	0			16
					Brown, soft, **clay**	
				wet fine sand layer		
20	16-20	3.0	0			
					No field indicators Sealed borehole with bentonite	

PLUMLEY ENGINEERING, P.C.
TEST BORING LOG

PROJECT: Oneida LTD Knife Plant
LOCATION: Sherrill, NY
DATE STARTED: 4/11/06 **DATE COMPLETED:** 4/11/06

HOLE NO. SB-11
SURF. EL. Upper plant grade
JOB NO. 2006065
GROUNDWATER DEPTH WHILE DRILLING
BEFORE CASING REMOVED
AFTER CASING REMOVED

N -- NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" -- ASTM D-1586, STANDARD PENETRATION TEST

CASING TYPE
Percussion sampler by Geoprobe, 48" long sleeved samplers;
truck and tractor mounted rigs used

SHEET 1 **OF** 1

Logged by: F. Karboski, PG

DEPTH	SAMPLE DEPTH (Ft.)	Recovery (Ft.)	PID (ppm)	ADDITIONAL	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
					Brown, moist, clayey **silt**, trace gravel	
	0-4	3.0	0			
5					Wet **gravel** zone, black shiny oil at 5'-6'	
	4.-6	1	5		(Refusal at 6', concrete chip)	
					Sample collected from 6' zone	
					Sealed borehole with bentonite	

PLUMLEY ENGINEERING, P.C.
TEST BORING LOG

PROJECT: Oneida LTD Knife Plant
LOCATION: Sherrill, NY
DATE STARTED: 4/11/06 **DATE COMPLETED:** 4/11/06

HOLE NO. SB-12
SURF. EL. Upper grade
JOB NO. 2006065
GROUNDWATER DEPTH WHILE DRILLING
BEFORE CASING REMOVED
AFTER CASING REMOVED
SHEET 1 **OF** 1

N -- NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" -- ASTM D-1586, STANDARD PENETRATION TEST

CASING TYPE
Percussion sampler by Geoprobe, 48" long sleeved samplers; truck and tractor mounted rigs used

Logged by: F. Karboski, PG

DEPTH	SAMPLE DEPTH (Ft.)	Recovery (Ft.)	PID (ppm)	ADDITIONAL	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
					Top soil	0.8
					Reddish brown, dry, clayey **silt,** trace fine to coarse sand and fine gravel	2
5	0-4	4.0	0		Brown, dry, fine to medium **sand**	6
	4-8		0		Variable brownish gray, medium to coarse **sand** and fine to medium **gravel**, trace little wet silt	9
10					Reddish brown, soft **clay**	
	8-12		0			
15						
					Sample collected from 7.5-8.0 zone Possible fuel oil odor in sand & gravel No PID response Sealed borehole with bentonite	

PLUMLEY ENGINEERING, P.C.
TEST BORING LOG

PROJECT: Oneida LTD Knife Plant
LOCATION: Sherrill, NY
DATE STARTED: 4/11/06 **DATE COMPLETED:** 4/11/06

HOLE NO. SB-13
SURF. EL. Upper grade
JOB NO. 2006065
GROUNDWATER DEPTH WHILE DRILLING
BEFORE CASING REMOVED
AFTER CASING REMOVED

N -- NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" -- ASTM D-1586, STANDARD PENETRATION TEST

CASING TYPE **SHEET 1 OF 1**
Percussion sampler by Geoprobe, 48" long sleeved samplers;
truck and tractor mounted rigs used

Logged by: F. Karboski, PG

DEPTH	SAMPLE DEPTH (Ft.)	Recovery (Ft.)	PID (ppm)	ADDITIONAL	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
					Variable colored, black to gray to brown fine to coarse **sand** and fine to coarse **gravel**, with brick fragments	
	0-4	3.0	0			
5						
				Wet at 6.0		
	4-8	3	0		Free phase golden brown product in sand & gravel	
			14			9
10					Reddish brown, wet soft **clay**	
	8-12	4			Loose, wet, gravel material at 12'	
15						
	12-16	0	0			
					Sample collected from 8.0-9.0 free product zone Fuel oil odor in sand & gravel Sealed borehole with bentonite	

PLUMLEY ENGINEERING, P.C.
TEST BORING LOG

PROJECT: Oneida LTD Knife Plant
LOCATION: Sherrill, NY
DATE STARTED: 4/6/06 **DATE COMPLETED:** 4/7/06

HOLE NO. TW-1
SURF. EL. Upper plant grade
JOB NO. 2006065
GROUNDWATER DEPTH WHILE DRILLING
BEFORE CASING REMOVED
AFTER CASING REMOVED
SHEET 1 **OF** 1

N -- NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" -- ASTM D-1586, STANDARD PENETRATION TEST

CASING TYPE
Percussion sampler by Geoprobe, 48" long sleeved samplers; truck and tractor mounted rigs used

Logged by: F. Karboski, PG

DEPTH	SAMPLE DEPTH (Ft.)	Recovery (Ft.)	PID (ppm)	ADDITIONAL	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
					Brown, moist, firm, **silt** and **fine sand**, some fine to coarse gravel & brick fragments, trace medium to coarse sand	
	0-4	3.0	0			
5						5
					Reddish brown, moist, firm, silty **clay**, trace coarse sand, and fine gravel (Diamicton)	
	4-8	3	0			
10						
					Similar soil as above, hard, gray **sandy** zone with fibrous organics at 10.5-11.0	
	8-12	4	14	hole collapsed at 11.5		
15						
	12-16	0	0	wet	Similar soil as above, with thin **silt**, and fine sand beds (2"-3" thick in bottom of run)	
20						
					Sample collected from 14.0-15.0 Drove casing to near refusal at 19.5, installed 1" dia. well at 19' 10 slot screen with 10' riser Sand pack from 19.5 to 6.0 Bentonite from 6.0 to grade No field indicators	

PLUMLEY ENGINEERING, P.C.
TEST BORING LOG

PROJECT: Oneida LTD Knife Plant
LOCATION: Sherrill, NY
DATE STARTED: 4/7/06 **DATE COMPLETED:** 4/7/06

HOLE NO. TW-2
SURF. EL. Upper grade
JOB NO. 2006065
GROUNDWATER DEPTH WHILE DRILLING
BEFORE CASING REMOVED
AFTER CASING REMOVED

N -- NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" -- ASTM D-1586, STANDARD PENETRATION TEST

CASING TYPE
Percussion sampler by Geoprobe, 48" long sleeved samplers;
truck and tractor mounted rigs used

SHEET 1 **OF** 1

Logged by: F. Karboski, PG

DEPTH	SAMPLE DEPTH (Ft.)	Recovery (Ft.)	PID (ppm)	ADDITIONAL	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
					Dark brown topsoil	0.5
					Brown, wet, fine to medium **sand,** possible laminations	2.5
					Dark brown, silty fine to medium **sand**,trace coarse	
	0-4	3.0	0		sand and fine gravel	4
5					Fine to coarse **sand**, and fine to coarse **gravel**, wet,	
	4-5.5		1	Refusal at 5.5	little silt	
					Gray mottling in tip of sample	
					Fine to coarse gravel rich zone 6" thick	
					Sample collected from 5.0-5.5	
					Set 1" well with 3' of screen at 5.5	
					10 slot screen with 2' riser	
					Sand pack from 5.5 to 3.0	
					Bentonite from 3.0 to grade	
					No visual indicators	

PLUMLEY ENGINEERING, P.C.
TEST BORING LOG

PROJECT: Oneida LTD Knife Plant
LOCATION: Sherrill, NY
DATE STARTED: 4/7/06 **DATE COMPLETED:** 4/7/06

HOLE NO. TW-3
SURF. EL. Lower plant grade
JOB NO. 2006065
GROUNDWATER DEPTH WHILE DRILLING
BEFORE CASING REMOVED
AFTER CASING REMOVED

N -- NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" -- ASTM D-1586, STANDARD PENETRATION TEST

CASING TYPE **SHEET 1 OF 1**
Percussion sampler by Geoprobe, 48" long sleeved samplers;
truck and tractor mounted rigs used **Logged by: F. Karboski, PG**

DEPTH	SAMPLE DEPTH (Ft.)	Recovery (Ft.)	PID (ppm)	ADDITIONAL	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
					Brown, mixed, fine to medium **sand**, blackish brown silty fine sand, little fine to coarse gravel (fill)	1.5
					Brown, wet, **silt**	3.5
	0-4	3.0	0		Brown, wet, loose to firm, **silty clay** with traces of fine to coarse sand, trace fine gravel	
5						
	4-8	3.5	0			
10						10.5
					Gray, stiff, silty **clay**, trace fine sand	
	8-12	3				12
			3	14 ppm at 13'	Variable color brownish gray, loose, fine to coarse **sand**, little clayey silt, wood fragments, white possible shell fragments	
15						15
	12-16	4	0		Fine to coarse **gravel**, little clay and silt	
					Sample collected from 13.0-13.5	
					Drove casing to 16', installed 1" dia. Well at 16'	
					10' of 10 slot screen with 6.5' riser	
					Sand pack from 16' to 6.0	
					Bentonite from 6.0 to grade	
					No visual indicators	

PLUMLEY ENGINEERING, P.C.
TEST BORING LOG

PROJECT: Oneida LTD Knife Plant
LOCATION: Sherrill, NY
DATE STARTED: 4/7/06 **DATE COMPLETED:** 4/7/06

HOLE NO. TW-4
SURF. EL. Upper plant grade
JOB NO. 2006065
GROUNDWATER DEPTH WHILE DRILLING
BEFORE CASING REMOVED
AFTER CASING REMOVED

N -- NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" -- ASTM D-1586, STANDARD PENETRATION TEST

CASING TYPE
Percussion sampler by Geoprobe, 48" long sleeved samplers; truck and tractor mounted rigs used

SHEET 1 OF 1
Logged by: F. Karboski, PG

DEPTH	SAMPLE DEPTH (Ft.)	Recovery (Ft.)	PID (ppm)	ADDITIONAL	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
					Brown, moist clayey **silt** and **fine sand**	1
					Variable color brown, mottling, moist to wet, fine to coarse **sand** and fine to medium **gravel**	3.5
	0-4	3.0	0	Groundwater at 3.5	Brown, moist, **silt**, soft, trace clay & organics	
5						7
	4-8	3.5	0		Dark organic **silt**	7.5
					Brownish gray, hard clayey **silt**	9
10					Reddish brown, hard, clayey **silt**, trace coarse sand and fine to medium gravel (Diamicton)	
	8-12	4	0			
15						15
	12-16	4	0		Red, fine to coarse **sand**, and fine to medium **gravel** (gravel was red with little green, sub angular) Vernon shale material with trace angular green gravel	
					Sealed borehole and offset 2' and drove casing for well Sample collected from 6.0-8.0 Installed 1" dia. well at 10.0' 7' of 10 slot screen with 4' riser Sand pack from 10' to 2.0 Bentonite from 2.0 to grade No field indicators	

PLUMLEY ENGINEERING, P.C.
TEST BORING LOG

PROJECT: Oneida LTD Knife Plant
LOCATION: Sherrill, NY
DATE STARTED: 4/10/06 **DATE COMPLETED:** 4/10/06

HOLE NO. TW-5
SURF. EL. Upper grade
JOB NO. 2006065
GROUNDWATER DEPTH WHILE DRILLING
BEFORE CASING REMOVED
AFTER CASING REMOVED
SHEET 1 OF 1

N -- NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" -- ASTM D-1586, STANDARD PENETRATION TEST

CASING TYPE
Percussion sampler by Geoprobe, 48" long sleeved samplers; truck and tractor mounted rigs used

Logged by: F. Karboski, PG

DEPTH	SAMPLE DEPTH (Ft.)	Recovery (Ft.)	PID (ppm)	ADDITIONAL	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
					Brown, dry silt and fine **sand**, fine to coarse gravel (fill)	2
5	0-4	4.0	0		Brown, dry to moist, stiff to hard, **clayey silt**, trace coarse sand	6
10	4-8	3.5	0		Dark brown, soft, laminated, wet **clayey silt**, trace to little fine dark organics (red clayey silt in tip) some fibrous organics	11
15	8-12	3	0		Dark brownish red, **clayey silt**, with fine sand,some fine to medium gravel, wet, trace coarse sand (11'-16' integrated fine to coarse gravel and clayey silt Diamicton)	16
	12-16	1.5	0			
					Red, dry, clayey silty **sand mudstone** with clasts (Vernon shale)	
					Installed 1" dia. well with casing to 15' 10' of 10 slot screen with 6' riser Sand pack from 10' to 4.0 Bentonite from 4.0 to grade No field indicators	

PLUMLEY ENGINEERING, P.C.
TEST BORING LOG

PROJECT: Oneida LTD Knife Plant
LOCATION: Sherrill, NY
DATE STARTED: **4//06** **DATE COMPLETED:** **4//06**

HOLE NO. TW-6
SURF. EL. Upper plant grade
JOB NO. 2006065
GROUNDWATER DEPTH
WHILE DRILLING
BEFORE CASING REMOVED
AFTER CASING REMOVED

N -- NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" -- ASTM D-1586, STANDARD PENETRATION TEST

CASING TYPE **SHEET 1 OF 1**
Percussion sampler by Geoprobe, 48" long sleeved samplers;
truck and tractor mounted rigs used
Logged by: F. Karboski, PG

DEPTH	SAMPLE DEPTH (Ft.)	Recovery (Ft.)	PID (ppm)	ADDITIONAL	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
					Toilsoil	0.5
					Brown,moist, fine to medium **sand**, little fine to coarse gravel	3
5	0-4	3.2	0		Brownish gray, moist to wet fine to coarse **gravel** with fines	6
10	4-8	3	0		Brown, mottled, moist, firm **clayey silt**	11
15	8-12	3.3	0		Reddish brown, wet, fine to coarse **sand** and fine to coarse **gravel**, with trace clay and silt, occasional thin clay and silt beds	
	12-16		0			
					Installed 1" dia. well with casing method to 16' 10' of 10 slot screen with 6' riser Sand pack from 10' to 4.0 Bentonite from 4.0 to grade No field indicators	

PLUMLEY ENGINEERING, P.C.
TEST BORING LOG

PROJECT: Oneida LTD Knife Plant
LOCATION: Sherrill, NY
DATE STARTED: 4/10/06   **DATE COMPLETED:** 4/10/06

HOLE NO. TW-7
SURF. EL. Upper grade
JOB NO. 2006065
GROUNDWATER DEPTH WHILE DRILLING
BEFORE CASING REMOVED
AFTER CASING REMOVED

N -- NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" -- ASTM D-1586, STANDARD PENETRATION TEST

CASING TYPE
Truck-mounted Geoprobe sampler with 48" macrocores
4-1/4 HSA used to install well

SHEET 1 **OF** 1

Logged by: F. Karboski, PG

DEPTH	SAMPLE DEPTH (Ft.)	Recovery (Ft.)	PID (ppm)	ADDITIONAL	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
			5		Brown to black, fine to coarse **sand** and fine to medium **gravel**, with fines	2.5
5	0-4	3.0	0		Brown, moist, soft clayey **silt**	6.5
	4-8	3.5	11	sheen	Gray, wet, medium to coarse **sand**, with wood, plant fragments, & white sand	10
10					Brown, wet, loose, fine to coarse **gravel,** some **silt**, traces of fine to coarse sand	12
15	8-12	2.5	25		Brown, wet, loose **clay**	15
	12-16	4	0		Red, fine to coarse **sand** and fine to medium **gravel**, trace clay	
					Sample collected from 9.0-10.0 Installed 2" dia. well installed at 12.0 8' of 10 slot screen with 5' riser Sand pack from 10' to 4.0 Bentonite from 4.0 to grade	

PLUMLEY ENGINEERING, P.C.
TEST BORING LOG

PROJECT: Oneida LTD Knife Plant
LOCATION: Sherrill, NY
DATE STARTED: 411/06 **DATE COMPLETED:** 4/11/06

HOLE NO. TW-8
SURF. EL. Upper grade
JOB NO. 2006065
GROUNDWATER DEPTH WHILE DRILLING
BEFORE CASING REMOVED
AFTER CASING REMOVED
SHEET 1 **OF** 1

N -- NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" -- ASTM D-1586, STANDARD PENETRATION TEST

CASING TYPE
Percussion sampler by Geoprobe, 48" long sleeved samplers;
truck and tractor mounted rigs used

Logged by: F. Karboski, PG

DEPTH	SAMPLE DEPTH (Ft.)	Recovery (Ft.)	PID (ppm)	ADDITIONAL	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
					Run of crush	2
					Brown, dry, mollting **silt**, fine to medium sand, dark,	
					fine angular gravel	3
	0-4	3.0	0		Reddish brown, moist,firm, clayey **silt**, trace fine sand,	
5					organics, tracecoarse sand, fine gravel	
	4-8	3.4	0			
10						
	8-12	3.5	0			
15						15
	12-16	4	0		Red, hard, dry, clayey **silt**, trace medium to coarse	
					sand, and fine gravel	
						17.5
	16-18.5			Refusal	Red, dry, hard, **Vernon shale**	
20						
					Installed 1" dia. well at 18.3 open hole	
					10' of 10 slot screen with 10' riser	
					Sand pack from 18.3' to 4.0	
					Bentonite from 4.0 to grade	
					No field indicators	

PLUMLEY ENGINEERING, P.C.
TEST BORING LOG

PROJECT: Oneida LTD Knife Plant
LOCATION: Sherrill, NY
DATE STARTED: 411/06
DATE COMPLETED: 4/11/06

HOLE NO. TW-9
SURF. EL. Upper plant grade
JOB NO. 2006065
GROUNDWATER DEPTH WHILE DRILLING
BEFORE CASING REMOVED
AFTER CASING REMOVED
SHEET 1 **OF** 1

N -- NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" -- ASTM D-1586, STANDARD PENETRATION TEST

CASING TYPE
Percussion sampler by Geoprobe, 48" long sleeved samplers; truck and tractor mounted rigs used

Logged by: F. Karboski, PG

DEPTH	SAMPLE DEPTH (Ft.)	Recovery (Ft.)	PID (ppm)	ADDITIONAL	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
	0-4	2.0	0		Dark brown **silt**, fine to coarse **sand,** and fine to medium **gravel**	
5						
					Wet, **silt-sand-gravel**, with odor, & green staining	8
	4-8	0.3	5		Reddish brown, firm **clayey silt**	
10						10
					Reddish brown, wet, soft, **clay**	11.5
	8-12	3.1	0		Reddish brown, wet, **silt**	
15						
20						
					Sample collected from 9.0-10.0 Installed 1" dia. well at 10.0 8' of 10 slot screen with 3' riser Sand pack from 10' to 4.0 Bentonite from 4.0 to grade	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. SB-14
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 98.5 feet
DATE STARTED: 5/21/10
DATE COMPLETED: 5/21/10
GROUNDWATER DEPTH: ~6 feet
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers
SHEET 1 OF 1
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					Pavement, crusher run	0.5
					Dry, f-c sand, little f-m gravel, trace cinders	
4	0 - 4	3.5	0			
			0			
			12	wet		
8	4 - 8	3.5	72		Brn-gray, silt and f sand, little f-c gravel	
			1.4		(gravel content increases with depth)	
			0.5			
			1	organic layer		
12	8 - 12	2.5	0.6		Wet, f- c sand and f-m gravel	12
					Red-brn, wet, soft clay	
16	12 - 16	2	0			
					No visual indicators	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. SB-15
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 99.2 feet
DATE STARTED: 5/24/10 **DATE COMPLETED**: 5/24/10
GROUNDWATER DEPTH: ~7 feet
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers
SHEET 1 OF 1
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					Dry, brn, silty f sand, little f gravel	0.5
					Dry, compact, red-brn, silt and f-m sand, some f-m	
					gravel, with cinders	2
4	0 - 4	3.5	0		Red-brn, dry-moist, f sandy silt, trace clay, embedded	
			0		c sand, stiff, cohesive	
			0			
				gray		
8	4 - 8	3.5	174	black	(oily shine, odor)	8
			25	black	Wet, f-c sand and f-m gravel (rounded)	
						9.5
			0		Red-brn, wet, soft, plastic clay	
12	8 - 12		0			
16	12 - 16		0			
					Possbile staining 7- 9.5	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. SB-16
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. ±98 feet
DATE STARTED: 5/24/10 **DATE COMPLETED**: 5/24/10
GROUNDWATER DEPTH: ~6 feet
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers **SHEET 1 OF 1**
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					cored concrete pad, 8"	
					Red-brn, compact, moist, f sandy silt, trace-little clay	
4	0 - 4		0			
				wet		6.5
					Gray, f-c sand and gravel unit as others, with fines;	
8	4 - 8		0		fine white shell fragments, wood pieces	8
					Gray m sand, with fine shell fragments, gravel at base	10
					Red-brn, wet, soft clay, with thin clayey silt beds	
12	8 - 12		0			
						15
16	12 - 16		0		Brn, f-c sand, some f-m gravel (rounded), little silt	
					No visual indicators	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. SB-17
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 98.5 feet
DATE STARTED: 5/24/10 **DATE COMPLETED**: 5/24/10
GROUNDWATER DEPTH: ~6 feet
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers **SHEET 1 OF 1**
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
			6.5	odor	Gray silt and f sand, little m-c sand and f gravel	1
			0		Brn, dry, silty f- c gravel, with cinders	1.5
			0		Dry, red-brn, stiff, cohesive silt, trace clay, trace	
4	0 - 4	3	0		embedded c sand	4
			95	black, odor	Brn, wet, loose, f-m gravel, some silty sand	
8	4 - 8	2				
						~10
			21		Gray, soft, silt and f sand, some m-c sand, coarse	
12	8 - 12	NR			organic pieces; drove loose	
						~15
16	12 - 16	2	0		Red-brn, wet, clayey silt	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. SB-18
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 98.0 feet
DATE STARTED: 5/21/10 **DATE COMPLETED**: 5/21/10
GROUNDWATER DEPTH: ~5 feet
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers **SHEET 1 OF 1**
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					Brn, black, orange, m-c sand and f- c gravel, little silt, little cinders 1-2'	
4	0 - 4	3	0			
			2	wet		
					Brn as above, trace cinders	
8	4 - 8	3.5	105	gray	oily shine 7'	8
					Brn, m-c sand, trace f sand, trace f gravel	
			14			
12	8 - 12	1.5	0			12
					Red-brn, soft, wet clay	15
16	12 - 16		0		Red-brn, wet, loose, f sandy silt, trace clay, trace gravel	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. SB-19
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. ±99 feet
DATE STARTED: 5/24/10 **DATE COMPLETED**: 5/24/10
GROUNDWATER DEPTH: ~7 feet
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers **SHEET 1 OF 1**
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					Brn, dry, f-m sand, little c sand and f gravel, with cinders	1.5
4	0 - 4	3	0		Red-brn, moist, compact, f sandy silt, trace clay, trace-little f gravel, with cinders	4.5
					Brn-gray, dry, f-c sand, little f gravel	5.5
8	4 - 8	4	0		Red-brn, moist-wet, soft clayey silt, trace embedded f gravel, sandy zone with white (shell?)fragments	7.5
					Brn-gray, wet, compact, f-c sand and f-m gravel-rounded-with fines, little coarse organic pieces	11.5
12	8 - 12	4	0		Red-brn, wet silt	12
16	12 - 16	3	0		Red-brn, wet, soft, plastic clay, with thin silt beds	
					No visual indicators	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant **HOLE NO.** SB-20
JOB NO. 2006065 **HOLE LOCATION:**
LOCATION: Sherrill, NY **SURF. EL.** 97.8 feet
DATE STARTED: 5/21/10 **DATE COMPLETED**: 5/21/10 **GROUNDWATER DEPTH: ~6 feet**
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers **SHEET 1 OF 1**
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					Brn, orange, dry silt and f sand, little m-c sand and f-m	
					gravel, compact, few cinders	
4	0 - 4	3.25	0			
			0			
			1.5	wet		
			0.2			7
8	4 - 8	3	15		Brn, wet, silt and f- sand and f-m gravel, trace organics	8
			0			
					Brn, wet, soft, firm, plastic clay	
12	8 - 12		0	silt bed		
						15
16	12 - 16	3.5	0		Red-brn, silty f-c sand and f-m gravel, appreciable	
					fines	
					Slight sheen from borehole sluff in 4-8 drive (7-8'?)	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. SB-21
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 100.4 feet
DATE STARTED: 5/24/10 **DATE COMPLETED**: 5/24/10
GROUNDWATER DEPTH: ~8 feet
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers **SHEET 1 OF 1**
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					Pavement	
					Brn, dry, f-m sand, some f-c gravel, trace c sand	1.5
					Gray, moist, f-c sand, little f-m gravel	3
4	0 - 4	3	0		Brn, dry, laminated silt, trace embedded c sand	4
8	4 - 8	3.5	0		Red-brn, moist, cohesive silty clay, trace gravel;	
			0		embedded coarse fraction	9
				black	Gray, moist, cohesive silt, traces clay and f sand,	
			110	black	little gravel at base, trace-little organics	
12	8 - 12	3.5	0		(possible top soil zone?)	11.5
					Red-brn, wet, soft clay	
						13.5
					Red-brn, wet, clayey silt	
16	12 - 16		0			

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant **HOLE NO.** SB-22
JOB NO. 2006065 **HOLE LOCATION:**
LOCATION: Sherrill, NY **SURF. EL.** 100.3 feet
DATE STARTED: 5/21/10 **DATE COMPLETED**: 5/21/10 **GROUNDWATER DEPTH: ±10 feet**
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers **SHEET 1 OF 1**
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					Brn, dry, f-m sand	1
					Gray, f-c gravel, with cinders	2.5
4	0 - 4	3.5	0		Red-brn, dry, firm, f sand-silt-clay; traces c sand (gray SW w/ f Gv @ 4')	7
8	4 - 8		0		Brn-gray, soft, clay-silt, f white (shell) fragments, trace f organics; appears gradational upwards	10
					Gray, wet, silty f sand	11
12	8 - 12		0		Thinnly bedded, wet, f-m sand and f-m gravel with fines, trace coarse organic, trace c sand	
			80			
			0			15
16	12 - 16		0		Red-brn, wet, soft, plastic clay	
					No visual indicators	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. SB-23
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 91.6 feet
DATE STARTED: 5/21/10 **DATE COMPLETED**: 5/21/10
GROUNDWATER DEPTH: ~1 foot
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers **SHEET 1 OF 1**
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
			0			
			1.2	black	Brn, wet, soft, fine sand and silt	2
4	0 - 4	2	0.2		Brn, wet, silt and f sand, some m-c sand and f-m gravel	
8	4 - 8	2	0			8
					Red-brn, wet, loose, clayey silt	
12	8 - 12	2	0			

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. SB-24
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 91.6 feet
DATE STARTED: 5/21/10 **DATE COMPLETED**: 5/21/10
GROUNDWATER DEPTH:
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Hand boring, slide hammer

SAMPLER TYPE: 24-inch long split spoon samplers
SHEET 1 OF 1
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					Brn, wet, soft, f sand and silt	1
	0 - 2	1.5	0		Black, silt and f sand, with organics; some f-c gravel,	
			0.3		trace m-c sand	2
4	0 - 4	1.9	0		Re-brn, wet compact silt and f sand, little f-m gravel	
			0			
					No visual indicators	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. SB-25
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL.
DATE STARTED: 5/25/10 **DATE COMPLETED**: 5/25/10
GROUNDWATER DEPTH:
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers **SHEET 1 OF 1**
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					Crusher run	2
4	0 - 4	3.5	0		Brn, dry, silt, traces clay, sand, cinders; grayish at 2- 2.5	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. SB-26
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 104.7 feet
DATE STARTED: 5/20/10 **DATE COMPLETED**: 5/21/10
GROUNDWATER DEPTH: 11 feet
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers, MC-5 **SHEET 1 OF 1**
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					Brn, dry, f-m sand	
4	0 - 4		0			
						5
					Brn, moist, soft, silt-f sand, trace embedded	
					f gravel (rounded)	
8	4 - 8		0			
			0			9
			1.1		Gray-brn, moist, silty clay	
			0.4			
12	8 - 12		0			
						13
					Gray, wet, f sand, laminated; traces silt and m-c sand;	
					small (white) shell, trace organics, fine white	
16	12 - 16		0		fragments (likely shells)	15.5
					Red-brn, wet, soft, silty clay	
					(silt layer at 19.5)	
20	16 - 20		0			
					Red-brn, soft, wet clayey silt	22
					Red-brn, wet, f-c sand and f-c gravel	
24	20 - 24		0			24
					Red-brn, wet, f-m sand	
						27
28	24 - 28		0			
					Red-brn, wet, silt and f sand	
32	28 - 32		0		Red-brn, silty fine sand	32
					Red-brn, wet, thinnly interbedded silt-f sand and	
					silty clay (f sand units dominant)	
						35
36	32 - 36		0			
					Red-brn, wet, soft, plastic clay; traces f-c sand and	
					embedded f gravel	
40	36 - 40		0		[No visual indicators]	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. SB-27
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 104.1 feet
DATE STARTED: 5/21/10 **DATE COMPLETED**: 5/21/10
GROUNDWATER DEPTH: ±12 feet
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers **SHEET 1 OF 1**
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
4	0 - 4	3	0		Brn, moist, f-m sand, trace f-m gravel	6
8	4 - 8	3.5	0		Red-brn, moist, firm, silt-f sand-clay, trace - little f-m gravel (embedded)	
12	8 - 12	2	0		[thin, gray, gravelly f-c sand]	14
16	12 - 16	4	0		Brn, wet, soft, plastic clay No visual indicators	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. SB-28
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 99.1 feet
DATE STARTED: 5/21/10 **DATE COMPLETED**: 5/21/10
GROUNDWATER DEPTH: ± 7 feet
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers **SHEET 1 OF 1**
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					Pavement	
					Brn, moist, silty f-m sand, little f-m gravel, few cinders	
4	0 - 4	3	0			
			0			
			0.8			
8	4 - 8	3.2	0			
			0.1			9
			14		Gray, wet, silty f-c sand and f-c gravel, trace coarse	
			0.3		organic	
12	8 - 12	4	0.1			
			0.3			12.5
			0		Red-brn, wet, soft clay	
						14.5
16	12 - 16	4	0		Red-brn, wet, soft, silt-clay	
					No visual indicators	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant **HOLE NO.** SB-29
JOB NO. 2006065 **HOLE LOCATION:**
LOCATION: Sherrill, NY **SURF. EL.** 109. 6 feet
DATE STARTED: 5/24/10 **DATE COMPLETED**: 5/24/10 **GROUNDWATER DEPTH: ± 14 feet**
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers **SHEET 1 OF 1**
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
			0		Gravel and brick fill	0.5
					Red-brn, moist, f sandy silt, traces clay and f gravel	1.5
			3		Black cinders	2
4	0 - 4	3.5	4	oily?	Brn, moist , sandy silt as above with thin sandy seams	
			1			5
			0		Red-brn, moist, clay	
8	4 - 8	3.5	0			
					[sandy bed]	
12	8 - 12	4	0			
						14.5
16	12 - 16	4	0		Brn, wet, clayey silt	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. SB-30
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 107.1 feet
DATE STARTED: 5/24/10 **DATE COMPLETED**: 5/24/10
GROUNDWATER DEPTH: 12 feet
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers
SHEET 1 OF 1
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
4	0 - 4	3	0		Brn, dry, compact clayey silt, trace embedded c sand	
8	4 - 8	4	0		Same, firm, dry to moist	
12	8 - 12	4	0		[dry f-c sand and f-m gravel 9 - 9.5] Moist silty clay with embedded c sand and f-m gravel (drop stones?)	12
					Red-brn, wet, soft plastic clay	15.5
16	12 - 16	4	0		Red-brn, clayey silt No visual indicators	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. SB-31
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 98.2 feet
DATE STARTED: 5/26/10 **DATE COMPLETED**: 5/26/10
GROUNDWATER DEPTH: 5 feet
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Portable tower and 140 lb hammer

SAMPLER TYPE: 24-inch long split spoon samplers
SHEET 1 OF 1
Logged by: MM

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					Cored concrete floor	
	0 - 2	1	2.5		Sand and gravel	2.5
4	2 - 4	1	27	oily	Wet, black, fine sand and gravel, trace silt and clay	
	4 - 6	1	33			6
					Red-brn clay, trace sand and gravel	
8	6 - 8	1	8.7			
	8 - 10	1	0.1			
12	10 - 12	1	0.1			

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. SB-32
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 109.7 feet
DATE STARTED: 5/26/10 **DATE COMPLETED**: 5/26/10
GROUNDWATER DEPTH: 11 feet
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers **SHEET 1 OF 1**
Logged by: MM

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
			0.5		Cored floor, sand and gravel beneath concrete floor	0.5
					Brn, clayey silt, with fine sand	
			1.8			3.5
4	0 - 4	4	25	odor	Sand and gravel zone, w/ fines	4.5
					Brn, silty clay, trace f-c sand and trace gravel	
			2.8			
8	4 - 8	4				
12	8 - 12	4	0		[sand and gravel zone]	
					[sand and gravel zone]	
16	12 - 16	4	0			
20	16-20	2	0			
					No visual indicators	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. SB-33
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 109.7 feet
DATE STARTED: 5/24/10 **DATE COMPLETED**: 5/24/10
GROUNDWATER DEPTH:
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers **SHEET 1 OF 1**
Logged by: MM

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					Cored floor, sand and gravel fill beneath floor	0.5
					Dry, brn silt, f-c sand, f gravel, little clay	
4	0 - 4		0			4
					Brn, silty clay, traces f sand and gravel	
8	4 - 8		0			
12	8 - 12		0			
					[thin silt layers]	
16	12 - 16		0		[gray clayey silt layer at 15.5]	
					No visual indicators	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
JOB NO. 2006065
LOCATION: Sherrill, NY
DATE STARTED: 5/25/10 **DATE COMPLETED**: 5/25/10
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

HOLE NO. SB-34
HOLE LOCATION:
SURF. EL. ± 96 feet
GROUNDWATER DEPTH: ± 5 feet

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers **SHEET 1 OF 1**
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					Brown loam topsoil	1.25
					Red-brn, moist silt, trace-little clay	3.5
4	0 - 4	3.25	0		Brn, moist, silt loam with organics (topsoil)	4.5
8	4 - 8	2.75	0		Brn, wet, m-c sand and f-c gravel, w/ shell fragments	9
12	8 - 12	4	0		Red-brn, wet, soft clay [thin silt bed at 11] No visual indicators	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. SB-35
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 96.7 feet
DATE STARTED: 5/25/10 **DATE COMPLETED**: 5/25/10
GROUNDWATER DEPTH: ± 8 feet
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers
SHEET 1 OF 1
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					Brown topsoil	
4	0 - 4	3.5	0		Dry, red-brn, compact silt, traces f-c sand and f gravel, (cinders at 4.25; f-m sand at 3.5)	5
8	4 - 8	2	0		Red-brn and gray, compact sand and gravel with fines, shell fragments	9
12	8 - 12		0		Red-brn, wet, soft clay	11.5
					Red-brn, wet silt No visual indicators	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant — **HOLE NO.** SB-36
JOB NO. 2006065 — **HOLE LOCATION:**
LOCATION: Sherrill, NY — **SURF. EL.** ± 100 feet
DATE STARTED: 5/26/10 **DATE COMPLETED**: 5/26/10 — **GROUNDWATER DEPTH:**
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers — **SHEET 1 OF 1**
Logged by: MM

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
4	0 - 4		0		Brn, dry sand, some gravel, trace silt	5
8	4 - 8		0		Brn, clayey silt, trace f-c gravel, trace organic	10
12	8 - 12		0		Gray, silty fine sand, coarse organics Refusal at 12	
					No visual indicators	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. SB-37
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 108.6 feet
DATE STARTED: 5/27/10 **DATE COMPLETED**: 5/27/10
GROUNDWATER DEPTH: ~9 feet
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers **SHEET 1 OF 1**
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
4	0 - 4	3	0		Brn, dry, m sand, trace f sand and gravel with embedded c sand and f gravel	
8	4 - 8	3	0			
				wet		9
12	8 - 12	4	0		Red-brn, firm, silty clay	
16	12 - 16	4	0			15.5
					Gray, moist, silty f-m sand, trace f gravel	16.5
20	16 - 20	4	0		Red-brn, silty clay with embedded c sand and f gravel (as above)	
						23
24	20 - 24	4	0		wet, red-brn silt	
					No visual indicators	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. TW-10
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 99.9 feet
DATE STARTED: 5/26/10 **DATE COMPLETED**: 5/26/10
GROUNDWATER DEPTH: 8 feet
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT; Geoprobe casing used to install well

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers **SHEET 1 OF 1**
Logged by: MM

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
			0		Cored concrete floor	
			1.5		Sand and gravel with black cinders and brick	
						3.5
4	0 - 4		0		Graded f-c sand and f-m gravel, with cinders; silt-rich	
					zones	
						6
					Brn, soft clay	7
8	4 - 8		0		Wet, f-c sand and f-m gravel, thin silt layer, shell frags	
			1.9			~9
			0.8		Red-brn clay	
12	8 - 12		0		with thin silt layers	
					Set 1" diameter well with 7' of 10-slot screen and 4'	
					riser at 11'; sand pack to 3', bentonite seal to grade	
16	12 - 16		0		Set cone at well site	
					No visual indicators	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. TW-11
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 100 feet
DATE STARTED: 5/26/10 **DATE COMPLETED**: 5/26/10
GROUNDWATER DEPTH:
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers
SHEET 1 OF 1
Logged by: MM

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
0-3					Brick fill	
					Concrete Refusal at 3'	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. TW-11A
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 99.5 feet
DATE STARTED: 5/26/10 **DATE COMPLETED**: 5/26/10
GROUNDWATER DEPTH: ± 7 feet
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT; Geoprobe casing used to install well

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers **SHEET 1 OF 1**
Logged by: MM

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					Topsoil	1
					Concrete debris/fill material	
4	0 - 4	3	0			4
			0		Red-brn, clayey silt, w/ black organic; traces f-c sand	
					and gravel	
8	4 - 8	3	0.5			
						10
			0.5		Brn, f sandy silt, little clay, gravel	
12	8 - 12					12
			0.3		Black wood	13
					Gray sand and gravel, some fines	
			2.8	yellowish oil		15.5
16	12 - 16		0		Red-brn clay	
					Set 1-inch diameter well with 10' 10 slot well screen with 6' riser	
					to 16 feet; screen sand pack to 5; bentonite seal to	
					grade; installed curb box and concrete pad	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant — **HOLE NO.** TW-12
JOB NO. 2006065 — **HOLE LOCATION:**
LOCATION: Sherrill, NY — **SURF. EL.** 98.2 feet
DATE STARTED: 5/26/10 — **DATE COMPLETED**: 5/26/10 — **GROUNDWATER DEPTH: 5 feet**
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT; Geoprobe casing used to install well

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers — **SHEET 1 OF 1**
Logged by: MM

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					Cored concrete floor; cinders, brick fill	
			0			
					Red-brn, clayey silt, white fragments, with m sand	
4	0 - 4		0.8		and gravel	
			2.4			6
					Black sand and gravel	
8	4 - 8		176			
				Black, oily		
			263			
12	8 - 12					
			0			13
					Red-brn, plastic, soft clay	
16	12 - 16		0		(weathered shale on tip)	
					Set 1" diameter well with 10' of 10-slot screen and 3'	
					riser at 13'; sand pack to 2'; bentonite seal to grade	
					Left cone at well head	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. TW-13
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 109.7 feet
DATE STARTED: 5/27/10 **DATE COMPLETED**: 5/27/10
GROUNDWATER DEPTH: 12 feet
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT; Geoprobe casing used to install well

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers **SHEET 1 OF 1**
Logged by: MM

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					sand and gravel	1
			0			
					Brn, clayey silt, traces f-c sand and gravel	
4	0 - 4		30		(thin sand and gravel zone)	
			91			
			1.3			
8	4 - 8					
			0.5			
					(thin sand and gravel zone)	
			2.6			
12	8 - 12					12
			35		Sand and gravel, with fines	12.5
			0.2		Red-brn clay, traces f sand, silt and f gravel	
16	12 - 16					
			0.3			
						19
20	16 - 20		0.1		Wet, gray clay	19.5
					Sand and gravel with fines, as others	
					Set 1" diameter well at 20' with 13' of 10-slot screen	
					and 7' riser; sand pack to 6', bentonite seal to grade,	
					set cone at well head	
					No visual indicators	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. TW-14
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 108 feet
DATE STARTED: 5/25/10 **DATE COMPLETED**: 5/25/10
GROUNDWATER DEPTH: ± 14 feet
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT; Geoprobe casing used to install well

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers **SHEET 1 OF 1**
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					Pavement, crusher run	1.5
4	0 - 4	3	0		Brn, dry, clayey silt, little-some m-c sand and f-m gravel	4.5
8	4 - 8	4	0		Red-brn, moist, clayey silt, firm, with embedded trace f gravel, as others	11
12	8 - 12	4	0		(small rootlets with thin sand and gravel at 11-11.5) Red-brn, moist, soft clayey silt, trace - little embedded f gravel (Vernon frags).	
16	12 - 16	4	0		(fine rootlets at 15)	16
					Gray, wet, silt and f sandy silt	17
20	16 - 20		0		Gray, wet, plastic clay	19.5
					Re-brn, wet, firm, clayey silt, laminated Installed 1" diameter well with 10' of 10 slot screen and 10' riser at 18'; sand pack to 7'; bentonite seal to grade; set cone at well site No visual indicators	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. MW-1
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 102.9 feet
DATE STARTED: 5/20/10 **DATE COMPLETED**: 5/20/10
GROUNDWATER DEPTH: ±12 feet
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT; 4.25" ID HSA usde for well installation

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers; MC-5 **SHEET 1 OF 1**
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
4	0 - 4		0		Red-brn, dry to mosit, cohesive, firm, f sandy silt, little - some f-m gravel, trace clay	
8	4 - 8	2.3	0			
12	8 - 12	2.6	0		Darker brn, moist, soft, cohesive silt and f sand as above, trace clay (little peat at 12') (thin, wet sandy layers w/ f-m gravel)	12
16	12 - 16	3.8	0		Red-brn, thinnly interbedded fine sandy silt, silt and silty clay, laminated, trace gravel at top	
20	16 - 20	3.5	0			19.5
					F-m sand, trace c sand, trace-little f-m gravel	22
24	20 - 24	4	0		Brn, wet, loose, m-c sand, trace f-m gravel, trace fines	
					HSA drill to 24'; Set 2" diameter well with 15' of 10-slot well screen and 12' riser at 24'; installed 4" steel guard pipe in concrete pad; sand pack to 8'; bentonite seal to grade	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant **HOLE NO.** MW-2
JOB NO. 2006065 **HOLE LOCATION:**
LOCATION: Sherrill, NY **SURF. EL.** 97 feet
DATE STARTED: 5/24/10 **DATE COMPLETED**: 5/24/10 **GROUNDWATER DEPTH: ~6 feet**
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT; 4.25"ID HSA used for well installation

SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers **SHEET 1 OF 1**
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					Topsoil	
					Red-brn, dry, compact, fine sandy silt, trace f-m gravel	
						3.5
4	0 - 4	3.5	0		Brn, silt and f-m sand, trace cinders, trace c organics	
			0			
			21			7
8	4 - 8	3	25		Red-brn, wet, laminated, clayey silt	8
			0		Red-brn, wet, soft clay	
						11
12	8 - 12	3.5	0		Red-brn, wet, clayey silt	12
					Red-brn, wet, f-c sand and f-m gravel (rounded),	
			0		with fines, compact	13.5
			24		Red-brn, soft, wet, plastic clay; gravelly at 14- 14.5	
16	12 - 16	4	0			16
					Red-brn, stiff , moist, silty clay	
					(f sand bed at 17-17.5)	
20	16 - 20	2.75	0			
					HSA drill to 15'; set 2-inch diameter well with	
					10' of 10-slot screen at 15' with 5' riser; sand pack	
					to 4', bentonite seal to grade; installed curb box in	
					concrete pad	
					Cuttings from HSA drilling contained light oil sheen;	
					staged cuttings	

PLUMLEY ENGINEERING, P.C.
ENVIRONMENTAL TEST BORING LOG

PROJECT: Former Oneida Knife Plant
HOLE NO. MW-3
JOB NO. 2006065
HOLE LOCATION:
LOCATION: Sherrill, NY
SURF. EL. 98.5 feet
DATE STARTED: 5/25/10 **DATE COMPLETED**: 5/25/10
GROUNDWATER DEPTH: ~5 feet
DRILLER: Parratt Wolff, Inc.
DRILLING METHOD:
Geoprobe track rig 7822DT; 4.25"ID HSA used for well installation

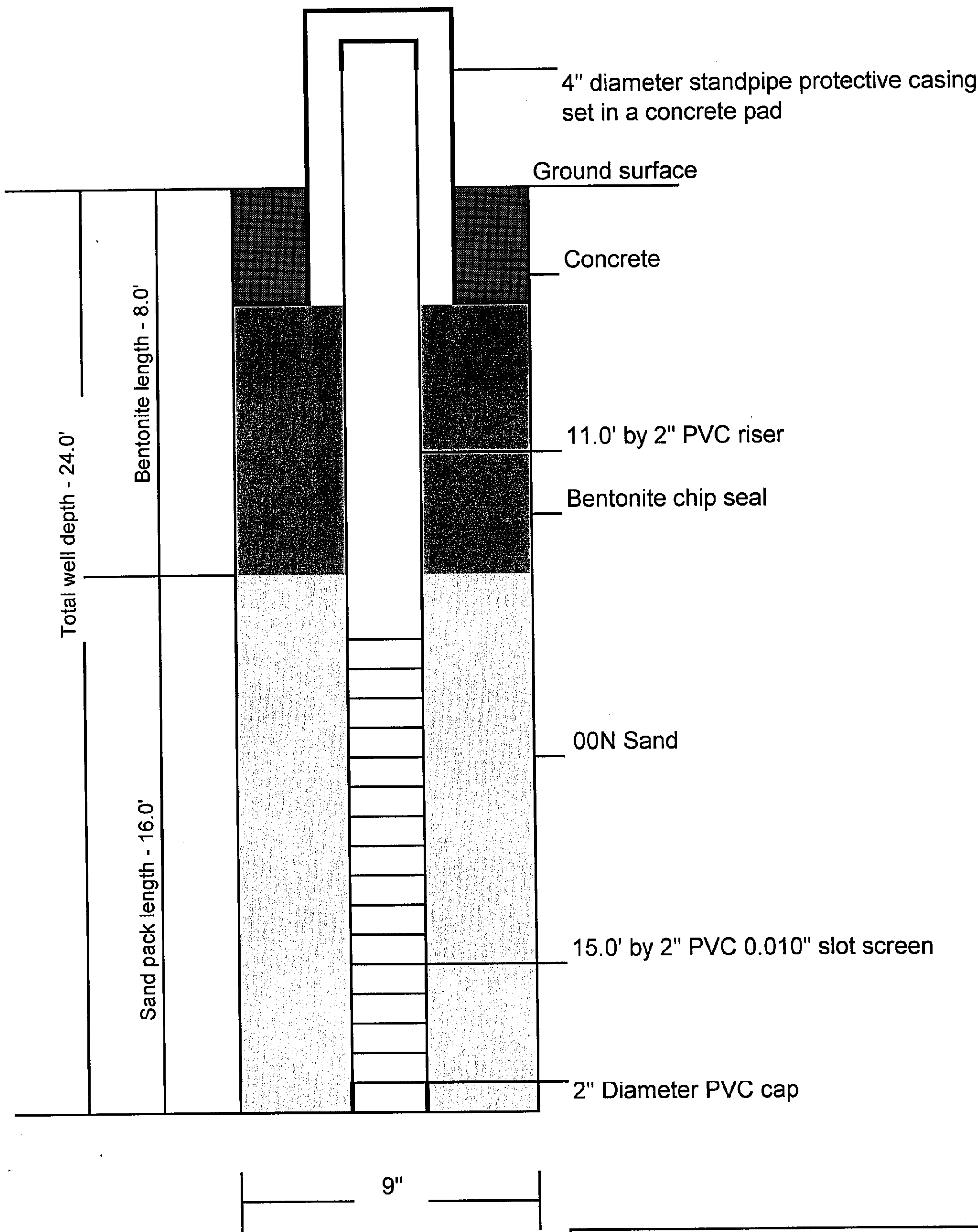
SAMPLER TYPE: 48-inch long Geoprobe sleeved macrocore samplers
SHEET 1 OF 1
Logged by: FAK

DEPTH (feet)	SAMPLE DEPTH (feet)	RECOVERY (feet)	PID (ppm)	Additional	DESCRIPTION OF MATERIAL	DEPTH (feet)
					cored 12" concrete w/ steel rebar	1
					Brn, orange, f-c sand with black cinders	2.5
4	0 - 4	3	0		Brn, moist, f sandy silt, trace organics	6.5
8	4 - 8	3.5	0		Brn, wet, graded sands and gravel, with fines	9
12	8 - 12	2	0		Red-brn, clayey silt	15.5
16	12 - 16	3.75	0		Gray-brn sand and gravel with fines, as others	
					HSA drill to 12'; set 2-inch diameter well with 8' of 10-slot screen at 12' with 4' riser; sand pack to 3'; bentonite seal to grade; installed curb box in concrete pad	
					No visual indicators	

MONITORING AND TEST WELL DIAGRAMS

FORMER ONEIDA KNIFE SITE

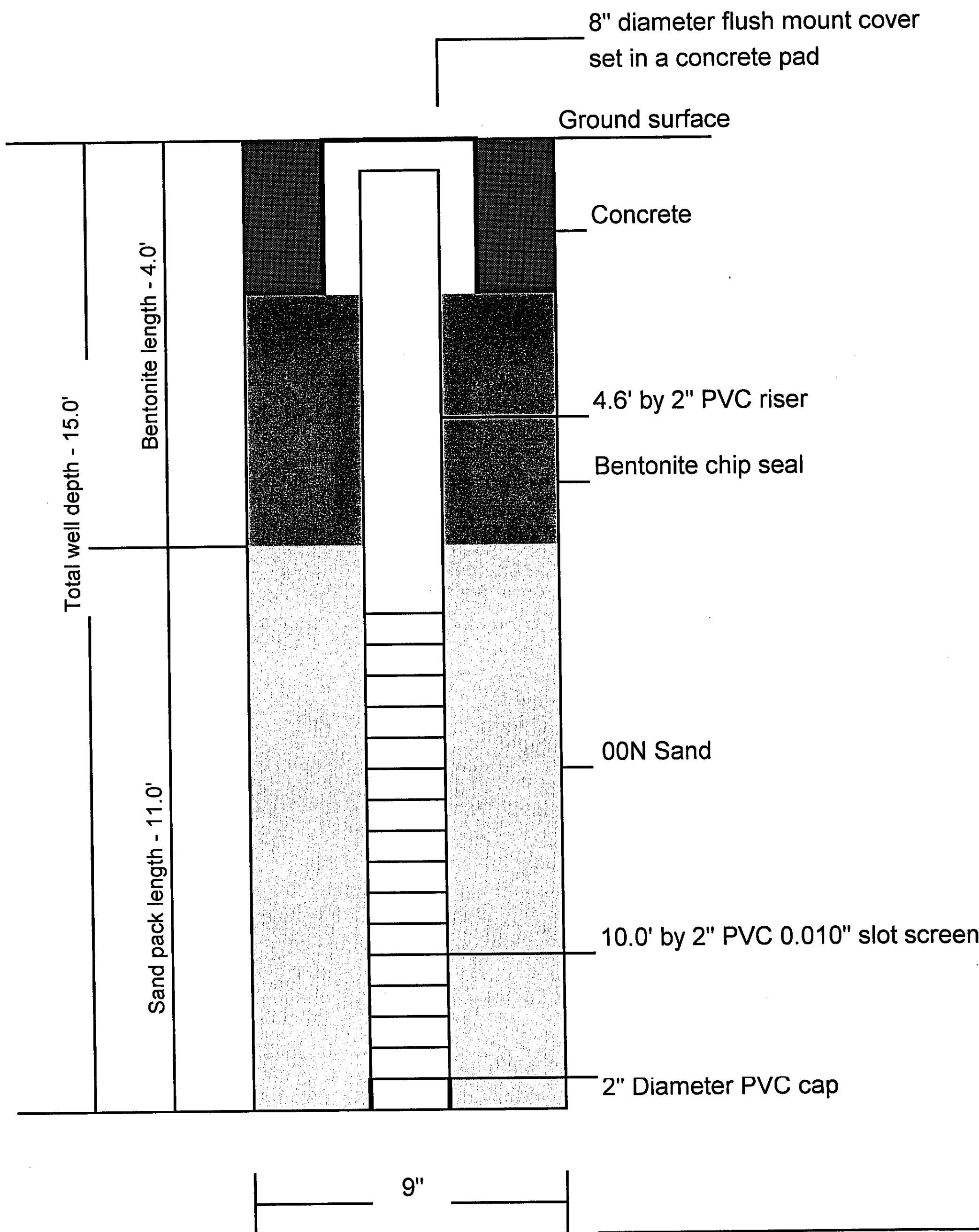
SHERRILL, NEW YORK



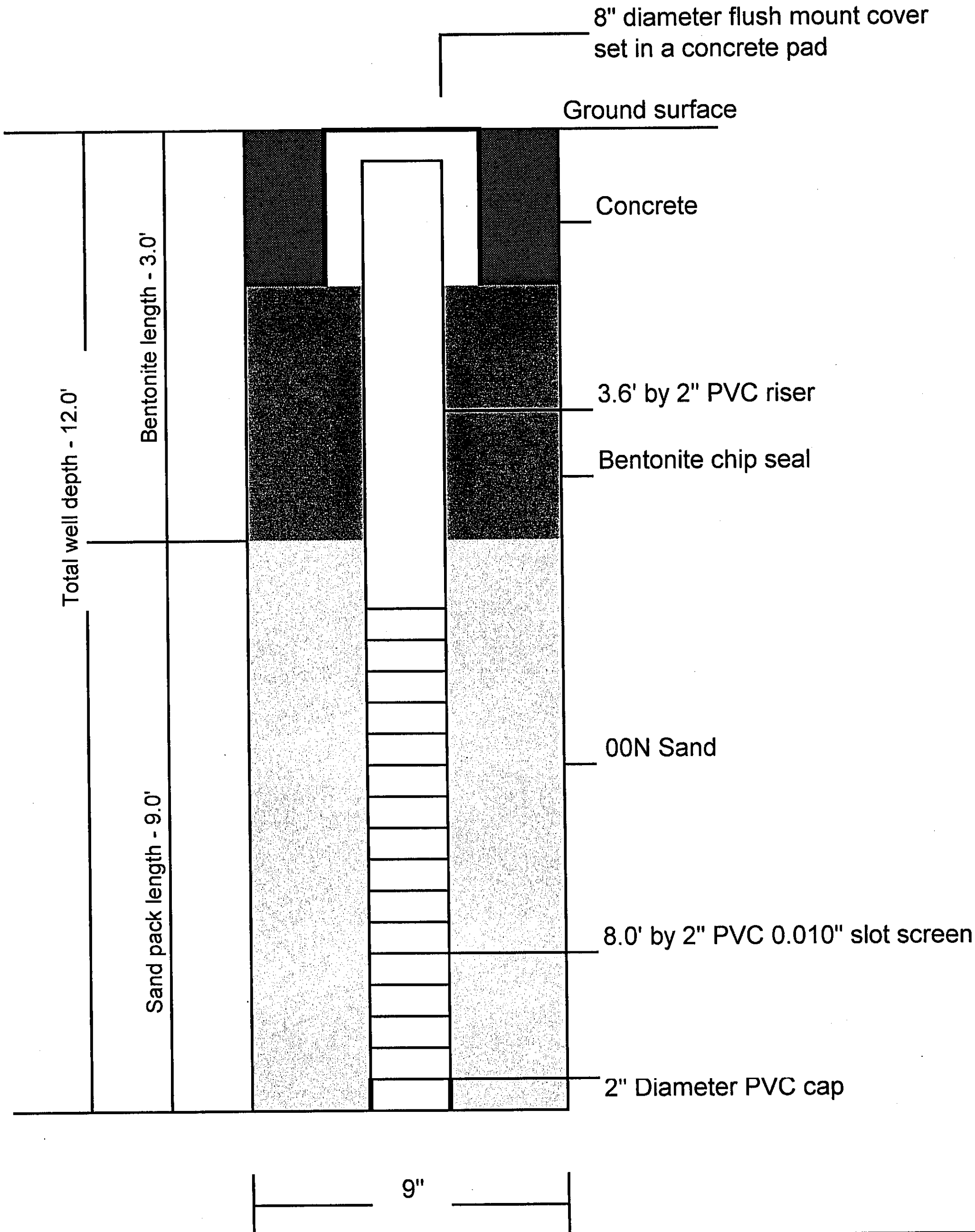
PARRATT-WOLFF INC.

MONITORING WELL MW-1
ONEIDA KNIFE PLANT
SHERRILL, NEW YORK

NOT TO SCALE May-10



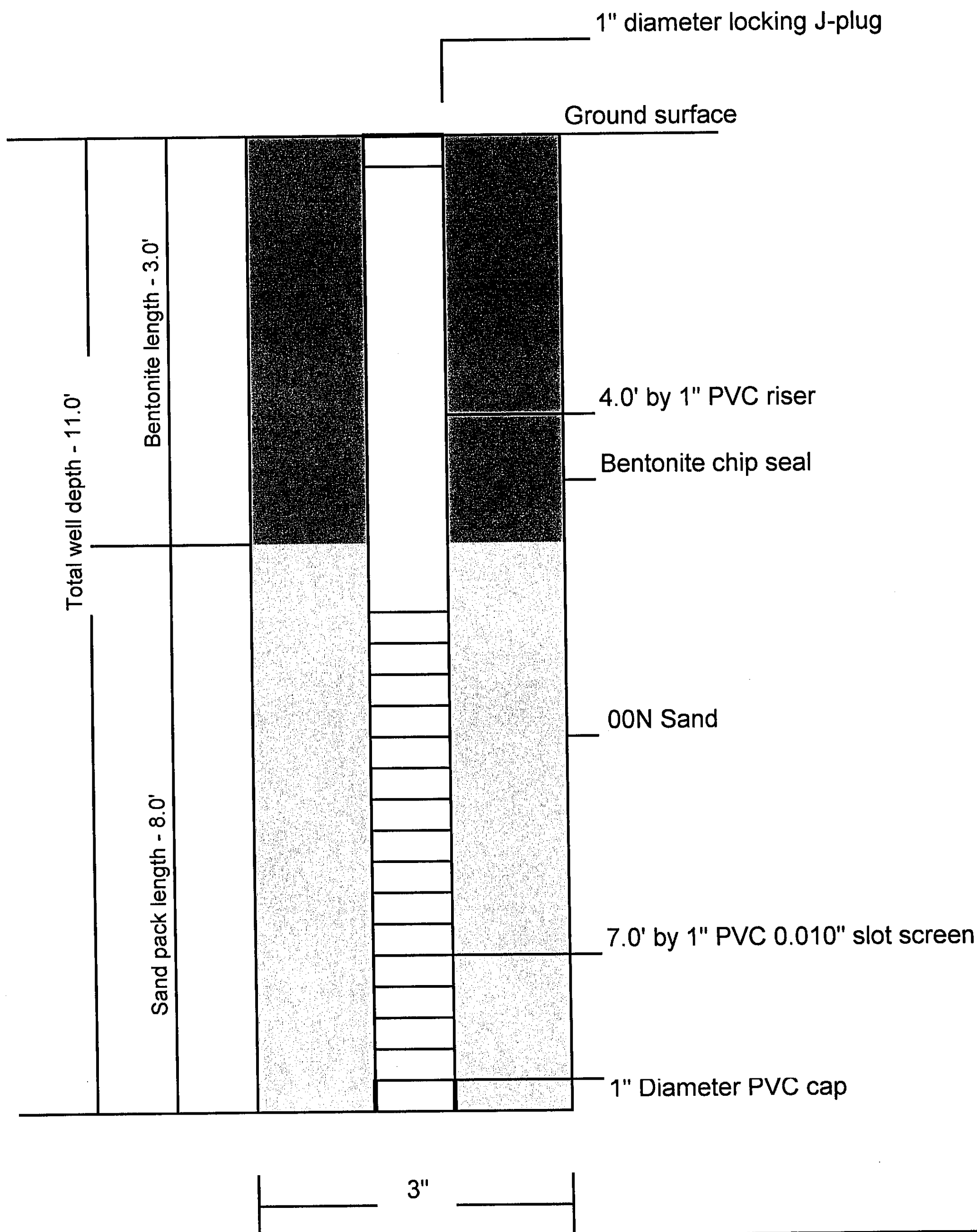
PARRATT-WOLFF INC.	
MONITORING WELL MW-2 ONEIDA KNIFE PLANT SHERRILL, NEW YORK	
NOT TO SCALE	May-10



PARRATT-WOLFF INC.

MONITORING WELL MW-3
ONEIDA KNIFE PLANT
SHERRILL, NEW YORK

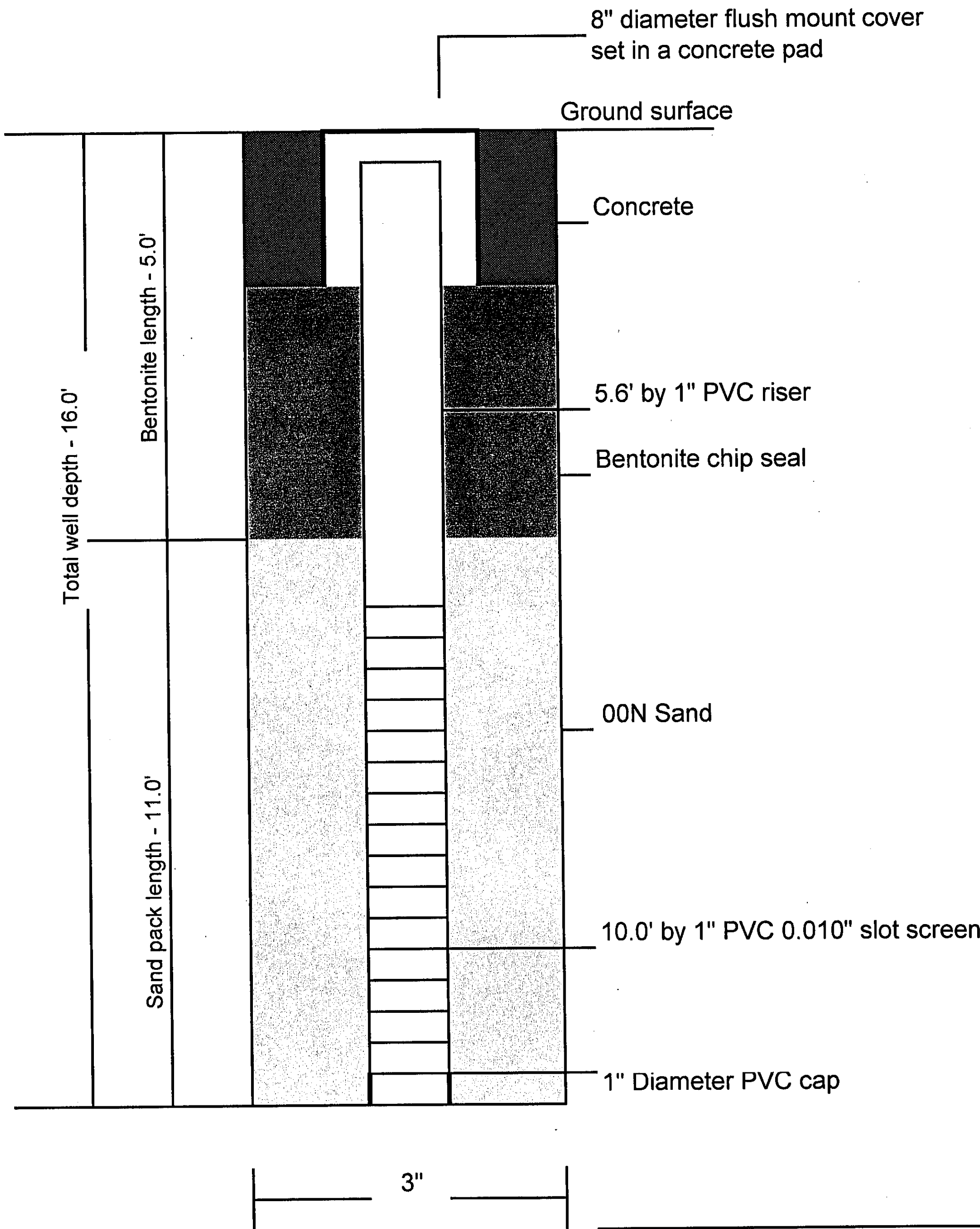
NOT TO SCALE May-10



PARRATT-WOLFF INC.

TEST WELL TW-10
ONEIDA KNIFE PLANT
SHERRILL, NEW YORK

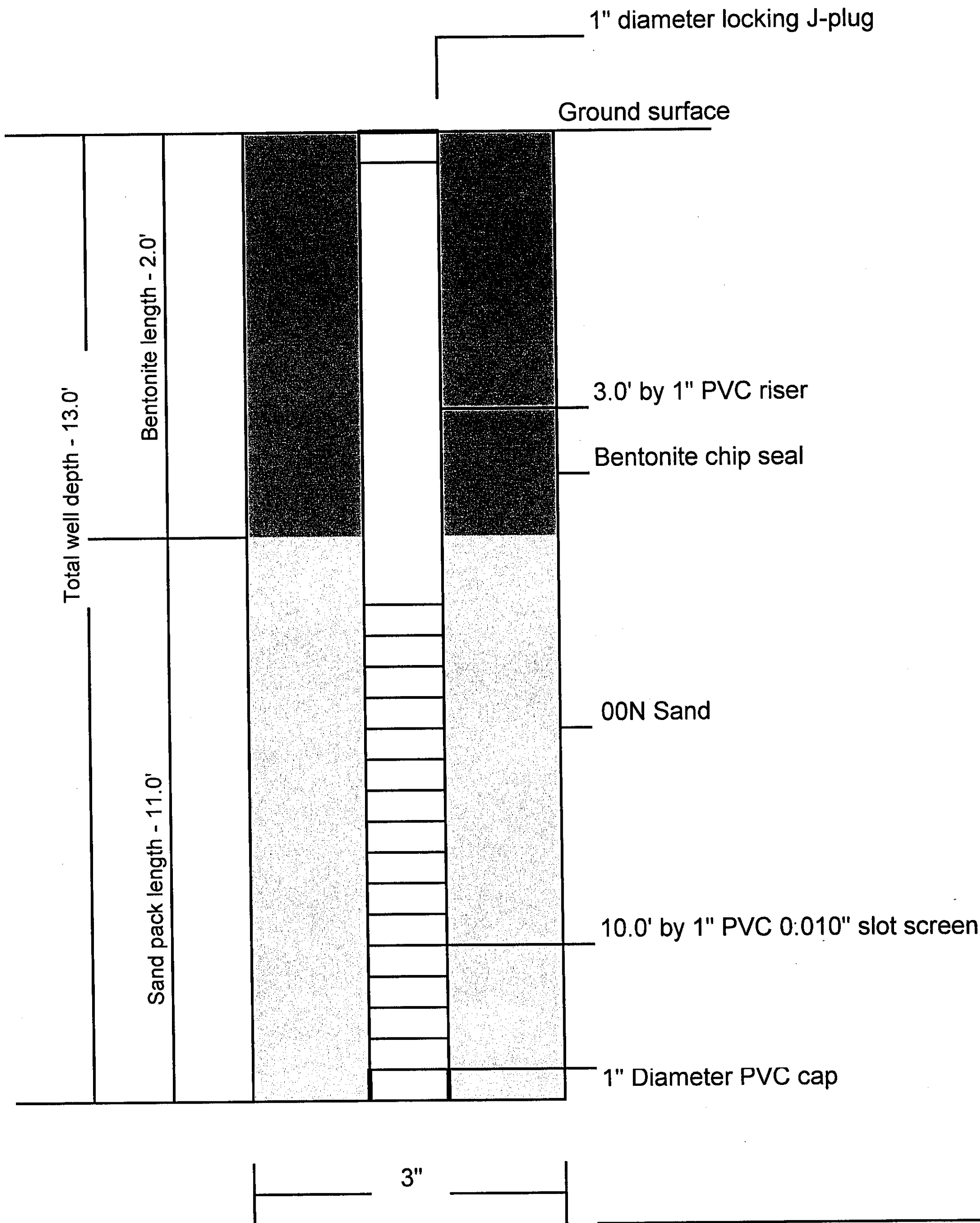
NOT TO SCALE May-10



PARRATT-WOLFF INC.

TEST WELL TW-11A
ONEIDA KNIFE PLANT
SHERRILL, NEW YORK

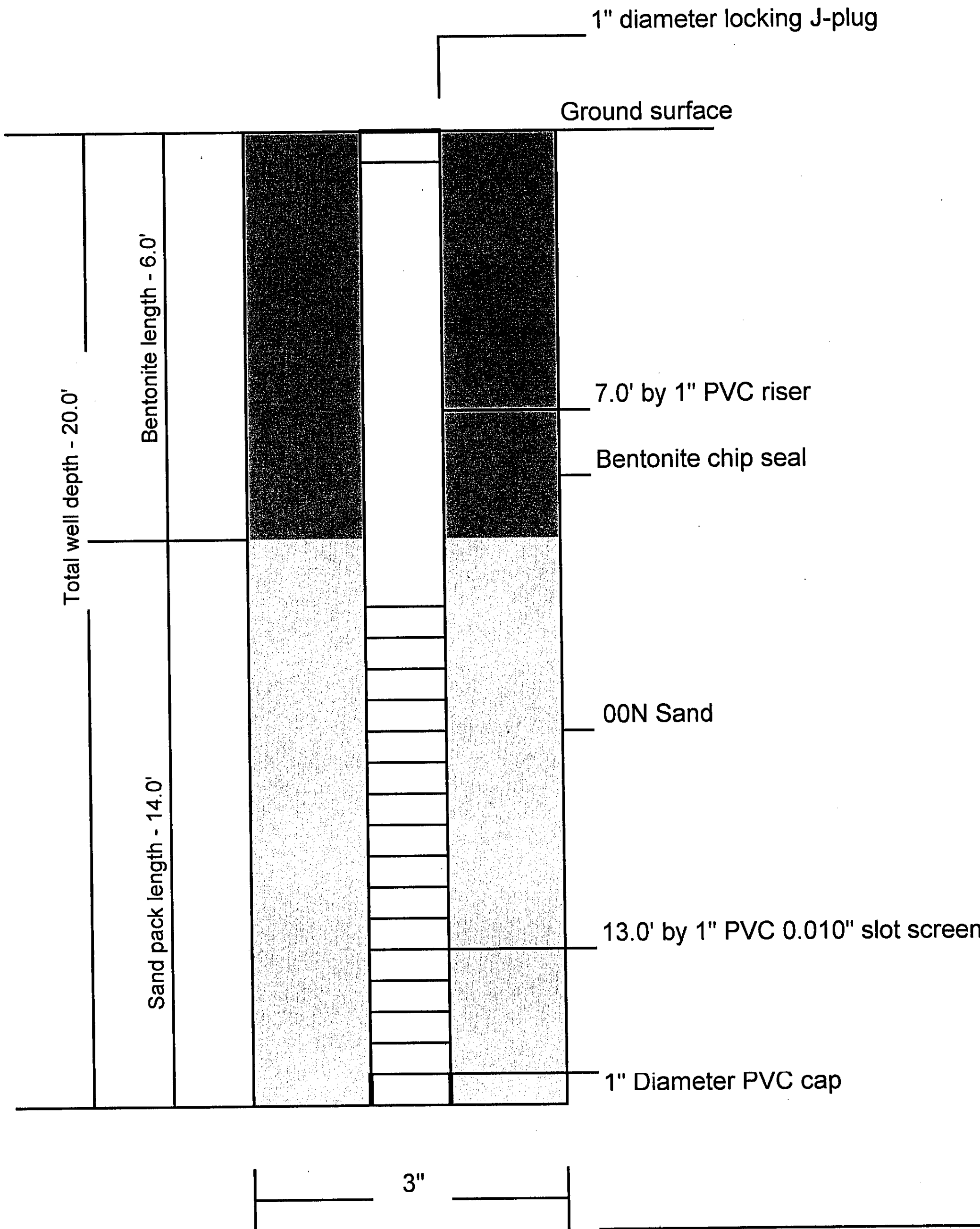
NOT TO SCALE May-10



PARRATT-WOLFF INC.

TEST WELL TW-12
ONEIDA KNIFE PLANT
SHERRILL, NEW YORK

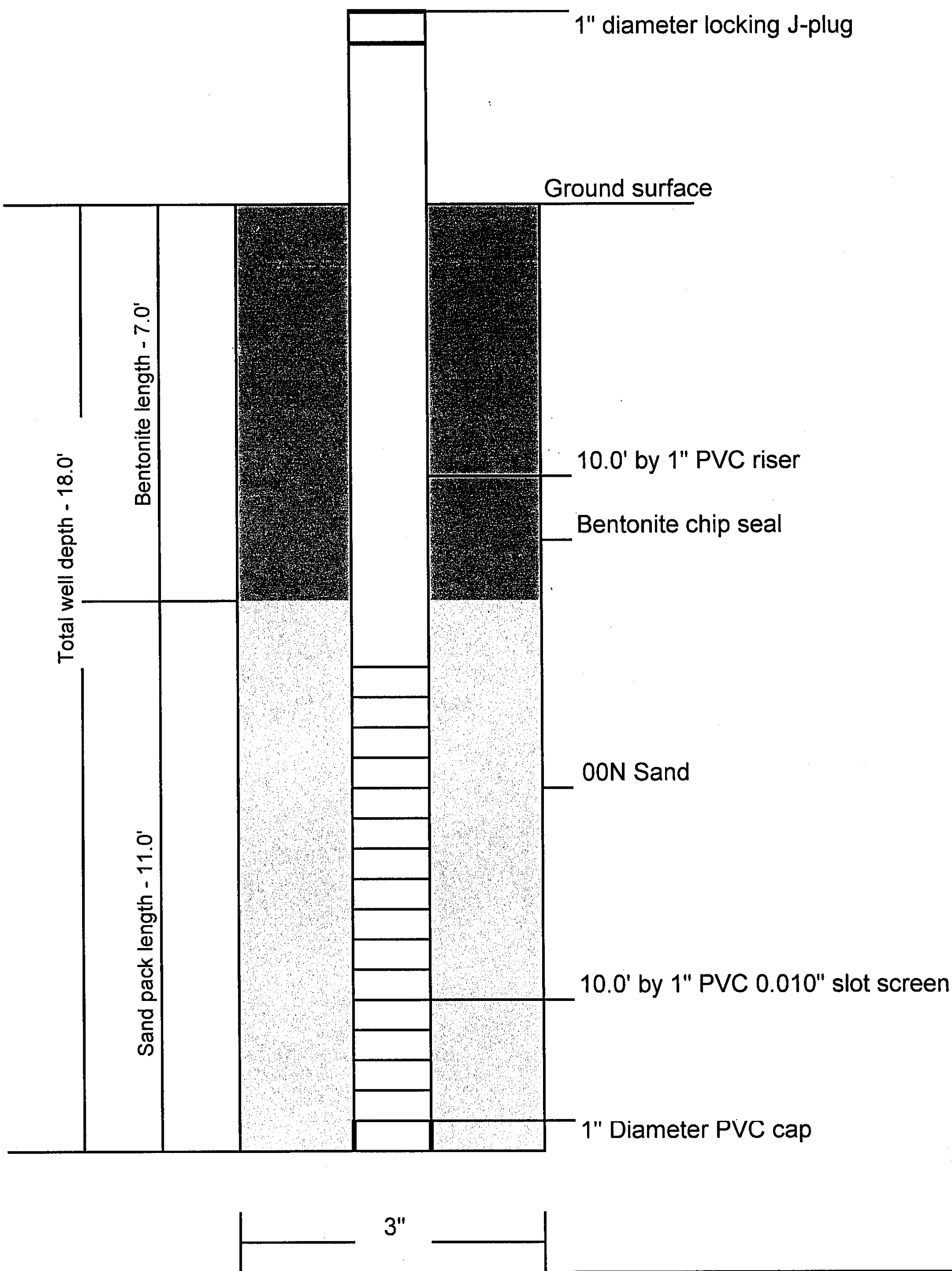
NOT TO SCALE May-10



PARRATT-WOLFF INC.

TEST WELL TW-13
ONEIDA KNIFE PLANT
SHERRILL, NEW YORK

NOT TO SCALE May-10



PARRATT-WOLFF INC.

TEST WELL TW-14
ONEIDA KNIFE PLANT
SHERRILL, NEW YORK

NOT TO SCALE May-10

APPENDIX C

CAMP DATA

Instrument: MiniRAE 2000 (PGM7600) Serial Number: 015090
User ID: 00000001 Site ID: 00000002
Data Points: 238 Gas Name: Isobutylene Sample Period: 60 sec
Last Calibration Time: 05/19/2010 16:58
Start At: 05/20/2010 12:30 End At: 05/20/2010 16:27

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
High Alarm Levels:	100.0	100.0	100.0
Low Alarm Levels:	50.0	50.0	50.0
STEL Alarm Levels:	250.0	250.0	250.0
TWA Alarm Levels:	100.0	100.0	100.0

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
Peak Data Value:	0.5	0.5	0.6
Min Data Value:	0.1	0.1	0.1
TWA Data Value:	0.2	0.2	0.2
AVG Data Value:	0.4	0.4	0.5

Instrument: MiniRAE 2000 (PGM7600) Serial Number: 015090
User ID: 00000001 Site ID: 00000003
Data Points: 286 Gas Name: Isobutylene Sample Period: 60 sec
Last Calibration Time: 05/19/2010 16:58
Start At: 05/21/2010 07:57 End At: 05/21/2010 12:42

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
High Alarm Levels:	100.0	100.0	100.0
Low Alarm Levels:	50.0	50.0	50.0
STEL Alarm Levels:	250.0	250.0	250.0
TWA Alarm Levels:	100.0	100.0	100.0

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
Peak Data Value:	0.4	4.9	84.1
Min Data Value:	0.0	0.0	0.0
TWA Data Value:	0.1	0.1	0.5
AVG Data Value:	0.1	0.2	0.8

Instrument: MiniRAE 2000 (PGM7600) Serial Number: 015090
User ID: 00000001 Site ID: 00000005
Data Points: 22 Gas Name: Isobutylene Sample Period: 60 sec
Last Calibration Time: 05/19/2010 16:58
Start At: 05/21/2010 13:55 End At: 05/21/2010 14:16

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
High Alarm Levels:	100.0	100.0	100.0
Low Alarm Levels:	50.0	50.0	50.0
STEL Alarm Levels:	250.0	250.0	250.0
TWA Alarm Levels:	100.0	100.0	100.0

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
Peak Data Value:	0.1	0.1	1.2
Min Data Value:	0.0	0.0	0.1
TWA Data Value:	0.0	0.0	0.0
AVG Data Value:	0.1	0.1	0.2

Instrument: MiniRAE 2000 (PGM7600)   Serial Number: 015090
User ID: 00000001   Site ID: 00000006
Data Points: 19   Gas Name: Isobutylene   Sample Period: 60 sec
Last Calibration Time: 05/19/2010 16:58
Start At: 05/21/2010 15:35   End At: 05/21/2010 15:53

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
High Alarm Levels:	100.0	100.0	100.0
Low Alarm Levels:	50.0	50.0	50.0
STEL Alarm Levels:	250.0	250.0	250.0
TWA Alarm Levels:	100.0	100.0	100.0

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
Peak Data Value:	0.1	11.8	105.8
Min Data Value:	0.0	0.0	0.1
TWA Data Value:	0.0	0.0	0.3
AVG Data Value:	0.1	0.9	8.7

Instrument: MiniRAE 2000 (PGM7600)   Serial Number: 015090
User ID: 00000001   Site ID: 00000007
Data Points: 215   Gas Name: Isobutylene   Sample Period: 60 sec
Last Calibration Time: 05/19/2010 16:58
Start At: 05/25/2010 11:00 End At: 05/25/2010 14:34

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
High Alarm Levels:	100.0	100.0	100.0
Low Alarm Levels:	50.0	50.0	50.0
STEL Alarm Levels:	250.0	250.0	250.0
TWA Alarm Levels:	100.0	100.0	100.0

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
Peak Data Value:	0.2	0.2	0.3
Min Data Value:	0.0	0.0	0.0
TWA Data Value:	0.1	0.1	0.1
AVG Data Value:	0.1	0.1	0.2

Instrument: MiniRAE 2000 (PGM7600) Serial Number: 008989
User ID: 00000001 Site ID: 00000030
Data Points: 228 Gas Name: Isobutylene Sample Period: 60 sec
Last Calibration Time: 09/22/2009 16:02
Start At: 05/20/2010 12:56 End At: 05/20/2010 16:43

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
High Alarm Levels:	100.0	100.0	100.0
Low Alarm Levels:	50.0	50.0	50.0
STEL Alarm Levels:	250.0	250.0	250.0
TWA Alarm Levels:	100.0	100.0	100.0

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
Peak Data Value:	-----	0.0	0.0
Min Data Value:	-----	0.0	0.0
TWA Data Value:	-----	0.0	0.0
AVG Data Value:	-----	0.0	0.0

Instrument: MiniRAE 2000 (PGM7600) Serial Number: 008989
User ID: 00000001 Site ID: 00000031
Data Points: 47 Gas Name: Isobutylene Sample Period: 60 sec
Last Calibration Time: 09/22/2009 16:02
Start At: 05/21/2010 08:22 End At: 05/21/2010 09:08

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
High Alarm Levels:	100.0	100.0	100.0
Low Alarm Levels:	50.0	50.0	50.0
STEL Alarm Levels:	250.0	250.0	250.0
TWA Alarm Levels:	100.0	100.0	100.0

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
Peak Data Value:	-----	0.0	0.0
Min Data Value:	-----	0.0	0.0
TWA Data Value:	-----	0.0	0.0
AVG Data Value:	-----	0.0	0.0

Instrument: MiniRAE 2000 (PGM7600) Serial Number: 008989
User ID: 00000001 Site ID: 00000032
Data Points: 352 Gas Name: Isobutylene Sample Period: 60 sec
Last Calibration Time: 09/22/2009 16:02
Start At: 05/25/2010 09:08 End At: 05/25/2010 14:59

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
High Alarm Levels:	100.0	100.0	100.0
Low Alarm Levels:	50.0	50.0	50.0
STEL Alarm Levels:	250.0	250.0	250.0
TWA Alarm Levels:	100.0	100.0	100.0

Measurement Type:	Min(ppm)	Avg(ppm)	Max(ppm)
Peak Data Value:	-----	1.6	2.0
Min Data Value:	-----	0.0	0.0
TWA Data Value:	-----	0.0	0.0
AVG Data Value:	-----	0.0	0.0

APPENDIX D

SUMMARY TABLES OF ANALYTICAL RESULTS

FORMER ONEIDA KNIFE PLANT
Village of Sherrill, Oneida County, New York
DEC Site No. C633077

TABLE 1 - SUBSURFACE SOIL ANALYTICAL RESULTS - VOCs

Date Sampled: May 20-26, 2010 **Analysis:** EPA Method 8260

Compound	Recommended Soil Cleanup Objective[1] (µg/kg)		Compound Concentration (µg/kg)																															
			SB-14	SB-15	SB-16	SB-17	SB-18-1	SB-18-2	SB-19	SB-20-1	SB-20-2	SB-21	SB-22	SB-23-2	SB-24-2	SB-26	SB-27	SB-28	SB-29	SB-30	SB-31	SB-32	SB-33	SB-34	SB-35	SB-37	TW-10	TW-11A	TW-12-1	TW-13	TW-13-2	TW-13-3	MW-2	MW-3
	Industrial Restricted Use	Protection of Groundwater	Depth Below Grade (feet)																															
			7.5-8.0	7-9	8-10	5-6	7-8	15-16	9-11	7-8	15-16	9-11	13-14	1-2	1-2	10-12	10-12	9-10	2-4	12-16	3-5	4-5	14-14.5	5-7	7-9	23-23.5	8.5-10	13-15	7-8	4-6	16-16.5	19.5-20	7.5-8	8-10
Dichlorodifluoromethane			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Chloromethane			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Vinyl Chloride	27,000	20	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	***42.3***	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	8.34	ND<4.31
Bromomethane			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Chloroethane			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Trichlorofluoromethane			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Acetone	1,000,000	50	48.8	ND<479	ND<37.7	ND<585	***55***	ND<24.3	ND<27.1	29.4	ND<19	ND<521	37.2	ND<58.7	ND<58.6	***263***	ND<49.5	ND<30.4	ND<485	ND<40.4	ND<35.7	ND<39.2	ND<23.3	ND<23.1	ND<27.2	ND<34.7	***85.7***	ND<540	ND<520	ND<26.9	47.9	41	***61.4***	***74.30***
1,1-Dichloroethene	100,000	330	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Carbon Disulfide			6.78	ND<95.9	8.99	ND<117	ND<5.68	ND<4.85	7.57	7.78	ND<3.81	ND<104	14.3	ND<11.7	ND<11.7	ND<6.45	ND<9.9	7.98	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	10.1	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	7.58	7.77
Methylene Chloride	1,000,000	50	ND<25.9	ND<95.9	ND<37.7	ND<117	ND<28.4	ND<24.3	ND<27.1	ND<26.6	ND<19	ND<104	ND<28.4	ND<58.7	ND<58.6	ND<32.3	ND<49.5	ND<30.4	ND<97	ND<40.4	ND<35.7	ND<39.2	ND<23.3	ND<23.1	ND<27.2	ND<34.7	ND<30	ND<108	ND<104	ND<26.9	ND<32.3	ND<39.8	ND<23.4	ND<21.5
trans-1,2-Dichloroethene	1,000,000	190	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	18.9	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
1,1-Dichloroethane	480,000	270	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
2-Butanone	1,000,000	120	ND<5.18	ND<95.9	ND<7.54	ND<117	15.6	ND<4.85	ND<5.41	20.2	ND<3.81	ND<104	6.42	17	26	39.8	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	16.3	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	12.2	16.10
2,2-Dichloropropane			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
cis-1,2-Dichloroethene	1,000,000	250	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	11	ND<5.41	15.2	ND<3.81	ND<104	***4,050***	ND<11.7	ND<11.7	ND<6.45	ND<9.9	7.48	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	33.4	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	30.9	ND<4.31
Chloroform	700,000	370	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Bromochloromethane			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
1,1,1-Trichloroethane	1,000,000	680	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
1,1-Dichloropropene			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Carbon Tetrachloride	44,000	760	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
1,2-Dichloroethane	60,000	20	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Benzene	89,000	60	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	101	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Trichloroethene	400,000	470	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	5.37	ND<5.41	33.1	ND<3.81	ND<104	***3,710***	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	10.4	ND<5.44	ND<6.94	92.3	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	9.12	ND<4.31
1,2-Dichloropropane			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Bromodichloromethane			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Dibromomethane			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
2-Chloroethylvinylether			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
4-Methyl-2-pentanone (MIBK)			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
cis-1,3-Dichloropropene			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Toluene	1,000,000	700	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	114	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
trans-1,3-Dichloropropene			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
2-Hexanone			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
1,1,2-Trichloroethane			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
1,3-Dichloropropane			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Tetrachloroethene	300,000	1,300	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	934	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	8.17	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Dibromochloromethane			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
1,2-Dibromoethane			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Chlorobenzene	1,000,000	1,100	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
1,1,1,2-Tetrachloroethane			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Ethylbenzene	780,000	1,000	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
m&p-Xylene	1,000,000	1,600	ND<5.18	ND<95.9	ND<7.54	ND<117	9.28	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	17	ND<6.07	127	ND<8.08	ND<7.31	14.2	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
o-Xylene	1,000,000	1,600	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	120	ND<8.08	ND<7.31	9.74	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	8.28	ND<7.97	ND<4.68	ND<4.31
Styrene			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Isopropylbenzene			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	2,070	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	8.65	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	14.3	ND<7.97	ND<4.68	ND<4.31
Bromoform			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
1,1,2,2-Tetrachloroethane			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
1,2,3-Trichloropropane			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
n-Propylbenzene	1,000,000	3,900	ND<5.18	ND<95.9	ND<7.54	ND<117	11.9	ND<4.85	ND<5.41	ND<5.32	ND<3.81	***4,530***	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	13.4	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	20.1	ND<7.97	ND<4.68	ND<4.31
Bromobenzene			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
1,3,5-Trimethylbenzene	380,000	8,400	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	108	ND<8.08	ND<7.31	70.3	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	5.82	27.2	ND<7.97	ND<4.68	ND<4.31
2-Chlorotoluene			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
4-Chlorotoluene			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
tert-Butylbenzene	1,000,000	5,900	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
1,2,4-Trimethylbenzene	380,000	3,600	ND<5.18	300	ND<7.54	ND<117	9.54	ND<4.85	ND<5.41	ND<5.32	ND<3.81	1,010	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	294	ND<8.08	ND<7.31	216	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	305	ND<5.38	136	ND<7.97	ND<4.68	ND<4.31
sec-Butylbenzene	1,000,000	11,000	ND<5.18	296	ND<7.54	ND<117	17.1	ND<4.85	ND<5.41	13.4	ND<3.81	7,380	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	567	7.11	52.2	ND<7.97	ND<4.68	ND<4.31
4-Isopropyltoluene			ND<5.18	509	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	2,200	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	124	ND<8.08	ND<7.31	122	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	463	396	29	143	ND<7.97	ND<4.68	ND<4.31
1,3-Dichlorobenzene	560,000	2,400	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
1,4-Dichlorobenzene	250,000	1,800	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
n-Butylbenzene	1,000,000	12,000	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
1,2-Dichlorobenzene	1,000,000	1,100	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
1,2,4-Trichlorobenzene			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Hexachlorobutadiene			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Naphthalene	1,000,000	12,000	11.6	ND<95.9	9.66	ND<117	34.9	ND<4.85	ND<5.41	17.8	ND<3.81	10,700	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	2,490	ND<8.08	30.9	2,380	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	14.8	193	ND<7.97	ND<4.68	ND<4.31
1,2,3-Trichlorobenzene			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
1,2-Dibromo-3-chloropropane			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Vinyl Acetate			ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Methyl-tert-butyl-ether (MTBE)	1,000,000	930	ND<5.18	ND<95.9	ND<7.54	ND<117	ND<5.68	ND<4.85	ND<5.41	ND<5.32	ND<3.81	ND<104	ND<5.68	ND<11.7	ND<11.7	ND<6.45	ND<9.9	ND<6.07	ND<97	ND<8.08	ND<7.31	ND<7.83	ND<4.66	ND<4.63	ND<5.44	ND<6.94	ND<6.01	ND<108	ND<104	ND<5.38	ND<6.47	ND<7.97	ND<4.68	ND<4.31
Total VOC Concentrations	---	---	67	1,105	19	ND	153	16	8	137	ND	27,890	8,813	17	26	303	17	15	3,478	ND	31	2,834	ND	44	ND	ND	213	463	1,268	57	642	41	130	98
Total VOC TICs[2]	---	---	24,550	152,900	4,726	60,630	20,930	505	2,489	22,110	301	64,480	538	10,021	16,041	10,449	1,629	1,003	36,080	1,115	19,070	22,360	441	648	443	600	1,798	28,320	107,290	2,416	16,020	2,558	14,438	1,240

Notes:

[1]New York Codes, Rules and Regulations, Title 6 (6NYCRR) Part 375-6, *Remedial Program Soil Cleanup Objectives* , dated December 16, 2007.

[2]Tentatively Identified Compounds (TICs) reported in estimated concentrations.

µg/kg micrograms per kilogram, equivalent to parts per billion (ppb) ND Not detected above the laboratory method detection limit

--- No DEC recommended soil cleanup guideline, no promulgated State Standard or Guidance Value

Compounds that exceeded Recommended Soil Cleanup Objectives are denoted in ***BOLD***.

TABLE 2 - SUBSURFACE SOIL ANALYTICAL RESULTS - SVOCs

Date Sampled: May 20-26, 2010 **Analysis:** EPA Method 8270 B/N

Compound	Recommended Soil Cleanup Objective[1] (ug/kg)		Compound Concentration (µg/kg)																
			SB-15	SB-16	SB-17	SB-18-1	SB-19	SB-21	SB-32-2	SB-24-2	SB-29	SB-30	SB-31	SB-32	TW-10	TW-11A	TW-12-1	TW-13	MW-3
	Industrial Restricted Use	Protection of Groundwater	Depth Below Grade (feet)																
			7-9	8-10	5-6	7-8	9-11	9-11	1-2	1-2	2-4	12-16	3-5	4-5	8.5-10	13-15	7-8	4-6	8-10
bis(2-chloroethyl)ether			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
1,3-Dichlorobenzene			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
1,4-Dichlorobenzene			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
1,2-Dichlorobenzene			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
bis(2-Chloroisopropyl)ether			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
Hexachloroethane			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
N-Nitroso-di-n-propylamine			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
Nitrobenzene			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
Isophorone			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
bis(2-chloroethoxy)methane			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
1,2,4-Trichlorobenzene			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
Hexachlorobutadiene			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
Naphthalene	1,000,000	12,000	ND<812	ND<514	ND<480	ND<406	ND<398	7,610	ND<523	ND<556	4,130	ND<391	ND<394	ND<381	ND<450	ND<2310	9,850	ND<382	ND<388
4-Chloroaniline			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
2-Methylnaphthalene			ND<812	ND<514	ND<480	ND<406	ND<398	69,700	ND<523	ND<556	ND<2130	ND<391	ND<394	2,630	ND<450	ND<2310	51,100	777	ND<388
Hexachlorocyclopentadiene			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<11000	ND<382	ND<388
2-Chloronaphthalene			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<11000	ND<382	ND<388
2-Nitroaniline			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<11000	ND<382	ND<388
Dimethylphthalate			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<11000	ND<382	ND<388
Acenaphthylene	1,000,000	107,000	ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<11000	ND<382	ND<388
2,6-Dinitrotoluene			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<11000	ND<382	ND<388
3-Nitroaniline			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<11000	ND<382	ND<388
Acenaphthene	1,000,000	98,000	ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<11000	ND<382	ND<388
Dibenzofuran			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<11000	ND<382	ND<388
Diethylphthalate			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<11000	ND<382	ND<388
2,4-Dinitrotoluene			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<11000	ND<382	ND<388
4-Chlorophenyl-phenylether			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<11000	ND<382	ND<388
Fluorene	1,000,000	386,000	ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<11000	ND<382	ND<388
N-Nitrosodiphenylamine			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<11000	ND<382	ND<388
4-Nitroaniline			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
4-Bromophenyl-phenylether			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
Hexachlorobenzene			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
Phenanthrene	1,000,000	1,000,000	ND<812	ND<514	ND<480	ND<406	ND<398	2,600	1,560	ND<556	5,170	ND<391	ND<394	501	ND<450	ND<2310	ND<4410	ND<382	ND<388
Anthracene	1,000,000	1,000,000	ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
Carbazole			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388

FORMER ONEIDA KNIFE PLANT
Village of Sherrill, Oneida County, New York
DEC Site No. C633077

TABLE 2 - SUBSURFACE SOIL ANALYTICAL RESULTS - SVOCs

Date Sampled: May 20-26, 2010 **Analysis:** EPA Method 8270 B/N

Compound	Recommended Soil Cleanup Objective[1] (ug/kg)		Compound Concentration (µg/kg)																
			SB-15	SB-16	SB-17	SB-18-1	SB-19	SB-21	SB-32-2	SB-24-2	SB-29	SB-30	SB-31	SB-32	TW-10	TW-11A	TW-12-1	TW-13	MW-3
	Industrial	Protection of	Depth Below Grade (feet)																
	Restricted Use	Groundwater	7-9	8-10	5-6	7-8	9-11	9-11	1-2	1-2	2-4	12-16	3-5	4-5	8.5-10	13-15	7-8	4-6	8-10
Di-n-butylphthalate			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
Fluoranthene	1,000,000	1,000,000	ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	3,540	808	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
Pyrene	1,000,000	1,000,000	ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	2,280	676	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
Butylbenzylphthalate			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
bis(2-Ethylhexyl)phthalate			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	897
3,3'-Dichlorobenzidine			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
Benzo(a)anthracene	11,000	1,000	ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	***1,610***	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
Chrysene	110,000	1,000	ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	***1,240***	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
Di-n-octylphthalate			ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
Benzo(b)fluoranthene	11,000	1,700	ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	1,030	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
Benzo(k)fluoranthene	110,000	1,700	ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	907	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
Benzo(a)pyrene	1,100	22,000	ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	***1,340***	ND<556	ND<2130	ND<391	ND<394	ND<381	551	ND<2310	ND<4410	ND<382	ND<388
Dibenz(a,h)anthracene	1,100	1,000,000	ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	ND<523	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
Indeno(1,2,3-cd)pyrene	11,000	8,200	ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	528	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
Benzo(g,h,i)perylene	1,000,000	1,000,000	ND<812	ND<514	ND<480	ND<406	ND<398	ND<2100	632	ND<556	ND<2130	ND<391	ND<394	ND<381	ND<450	ND<2310	ND<4410	ND<382	ND<388
Total SVOC Concentrations	---	---	ND<812	ND<514	ND<480	ND<406	ND<398	79,910	14,667	1,484	9,300	ND<391	ND<394	3,131	551	ND<2310	60,950	777	897
Total SVOC TICs[2]	---	---	57,980	4,303	39,400	171,000	8,885	254,600	36,270	35,340	389,200	0	20,548	33,062	16,080	159,870	886,900	15,418	3,301

Notes:

[1]New York Codes, Rules and Regulations, Title 6 (6NYCRR) Part 375-6, *Remedial Program Soil Cleanup Objectives* , dated December 16, 2007.
[2]Tentatively Identified Compounds (TICs) reported in estimated concentrations.
µg/kg micrograms per kilogram, equivalent to parts per billion (ppb)
ND Not detected above the laboratory method detection limit.
--- No DEC recommended soil cleanup guideline, no promulgated State Standard or Guidance Value.
Compounds that exceeded Recommended Soil Cleanup Objectives are denoted in ***BOLD*** .

FORMER ONEIDA KNIFE PLANT
Village of Sherrill, Oneida County, New York
DEC Site No. C633077

TABLE 3 - SUBSURFACE SOIL ANALYTICAL RESULTS - RCRA METALS

Date Sampled: May 20-26, 2010 **Analysis:** Various Methods

Compound	Recommended Soil Cleanup Objective[1] (mg/kg)		Compound Concentration (mg/kg)								
			SB-15	SB-16	SB-17	SB-18-1	SB-19	SB-21	SB-23-2	SB-24-2	SB-29
	Industrial Restricted Use	Protection of Groundwater	Depth Below Grade (feet)								
			7-9	8-10	5-6	7-8	9-11	9-11	1-2	1-2	2-4
Arsenic	16	16	***143***	ND<5.05	***21.9***	5.69	ND<3.92	ND<79.7	***20***	***27.3***	ND<40
Barium	10,000	820	32.3	36.9	63.8	57.2	22.8	142	59.1	94.3	292
Beryllium	2,700	47	ND<1.57	0.336	0.848	0.762	0.169	ND<1.61	0.209	ND<0.107	ND<0.807
Cadmium	60	7.5	ND<4.17	ND<0.306	4.19	ND<0.243	ND<0.237	ND<4.82	1.62	***13.5***	ND<2.42
Chromium, Trivalent	6,800	NS	***35,300***	14.3	1180	7.39	5.9	2,290	2030	4290	931
Copper	10,000	1,720	288	24.4	93.6	23.6	24.1	89	118	314	81
Lead	3,900	450	***13,700***	6.23	***648***	10.8	ND<4.79	***3,870***	44.1	75.5	***30,200***
Manganese	10,000	2,000	1,490	302	251	497	375	596	391	379	590
Nickel	10,000	130	***562***	9.55	49.3	71.9	6.4	92	67.2	***155***	162
Selenium	6,800	1	ND<95.2	ND<6.17	ND<5.56	ND<4.91	ND<4.79	ND<97.5	ND<6.26	ND<6.46	ND<48.9
Silver	6,800	8.3	ND<26.2	ND<1.7	ND<1.53	ND<1.35	ND<1.32	ND<26.8	ND<1.72	5.52	ND<13.4
Zinc	10,000	2,480	74.3	29.6	910	224	15.4	138	311	2020	57.6
Mercury	5.7	1	0.224	ND<0.0279	***2.01***	ND<2.94	ND<0.021	0.0459	ND<1.18	0.325	ND<0.292
Cyanide	10,000	40	ND<0.89	0.449	ND<0.99	ND<0.0213	ND<0.292	1.86	1.32	ND<1.11	0.045
Hexavalent Chromium	800	19	ND<0.54	ND<0.56	ND>1.45	ND<0.51	ND<0.51	ND<0.51	ND<0.64	ND<1.24	ND<0.59

Compound	Recommended Soil Cleanup Objective[1] (mg/kg)		Compound Concentration (mg/kg)							
			SB-30	SB-31	SB-32	TW-10	TW-11A	TW-12-1	TW-13	MW-3
	Industrial Restricted Use	Protection of Groundwater	Depth Below Grade (feet)							
			12-16	3-5	4-5	8.5-10	13-15	7-8	4-6	8-10
Arsenic	16	16	ND<3.79	6.24	6.64	6.23	7.24	ND<43.4	4.19	ND<3.75
Barium	10,000	820	89	65.3	64.9	43.8	52.9	79.3	80.9	44
Beryllium	2,700	47	0.507	0.452	0.394	0.286	0.286	ND<0.875	0.439	0.186
Cadmium	60	7.5	ND<0.23	0.238	ND<0.225	ND<0.266	ND<0.274	ND<2.63	ND<0.222	ND<0.227
Chromium, Trivalent	6,800	NS	13.2	12.9	10.6	11.8	28.6	6,190	12.7	5.53
Copper	10,000	1,720	21.3	22.1	18.9	20.1	20	109	23.5	6.90
Lead	3,900	450	5.13	30.8	10.1	7.41	30.5	***2,850***	193	ND<4.58
Manganese	10,000	2,000	465	669	517	457	261	608	491	206
Nickel	10,000	130	18.2	16.5	15	8.95	9.98	125	16.4	24.2
Selenium	6,800	1	ND<4.64	ND<4.68	ND<4.55	ND<5.37	ND<5.53	ND<53.1	ND<4.48	ND<4.58
Silver	6,800	8.3	ND<1.28	ND<1.29	ND<1.25	ND<1.48	ND<1.52	ND<14.6	ND<1.23	ND<1.26
Zinc	10,000	2,480	33.7	61.9	27.6	24.2	29.8	315	36.6	148
Mercury	5.7	1	ND<0.284	0.0403	0.0763	0.0455	0.0526	0.678	ND<0.0221	0.0446
Cyanide	10,000	40	ND<0.0209	ND<0.291	ND<0.258	ND<0.292	0.383	ND<0.884	ND<0.269	0.275
Hexavalent Chromium	800	19	ND<0.56	ND<0.53	ND<0.51	ND<0.46	ND<1.67	ND<0.48	ND<0.53	ND<1.7

Notes:

[1]New York Codes, Rules and Regulations, Title 6 (6NYCRR) Part 375-6, *Remedial Program Soil Cleanup Objectives* , dated December 16, 2007.
Compounds that exceeded Recommended Soil Cleanup Objectives are denoted in ***BOLD*** .

mg/kg milligrams per kilogram, equivalent to parts per million (ppm)
ND Not detected above the laboratory method detection limit.

FORMER ONEIDA KNIFE PLANT
Village of Sherrill, Oneida County, New York
DEC Site No. C633077

TABLE 4 - SUBSURFACE SOIL ANALYTICAL RESULTS - PCBs

Date Sampled: May 20-26, 2010 **Analysis:** EPA Method 8082

Compound	Recommended Soil Cleanup Objective[1] (mg/kg)		Compound Concentration (mg/kg)								
			SB-15	SB-16	SB-17	SB-18-1	SB-19	SB-21	SB-23-2	SB-24-2	SB-25
	Industrial Restricted Use	Protection of Groundwater	Depth Below Grade (feet)								
			7-9	8-10	5-6	7-8	9-11	9-11	1-2	1-2	2-3
Aroclor 1016	---	---	ND<0.0602	ND<0.0777	ND<0.0724	ND<0.0623	ND<0.0601	ND<0.0631	ND<0.0797	ND<0.0834	ND<0.0589
Aroclor 1221	---	---	ND<0.0602	ND<0.0777	ND<0.0724	ND<0.0623	ND<0.0601	ND<0.0631	ND<0.0797	ND<0.0834	ND<0.0589
Aroclor 1232	---	---	ND<0.0602	ND<0.0777	ND<0.0724	ND<0.0623	ND<0.0601	ND<0.0631	ND<0.0797	ND<0.0834	ND<0.0589
Aroclor 1242	---	---	ND<0.0602	ND<0.0777	ND<0.0724	ND<0.0623	ND<0.0601	ND<0.0631	ND<0.0797	ND<0.0834	ND<0.0589
Aroclor 1248	---	---	ND<0.0602	ND<0.0777	ND<0.0724	ND<0.0623	ND<0.0601	ND<0.0631	ND<0.0797	ND<0.0834	ND<0.0589
Aroclor 1254	---	---	ND<0.0602	ND<0.0777	ND<0.0724	ND<0.0623	0.673	ND<0.0631	1.51	0.376	ND<0.0589
Aroclor 1260	---	---	0.0797	ND<0.0777	0.447	0.0189	ND<0.0601	ND<0.0631	0.455	0.206	ND<0.0589
TOTAL	25	3.2	0.080	ND<0.0777	0.447	0.019	0.673	ND<0.0631	1.965	0.582	ND<0.0589

Compound	Recommended Soil Cleanup Objective[1] (mg/kg)		Compound Concentration (mg/kg)								
			SB-29	SB-30	SB-31	SB-32	TW-10	TW-11A	TW-12-1	TW-13	MW-3
	Industrial Restricted Use	Protection of Groundwater	Depth Below Grade (feet)								
			2-4	12-16	3-5	4-5	8.5-10	13-15	7-8	4-6	8-10
Aroclor 1016	---	---	ND<0.0643	ND<0.059	ND<0.0581	ND<0.0562	ND<0.0653	ND<0.0689	ND<0.0666	ND<0.0568	ND<0.0543
Aroclor 1221	---	---	ND<0.0643	ND<0.059	ND<0.0581	ND<0.0562	ND<0.0653	ND<0.0689	ND<0.0666	ND<0.0568	ND<0.0543
Aroclor 1232	---	---	ND<0.0643	ND<0.059	ND<0.0581	ND<0.0562	ND<0.0653	ND<0.0689	ND<0.0666	ND<0.0568	ND<0.0543
Aroclor 1242	---	---	ND<0.0643	ND<0.059	ND<0.0581	ND<0.0562	ND<0.0653	ND<0.0689	ND<0.0666	ND<0.0568	ND<0.0543
Aroclor 1248	---	---	ND<0.0643	ND<0.059	ND<0.0581	ND<0.0562	ND<0.0653	ND<0.0689	ND<0.0666	ND<0.0568	ND<0.0543
Aroclor 1254	---	---	ND<0.0643	ND<0.059	ND<0.0581	ND<0.0562	ND<0.0653	ND<0.0689	ND<0.0666	ND<0.0568	ND<0.0543
Aroclor 1260	---	---	ND<0.0643	ND<0.059	ND<0.0581	ND<0.0562	ND<0.0653	ND<0.0689	ND<0.0666	ND<0.0568	ND<0.0543
TOTAL	25	3.2	ND<0.0643	ND<0.059	ND<0.0581	ND<0.0562	ND<0.0653	ND<0.0689	ND<0.0666	ND<0.0568	ND<0.0543

Notes:

[1]New York Codes, Rules and Regulations, Title 6 (6NYCRR) Part 375-6, *Remedial Program Soil Cleanup Objectives*, dated December 16, 2007.
mg/kg milligrams per kilogram, equivalent to parts per million (ppm)
ND Not detected above the laboratory method detection limit.
--- No DEC recommended soil cleanup guideline, no promulgated State Standard or Guidance Value.
Compounds that exceeded Recommended Soil Cleanup Objectives are denoted in ***BOLD***.

FORMER ONEIDA KNIFE PLANT
Village of Sherrill, Oneida County, New York
DEC Site No. C633077

TABLE 5 - SURFACE SOIL ANALYTICAL RESULTS - SVOCs

Date Sampled: May 20-26, 2010 **Analysis:** EPA Method 8270 B/N

Compound	**Recommended Soil Cleanup Objective[1] (µg/kg)**		**Compound Concentration (µg/kg)**					
			SS-3	**SS-4**	**SS-5**	**SS-6**	**SB-23-1**	**SB-24-1**
	Industrial	**Protection of**	**Depth Below Grade**					
	Restricted Use	**Groundwater**	**0-2"**	**0-2"**	**0-2"**	**0-2"**	**0-2"**	**0-2"**
bis(2-chloroethyl)ether			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
1,3-Dichlorobenzene			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
1,4-Dichlorobenzene			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
1,2-Dichlorobenzene			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
bis(2-Chloroisopropyl)ether			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
Hexachloroethane			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
N-Nitroso-di-n-propylamine			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
Nitrobenzene			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
Isophorone			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
bis(2-chloroethoxy)methane			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
1,2,4-Trichlorobenzene			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
Hexachlorobutadiene			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
Naphthalene	1,000,000	12,000	ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
4-Chloroaniline			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
2-Methylnaphthalene			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
Hexachlorocyclopentadiene			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
2-Chloronaphthalene			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
2-Nitroaniline			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
Dimethylphthalate			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
Acenaphthylene	1,000,000	107,000	ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
2,6-Dinitrotoluene			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
3-Nitroaniline			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
Acenaphthene	1,000,000	98,000	ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
Dibenzofuran			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
Diethylphthalate			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
2,4-Dinitrotoluene			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
4-Chlorophenyl-phenylether			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
Fluorene	1,000,000	386,000	ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
N-Nitrosodiphenylamine			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
4-Nitroaniline			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
4-Bromophenyl-phenylether			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
Hexachlorobenzene			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
Phenanthrene	1,000,000	1,000,000	507	ND<691	1,470	ND<425	ND<576	1,810
Anthracene	1,000,000	1,000,000	ND<365	ND<691	455	ND<425	ND<576	ND<663
Carbazole			ND<365	ND<691	389	ND<425	ND<576	ND<663
Di-n-butylphthalate			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
Fluoranthene	1,000,000	1,000,000	999	771	2,810	ND<425	ND<576	2,550
Pyrene	1,000,000	1,000,000	608	ND<691	1,660	449	ND<576	1,360
Butylbenzylphthalate			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
bis(2-Ethylhexyl)phthalate			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
3,3'-Dichlorobenzidine			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
Benzo(a)anthracene	11,000	1,000	451	ND<691	***1,700***	ND<425	ND<576	882
Chrysene	110,000	1,000	453	ND<691	***1,170***	ND<425	ND<576	822
Di-n-octylphthalate			ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
Benzo(b)fluoranthene	11,000	1,700	454	ND<691	920	ND<425	ND<576	ND<663
Benzo(k)fluoranthene	110,000	1,700	ND<365	ND<691	871	ND<425	ND<576	ND<663
Benzo(a)pyrene	1,100	22,000	472	ND<691	1,020	ND<425	ND<576	703
Dibenz(a,h)anthracene	1,100	1,000,000	ND<365	ND<691	ND<368	ND<425	ND<576	ND<663
Indeno(1,2,3-cd)pyrene	11,000	8,200	ND<365	ND<691	526	ND<425	ND<576	ND<663
Benzo(g,h,i)perylene	1,000,000	1,000,000	ND<365	ND<691	523	ND<425	ND<576	ND<663
Total SVOC Concentrations	---	---	3,944	771	13,514	449	ND<576	8,127

Notes:

[1]New York Codes, Rules and Regulations, Title 6 (6NYCRR) Part 375-6, *Remedial Program Soil Cleanup Objectives* , dated December 16, 2007.

µg/kg micrograms per kilogram, equivalent to parts per billion (ppb)

ND Not detected above the laboratory method detection limit

--- No DEC recommended soil cleanup guideline, no promulgated State Standard or Guidance Value

Compounds that exceeded Recommended Soil Cleanup Objectives are denoted in ***BOLD*** .

FORMER ONEIDA KNIFE PLANT
Village of Sherrill, Oneida County, New York
DEC Site No. C633077

TABLE 6 - SURFACE SOIL ANALYTICAL RESULTS - RCRA METALS

Date Sampled: May 20-26, 2010 **Analysis:** Various Methods

Compound	Recommended Soil Cleanup Objective[1] (mg/kg)		Compound Concentration (mg/kg)					
			SS-3	SS-4	SS-5	SS-6	SB-23-1	SB-24-1
	Industrial Restricted Use	Protection of Groundwater	Depth Below Grade					
			0-2"	0-2"	0-2"	0-2"	0-2"	0-2"
Arsenic	16	16	4.38	ND<3.2	5.11	6	13.3	***29***
Barium	10,000	820	25.9	16.8	40.4	45	79.8	114
Beryllium	2,700	47	0.303	0.219	0.201	0.235	0.337	0.245
Cadmium	60	7.5	ND<0.208	ND<0.194	ND<0.218	ND<0.245	1.06	2.95
Chromium, Trivalent	6,800	NS	63.2	163	501	498	1,530	4,460
Copper	10,000	1,720	29.7	10.6	37.5	19	84.1	204
Lead	3,900	450	11.8	ND<3.91	62.3	16	26.5	63
Manganese	10,000	2,000	463	328	202	392	365	518
Nickel	10,000	130	12.5	11	19.3	23	83.4	***257***
Selenium	6,800	1	ND<4.2	ND<3.91	ND<4.4	ND<4.95	ND<6.73	ND>7.88
Silver	6,800	8.3	ND<1.15	ND<1.08	ND<1.12	ND<1.36	2.28	7.15
Zinc	10,000	2,480	31.5	13.5	25	49	308	745
Mercury	5.7	1	ND<0.022	0.458	0.0458	0.0466	ND<0.415	0.131
Cyanide	10,000	40	ND<0.256	ND<0.748	0.308	ND<0.299	0.135	ND<0.473
Hexavalent Chromium	800	19	ND<0.92	ND<0.82	ND<1.78	ND<2.08	ND<2.71	ND<3.33

Notes:

[1]New York Codes, Rules and Regulations, Title 6 (6NYCRR) Part 375-6, *Remedial Program Soil Cleanup Objectives* , dated December 16, 2007.

mg/kg milligrams per kilogram, equivalent to parts per million (ppm)
ND Not detected above the laboratory method detection limit
Compounds that exceeded Recommended Soil Cleanup Objectives are denoted in ***BOLD*** .

FORMER ONEIDA KNIFE PLANT
Village of Sherrill, Oneida County, New York
DEC Site No. C633077

TABLE 7 - SURFACE SOIL ANALYTICAL RESULTS - PCBs

Date Sampled: May 20-26, 2010 **Analysis:** EPA Method 8082

Compound	Recommended Soil Cleanup Objective[1] (mg/kg)		Compound Concentration (mg/kg)								
			SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SB-23-1	SB-24-1	SB-25-SS
	Industrial Restricted Use	Protection of Groundwater	Depth Below Grade								
			0-2"	0-2"	0-2"	0-2"	0-2"	0-2"	0-2"	0-2"	0-2"
Aroclor 1016	---	---	ND<0.0533	ND<0.0527	ND<0.0531	ND<0.0516	ND<0.055	ND<0.0626	ND<0.0862	ND<0.0993	ND<0.0521
Aroclor 1221	---	---	ND<0.0533	ND<0.0527	ND<0.0531	ND<0.0516	ND<0.055	ND<0.0626	ND<0.0862	ND<0.0993	ND<0.0521
Aroclor 1232	---	---	ND<0.0533	ND<0.0527	ND<0.0531	ND<0.0516	ND<0.055	ND<0.0626	ND<0.0862	ND<0.0993	ND<0.0521
Aroclor 1242	---	---	ND<0.0533	ND<0.0527	ND<0.0531	ND<0.0516	ND<0.055	ND<0.0626	ND<0.0862	ND<0.0993	ND<0.0521
Aroclor 1248	---	---	ND<0.0533	ND<0.0527	ND<0.0531	ND<0.0516	ND<0.055	ND<0.0626	ND<0.0862	ND<0.0993	ND<0.0521
Aroclor 1254	---	---	0.239	0.177	0.183	0.609	0.162	0.567	0.0893	0.177	1.01
Aroclor 1260	---	---	ND<0.0533	ND<0.0527	ND<0.0531	ND<0.0516	0.0646	ND<0.0626	ND<0.0862	ND<0.0993	0.631
TOTAL	25	3.2	0.24	0.18	0.18	0.61	0.23	0.57	0.09	0.18	1.64

Notes:

[1]New York Codes, Rules and Regulations, Title 6 (6NYCRR) Part 375-6, *Remedial Program Soil Cleanup Objectives*, dated December 16, 2007.
µg/kg micrograms per kilogram, equivalent to parts per billion (ppb)
ND Not detected above the laboratory method detection limit
--- No DEC recommended soil cleanup guideline, no promulgated State Standard or Guidance Value
Compounds that exceeded Recommended Soil Cleanup Objectives are denoted in ***BOLD***.

FORMER ONEIDA KNIFE PLANT
Village of Sherrill, Oneida County, New York
DEC Site No. C633077

TABLE 8 - SEDIMENT ANALYTICAL RESULTS - SVOCs

Date Sampled: May 20-26, 2010 **Analysis:** EPA Method 8270 B/N

Compound	Compound Concentration (µg/kg)									
	SD-1	Sediment Guidance Value[1] (µg/kg)				SD-2	Sediment Guidance Value (µg/kg)			
		Human Health	Benthic-Acute	Benthic-Chronic	Wildlife		Human Health	Benthic-Acute	Benthic-Chronic	Wildlife
Bis(2-chloroethyl) ether	ND<446	0.093				ND<433	0			
Acenaphthene	ND<446			434		ND<433			1,064	
Naphthalene	ND<446		800	93		ND<433		1,961	228	
Acenaphthylene	ND<446					ND<433				
Fluorene	ND<446		226	25		ND<433		555	61	
Phenanthrene	ND<446			372		ND<433			912	
Anthracene	ND<446		3,057	332		ND<433		7,494	813	
Fluoranthene	ND<446			3,162		ND<433			7,752	
Benzo(a)anthracene	ND<446	4	291	37		ND<433	10	714	91	
Chrysene	ND<446	4				ND<433	10			
Benzo(b)Fluoranthene	ND<446	4				ND<433	10			
Benzo(k)Fluoranthene	ND<446	4				ND<433	10			
Benzo(a)pyrene	ND<446	4				ND<433	10			
Indeno(1,2,3-cd)pyrene	ND<446	4				ND<433	10			
Dibenzo(a,h)anthracene	ND<446					ND<433				
Benzo(g,h,i)perylene	ND<446					ND<433				
2-Methylnaphthalene	ND<446		942	105		ND<433		2,310	258	
Dibenzofuran	ND<446					ND<433				
Pyrene	ND<446		27,203	2,979		ND<433		66,690	7,304	

PCBs	ND<67.4	0.0025	8,558	60	4	ND<63.5	0	20,982	147	11
Total Organic Carbon (mg/kg)	3,100					7,600				
(%)	0.3%					0.8%				

Notes:

[1]DEC *Sediment Criteria for Non-polar Organic Contaminants* per *Technical Guidance for Screening Contaminated Sediment, Table 1,* dated January 1999.
µg/kg micrograms per kilogram, equivalent to parts per billion (ppb)
mg/kg milligrams per kilogram, equivalent to parts per million (ppm)
ND< Not detected less than
If carbon content exceeds 12% (120,000 µg/kg), the calculation of sediment criteria using the partition formula may not be valid.
Compounds that exceeded Sediment Guidance Values are denoted in ***BOLD*** .
Table does not include COCs with no sediment guidance criteria.

Sediment Guidance Value Equation	
Kow	Octanol/Water partition coefficient (unitless)
SCoc	Organic carbon normalized sediment criterion
	[SCoc (µg/gOC) = WQC (µg/l) x Kow x 1 kg/1,000 gOC]
foc	Organic carbon content of sample (gOC/kg)
SGV	Sediment guidance value [SGV = SCoc x foc]

FORMER ONEIDA KNIFE PLANT
Village of Sherrill, Oneida County, New York
DEC Site No. C633077

TABLE 9 - SEDIMENT ANALYTICAL RESULTS - VOCs

Date Sampled: May 20-26, 2010 **Analysis:** EPA Method 8260

Compound	Compound Concentration (µg/kg)									
	West Culvert Inlet					Low Area - Rail Line Area				
	SD-1	Sediment Guidance Value[1] (µg/kg)				SD-2	Sediment Guidance Value (µg/kg)			
		Human Health	Benthic-Acute	Benthic-Chronic	Wildlife		Human Health	Benthic-Acute	Benthic-Chronic	Wildlife
Benzene	ND<5.01	1.86				ND<4.93	4.56			
Carbon tetrachloride	ND<5.01	1.86				ND<4.93	4.56			
Chlorobenzene	ND<5.01		107	11		ND<4.93		263	27	
Dichlorobenzenes	ND<5.01		372	37		ND<4.93		912	91	
1,2 Dichloroethane	ND<5.01	2.17				ND<4.93	5.32			
1,1 Dichloroethylene	ND<5.01	0.062				ND<4.93	0.15			
Hexachlorobutadiene	ND<5.01	0.93	171	17	12	ND<4.93	2.28	418	42	30
1,1,2,2-Tetrachloroethane	ND<5.01	0.93				ND<4.93	2.28			
Tetrachloroethylene	ND<5.01	2.48				ND<4.93	6.08			
Trichlorobenzene	ND<5.01		2,821	282		ND<4.93		6,916	692	
Trichloroethylene	ND<5.01	6.2				ND<4.93	15.20			
Vinyl Chloride	ND<5.01	0.217				ND<4.93	0.53			
Ethylbenzene	ND<5.01		657	74		ND<4.93		1,611	182	
Isopropylbenzene	ND<5.01		326	37		ND<4.93		798	91	
Naphthalene	ND<5.01		800	93		ND<4.93		1,961	228	
Toluene	ND<5.01		729	152		ND<4.93		1,786	372	
1,2,4-trimethylbenzene	ND<5.01		5,056	577		ND<4.93		12,396	1,414	
Xylene	ND<5.01		2,582	285		ND<4.93		6,331	699	
Total Organic Carbon (mg/kg)	3,100					7,600				
(%)	0.3%					0.8%				

Notes:

[1]DEC *Sediment Criteria for Non-polar Organic Contaminants* per *Technical Guidance for Screening Contaminated Sediment, Table 1,* dated January 1999.
µg/kg micrograms per kilogram, equivalent to parts per billion (ppb)
mg/kg milligrams per kilogram, equivalent to parts per million (ppm)
ND< Not detected less than
If carbon content exceeds 12% (120,000 µg/kg), the calculation of sediment criteria using the partition formula may not be valid.
Compounds that exceeded Sediment Guidance Values are denoted in ***BOLD*** .
Table does not include COCs with no sediment guidance criteria.

Sediment Guidance Value Equation	
Kow	Octanol/Water partition coefficient (unitless)
SCoc	Organic carbon normalized sediment criterion [SCoc (µg/gOC) = WQC (µg/l) x Kow x 1 kg/1,000 gOC]
foc	Organic carbon content of sample (gOC/kg)
SGV	Sediment guidance value [SGV = SCoc x foc]

FORMER ONEIDA KNIFE PLANT
Village of Sherrill, Oneida County, New York
DEC Site No. C633077

TABLE 10 - SEDIMENT ANALYTICAL RESULTS - METALS

Date Sampled: May 20-26, 2010 **Analysis:** Various Methods

SELECTED PRIORITY POLLUTANT METALS			
Compound	**Sediment Guidance Value[1] (mg/kg)**	**Compound Concentration (mg/kg)**	
		Downstream Location	**Upstream Location**
	Lowest / Highest Effect Level	**SD-1**	**SD-2**
Arsenic	6 / 33	**6.16**	**6.2**
Barium	NGV	45.1	39.7
Beryllium	NGV	0.235	0.257
Cadmium	0.6 / 9	ND	ND
Chromium	26 / 110	***498***	5.67
Copper	16 / 110	**18.7**	6.87
Lead	31 / 110	15.5	ND
Manganese	460 / 1,100	392	**463**
Nickel	16 / 50	**23.3**	14.4
Selenium	NGV	ND	ND
Silver	1 / 2.2	ND	ND
Zinc	120 / 270	48.9	19.3
Mercury	0.15 / 1.3	0.0466	ND

Notes:

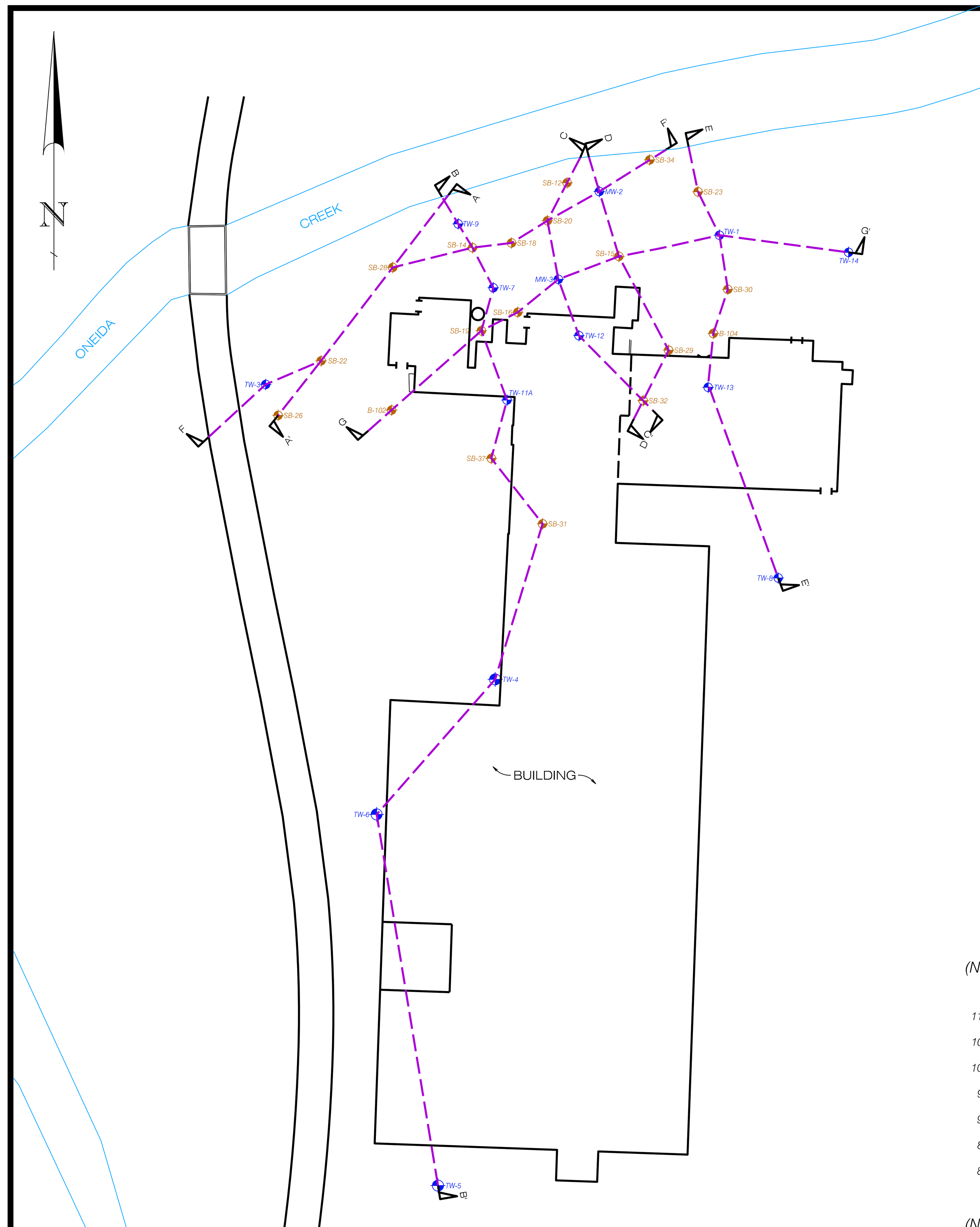
[1]DEC *Sediment Criteria for Metals* per *Technical Guidance for Screening Contaminated Sediment*, dated January 1999.
mg/kg milligrams per kilogram, equivalent to parts per million (ppm)
--- No DEC recommended sediment guidance value.
ND Not detected above the laboratory method detection limit
Compounds that exceeded Sediment Guidance Values are denoted in ***BOLD***.

APPENDIX E

DATA USABILITY SUMMARY REPORT

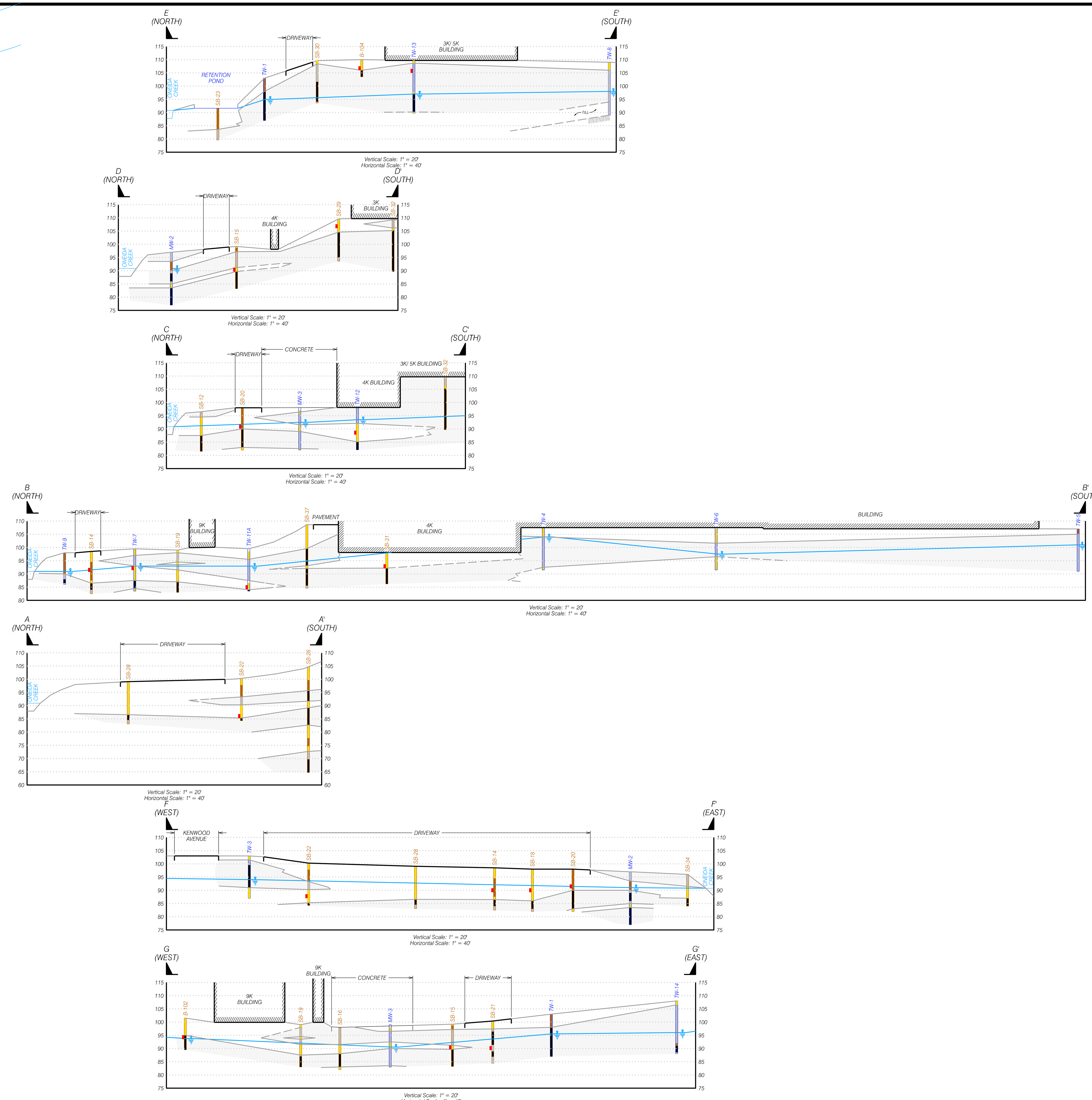
TO BE INSERTED UPON COMPLETION

PLANS



Section Location Plan

Scale: 1" = 50'



Key

Top of Vernon Shale

Water Level on 6/11/10

Vertical Interval w/ PID Reading > 75 ppm and/ or Visual Staining and Oily Impact

Unified Soil Classification	Description	Color Designation
SM	Silt & Fine Sand, w/ or w/ out Trace - Little Gravel	Brown
SP, SW	Fine - Medium Sand, w/ or w/ out Trace - Some Gravel	Yellow
ML	Clayey Silt, w/ or w/ out Minor Sands & Gravel	Gray
CL	Silty Clay, w/ or w/ out Minor Sands & Gravel	Black

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REVISIONS: DATE: BY:

PROJECT: FORMER ONEIDA KNIFE PLANT - LOT 1 REMEDIAL INVESTIGATION REPORT

CLIENT: ONEIDA SILVERSMITHS, INC.

LOCATION: CITY OF SHERRILL, ONEIDA COUNTY, NEW YORK

DWG. TITLE: CROSS SECTIONS

PROJECT No.:	2006065
FILE NAME.:	Sections
SCALE:	AS NOTED
DATE:	NOV. 2010
ENG'D BY:	FAK
DRAWN BY:	JMD
CHECKED BY:	FAK

SHEET NO.: SHEET 1 OF 1