GeoLogic

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REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
4 NOWLAN ROAD
HILLCREST, NEW YORK
NYSDEC BCP ID. C-704045

Prepared For:

BINGHAMTON REALTY, INC.
AND
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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November 2009
PROJECT NO. 99011A

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1 INTRODUCTION

1.1 Overview

The Remedial Investigation (RI) Report summarizes the work completed for the remedial investigation of the Triple Cities Metal Finishing (TCMF) facility located at 4 Nowlan Road in the community of Hillcrest, New York (Drawing No.1, Appendix B). The RI work was completed by GeoLogic NY, Inc. in accordance with the New York State Department of Environmental Conservation (NYSDEC) approved Remedial Investigation Work Plan dated February 2, 2005, revised August 8, 2005 and the Brownfield Cleanup Agreement (BCA) between Binghamton Realty, Inc. and NYSDEC effective December 6, 2004.

GeoLogic NY, Inc. (GeoLogic) submitted an Investigation Work Plan on February 2, 2005 for the BCA project at the former Triple Cities Metal Finishing facility (TCMF) located in the community of Hillcrest, Binghamton, New York, BCP ID C704045. The February 2005 Work Plan (RI Work Plan) included the following general scope of work:

Task #1 - Obtain soil vapor samples below the TCMF building concrete floor slab;
Task #2 - Obtain soil vapor samples below concrete floor slabs of adjacent properties;
Task #3 - Obtain soil samples and install permanent sub-slab and subsurface soil vapor monitoring points inside the TCMF building;
Task #4 - Obtain soil vapor samples at site boundaries;
Task #5 - Installation of a soil vapor extraction system, if warranted;
Task #6 - Post SVE system start-up evaluation;
Task #7 - Sample monitoring wells;
Task #8 - Prepare Investigation Report.

After the completion of Tasks #1, 2 and 3, the February 2005 Work Plan was revised and submitted on August 8, 2005. Modifications to the February 2005 scope of work included the following:

Task #1 - Obtain soil vapor samples below the TCMF building concrete floor slab;
Task #2 - Obtain soil vapor samples below concrete floor slab of adjacent properties;

Task #3 - Obtain soil samples and install permanent sub-slab and subsurface soil vapor monitoring points inside the TCMF building;
Task #4 - Evaluate Outfall 001 and 002 and overflow structure for Outfall 001;
Task #5 - Install a sub-slab de-pressurization system;
Task #6 - Sample monitoring wells; and
Task #7 - Prepare Investigation Reports.

After completing Tasks #4 and #5 in the revised August 2005 Work Plan, NYSDEC requested additional investigative efforts at TCMF with a focus on further evaluating the silt unit underlying the sand and gravel unit, and whether this silt unit has been impacted by past activities at TCMF. An addendum to the Work Plan was submitted on October 25, 2006. The following task was added to the August 2005 scope of work:

Task #8 - Advance soil borings on the TCMF property and properties both hydraulically upgradient and downgradient of the TCMF property and collected both water and soil samples for analyses.

A qualitative ecological exposure assessment was not part of the RI Work Plan and was not completed as part of this RI.

1.2 Site Description and History

TCMF manufactured products with decorative, functional and corrosion-resistant finishes that included zinc, chrome and nickel for the military, aerospace and automotive industries from 1953 to 1999. All facility processes were terminated at the Nowlan Road facility in 1999. The site, consisting of two contiguous parcels, encompasses 0.88 acres, and is bordered on the south by Beckwith Avenue, and on the east by the B. W. Elliot Manufacturing Company (former CAE Link Electronics facility), on the west by two commercial properties and a residence and on the north by Nowlan Road. North of Nowlan Road are residences and a gas station. Further south, west and north are residential properties (Drawing No. 1, Appendix B).

The 27,000-square foot industrial building is located on a 0.62-acre parcel and the office building (former residential structure) is located on a 0.26-acre parcel. The industrial building was used primarily for production work with offices in the northern portion of the building and warehousing in the east and west additions. The former residential structure housed the corporate offices.

The site has been used for commercial purposes since the 1930’s. The first known commercial use of the 4 Nowlan Road property was by a metal plating shop. Several additions have been made to the original (circa 1930’s) structure with the last additions constructed in the late 1980's.

TCMF submitted a Part A application for interim status when the hazardous waste regulations were first enacted, and although it did not utilize interim status, and operated as a generator, it has been subject to corrective action under the hazardous waste regulations.

The initial primary contaminants of concern at TCMF were cadmium, chromium, nickel and zinc. These were the primary metals used in the TCMF plating business. In the 1980’s at TCMF, 1,1,1-trichloroethane was a listed testing parameter on the NYSDEC SPDES permit for the facility’s effluent stream. 1,1,1-trichloroethane was not used in the facility processing, but was used to clean off carbon build-up on direct current generators. The DC generators were phased out in the 1980’s and replaced with rectifiers.

1.3 Summary of Previous Investigations

Investigations and studies that have been completed at TCMF prior to entering into the BCP have included:

- A facility assessment for the USEPA to gather information on, and evaluate the potential for, releases to the environment from solid and hazardous waste handling practices, "Preliminary RCRA Facility Assessment" (November 1993, TRC);
- Air emissions testing assessing the 1998 emissions levels at Triple Cities Metal, "Air Emission Study" (September 1999, ERM and NYSDEC);
- Surface soil sampling at Triple Cities Metal and within the Hillcrest community, and catch basin sediment sampling, "RCRA Phase I Sampling" (August 1999, GeoLogic);
- Evaluation of subsurface soil and groundwater at the site that included analyses of interior concrete flooring and underlying soils, "RCRA Phase II Subsurface Investigation" (May 2000, GeoLogic);

- Evaluation of groundwater and subsurface soils under the building, at site boundaries and off-site, “Continuing Phase II Subsurface Investigation” (May 2002, GeoLogic); and
- Corrective Action Study, (May 2003, GeoLogic).

These investigations have included: surface soil sampling at the facility and within the community (August 1999, GeoLogic); an evaluation of subsurface soil and groundwater at TCMF including the installation of permanent monitoring wells, and the chemical analysis of the concrete flooring and underlying soil in the former plating area (May 2000, GeoLogic); and additional investigative actions below the building footprint and off-site in a hydraulically downgradient direction from the facility (May 2002, GeoLogic).

The focus of these previous evaluations has been identifying potential sources of heavy metals, primarily, cadmium, chromium, zinc and nickel, and their impact on groundwater quality. The evaluation of volatile organic compounds in soil was performed at a few select locations on the TCMF site (May 2000, GeoLogic). Since trace to no volatile organic solvent compounds were detected in the soils collected at TCMF, and the concentrations in groundwater were similar to, or lower than, upgradient concentrations, organic solvents were not contaminants of concern for the subsequent Corrective Action Study. NYSDEC was in agreement with this opinion, and concluded that no additional investigation or remediation for these constituents was required at that time (NYSDEC, June 20, 2000 correspondence to TCMF).

The contaminants of concern identified by NYSDEC in the Community of Hillcrest include trichloroethene (TCE).

Table 1 in Appendix A summarizes the concentration ranges for metals and TCE in soils from 1999 through 2008 at TCMF

RCRA Phase I Sampling Summary

Surface soil sampling at TCMF and in the Hillcrest community was completed in 1999 under RCRA to evaluate potential impact to surface soils via atmospheric deposition from former air emission at the TCMF facility. The upper three inches of surface soils were collected and analyzed for metals and cyanide. The locations were selected based upon the following considerations: availability of on-site locations with exposed surface soils; locations with similar geologic settings as TCMF, the likely patterns of atmospheric deposition from TCMF; the predominant prevailing wind directions (Fleet, et.al., 1996); other documented wind directions (CAE Link 1998); and the atmospheric effects associated with the TCMF facility location in a valley-hillside setting (see Drawing No. 2, Appendix B).

Under RCRA, the analytical results (see Table 2, Appendix A) were compared to the concentrations set forth in NYSDEC Technical and Administrative Guidance Memorandum (TAGM 4046), Determination of Soil Cleanup Objectives and Cleanup Levels, April 1995, revised May 5, 1998 (TAGM 4046 Soil Cleanup Objectives). The 6NYCRR Part 375 *Restricted Use Soil Cleanup Objectives for Commercial* **(SCO's)** have been included on Table 1 for this RI Report, for those samples collected on the TCMF property. Although there is no TAGM 4046 Value for cyanide, cyanide was not detected above the method detection limits in the samples collected for analysis. The metal concentrations reported in the three surface soil samples (S-99-1, S-99-2 and S-99-3) collected at/near the TCMF site did not exceed the SCO's for the thirteen metals analyzed.

Three sediment samples, CB-99-1, CB-99-2 and CB-99-3, were collected from each of three catch basins present in the vicinity of the TCMF facility (see Drawing No. 2). Catch basin CB-1 is a receptacle for surface water runoff from Beckwith Avenue, residential properties along the east end of Beckwith Avenue and surface water runoff originating from TCMF and the former CAE Link properties. Also CB-1 reportedly collects drainage from Triple Cities' roof. Catch basin CB-2 appears to be a receptacle for surface water runoff from Beckwith Avenue and runoff originating from TCMF and the former CAE Link facility. Besides being a receptacle of surface water runoff from TCMF and the former CAE Link properties, catch basin CB-3 was an occasional point of discharge for overflow from TCMF, and a possible receptacle for former point-source discharges from CAE Link.

The sediment samples were analyzed for the metals, cyanide, and volatile organic compounds (VOC's). The sediment results were compared to TAGM-4046, although

TAGM-4046 provides guidance values for contaminants in soils. The metal concentrations reported in the sediment samples were similar to the range of concentrations observed in the surface soil samples. The volatile organic analyses for the three sediment samples reported either no contaminant concentrations above the detection limits or were below TAGM 4046 Soil Cleanup Objectives.

RCRA Phase II Summary

The objectives of the Phase II Investigations were to determine potential concentrations of organic compounds (primarily solvents) and inorganic substances (metals) in the subsurface beneath the TCMF facility.

Prior to 1986, sanitary and/or process wastewater was discharged to three subsurface leaching systems (Outfall 001, 002 and 003), two of which (Outfall 001 and 002) were regulated by the State Pollution Discharge Elimination System Permit (SPDES) from 1980 to 1986. By early 1986, TCMF was connected to the municipal sanitary sewer system, and discharges to the SPDES permitted outfalls were discontinued.

The subsurface leaching system for former Outfall 001 was located on the east side of the circa-1980's building footprint, and former Outfall 002 was located on the west side of the 1980's building footprint. Former Outfall 003, identified as receiving sanitary waste, was located on the north side of the TCMF facility. Subsequently, the facility expanded, the outfall structures for former Outfalls 001 and 002 were reportedly filled with soils, and building additions were placed over the two outfall systems. Former Outfall 003 is located between the building and Nowlan Road, below an asphalt parking area.

During the course of the Phase II evaluations completed for TCMF under RCRA, twelve soil borings were advanced using conventional soil sampling drill rigs. At six of these borings, monitoring wells were also installed, three on the TCMF property and three off-site. Twenty-one direct push sampling points were advanced and four concrete floor cores were collected (see Drawing Nos. 3 and 4, Appendix B).

Based on the analytical results for both soil and groundwater sampling completed during the Phase II it was concluded that the former outfalls at TCMF were not a source of organic contamination in the subsurface soils or in the ground water. The analytical results of the concrete cores suggest that the concrete floors within the TCMF building would not be classified as hazardous waste by toxicity if sections of the floors in the building were to be removed (see Table 3, Appendix B).

During the evaluations under RCRA, soils were encountered at TCMF that contained levels of cadmium, chromium, copper, and nickel that are above the SCO's. Cadmium, chromium, copper, lead, nickel, selenium, thallium, and zinc were also detected in the groundwater at levels exceeding NYS Ambient Water Quality Standards and Guidance Values (see Table 4 and 5, Appendix B).

A limited number of soil samples collected at TCMF were analyzed for volatile organic compounds. The TCE concentrations in the eleven soil samples that were analyzed were below the SCO's (Table 4).

Corrective Measure Study

The Corrective Measure Study (CMS) focused solely on heavy metals at TCMF and the media (subsurface soils and groundwater) affected by heavy metals (GeoLogic, May 2003). In the CMS, a summary of where metals exceeding TAGM 4046 Soil Cleanup Objectives and Water Quality Standards were identified during the RCRA Phase I and Phase II investigations, and the potential of these soils and groundwater impacting both human health and the environment were evaluated. No comment on the CMS from NYSDEC under RCRA was received, and TCMF subsequently entered into the BCP.

2004 NYSDEC Field Investigations

During a supplemental site investigation completed by URS Corporation for NYSDEC in May 2004, soil gas samples and sub-slab soil vapor samples were collected at TCMF for further evaluating volatile organic compounds in the subsurface within the Hillcrest Community.

Three soil gas samples were collected near the southeast corner of the TCMF property along Beckwith Avenue. These soil gas samples were collected at 8, 14 and 19 feet below ground surface (bgs), respectively. One soil gas sample west of TCMF along Beckwith Avenue was collected at a depth of 8 feet bgs.

The concentrations of TCE in the soil gas near the southeast corner of TCMF property ranged from 10 $\mu g/m^3$ to 1500 $\mu g/m^3$. No TCE was detected above the method detection limits in the soil gas sample collected west of TCMF.

Based on these soil gas findings, sub-slab soil vapor samples were subsequently collected below the TCMF building. These findings are summarized in Section 2.2.

1.4 Geologic Setting

TCMF is located on a terrace approximately 50 feet above the current Chenango River channel. The topography features in the vicinity of the site include a hillside rising over 400 feet above the facility approximately 2,000 feet east of the site, Phelps Creek flowing off the hillside in a southwesterly direction within 1,000 feet southeast of the site and the Chenango River with its southerly flow located within 2,000 feet west of the site (see Drawing No. 2, Appendix B). TCMF and a large portion of the Hillcrest community are located on the terrace above the river channel and along the east hillside. TCMF overlies the NYSDEC designated Endicott-Johnson City Area Aquifer. According to the Flood Insurance Rate Maps (available at Town of Fenton Clerk Office), TCMF is not located within the 100-year flood plain, but is mapped in an area of minimal flooding.

The ground surface in the vicinity of the site is relatively flat. At the site, the grade slopes up to the east with elevations ranging from 889 to 895 from west to east. Approximately 1,000 feet west of the site is a terrace face sloping steeply down to the river channel.

The geology of the terrace consists of glacial meltwater (outwash) deposits of sand and gravel with variable silt content that range in thickness from approximately 30 to 55 feet. Lacustrine silt, sands and clay deposits underlie the outwash sand and gravel unit ranging in thickness from 130 to 160 feet. A boring advanced to 177 feet (El. 720) by CAE Electronics adjacent to the northeast corner of the TCMF property documented that the silt layer is over 140 feet thick at that location (H2M, 1990). Underlying the lacustrine deposit is a sand and gravel deposit. The Town of Fenton Water Supply Wells are screened in this lower sand and gravel deposit. At Fenton Well #1, the top of the lacustrine deposit was encountered at elevation 835, and the top of the lower sand and gravel deposit at elevation 700 feet. Bedrock was encountered at elevation 645.

Surface water runoff at the site is directed to the north into storm sewer catch basins located within Nowlan Road, to the east onto asphalt pavements of the adjacent BW Elliot properties parking area drainage systems, and to the south into Beckwith Avenue and directed into storm water catch basins within the street.

1.5 Site-Specific Geology

Subsurface borings advanced for TCMF revealed similar geologic conditions as those reported by CAE Electronics' hydrogeologic investigations (H2M 1987). The soils consist of outwash sand and gravel underlain by lacustrine silt, sand and clay. The outwash sand and gravel deposits extended to elevation depths ranging from 868 to 870 (top of silt unit) on the east side of the TCMF property, to elevation depths ranging from to 853 to 855 (top of silt unit) on the west side of the property showing a defined downward dip from east to west in the silt unit at TCMF. All borings advanced for TCMF terminated in the upper outwash sand and gravel unit or the underlying silt unit. No borings extended into the lower sand and gravel unit that underlies the silt unit.

1.6 Hydrogeologic Setting

Groundwater elevation data collected at the wells installed by TCMF have reported fluctuations in groundwater levels of less than 2.0 feet over the period between February 2000 and December 2008 (see Table 6, Appendix A).

Based on the data collected in the wells that are monitored for TCMF, direction of groundwater flow is to the west. Groundwater from within the outwash sand and gravel unit beneath the TCMF facility eventually discharges to the Chenango River.

1.7 RI Objectives

The primary objectives of the RI was to further evaluate the potential for on-site source(s) of TCE that may be contributing to the low levels of TCE that remain in the groundwater in the vicinity of the TCMF property and the impact that these levels may have on indoor air quality. The findings of this RI were used to prepare a qualitative human health exposure assessment and asses the need for remediation.

The following field activities and other evaluations that were completed during the RI include:

- Assess the potential for vapor intrusion at TCMF and two adjacent properties.
- Evaluate Outfalls at TCMF that received process waste and access the impact, if any, to soil and groundwater quality on-site and off-site.
- Evaluate vertical gradients of TCE in soil and groundwater on-site and off-site.
- Evaluate groundwater quality on-site and off-site.
- Complete a qualitative human health exposure assessment.

2 REMEDIAL INVESTIGATION ACTIVITIES

2.1 Overview

Part of the goal of NYSDEC's Source Characterization Study (URS 2005) was to determine whether TCE has accumulated within the silt unit at concentrations that could account for the continuing low levels of TCE observed in groundwater in the Hillcrest area. During the course of this study, 1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113) was observed at elevated concentrations, and therefore, was added to NYSDEC list of contaminants of concern.

The primary contaminant of concern for the majority of the RI activities was TCE.

2.2 Tasks #1 and #2 – Sub-Slab Sampling

As part of a NYSDEC Soil Vapor Investigation in Hillcrest (URS May 2004), sub-slab soil vapor samples were taken at TCMF by URS Corporation. The three sub-slab soil vapor sampling locations (TCMF-1, 2 and 3) are shown on Drawing No. 5 (see Appendix B). No indoor air samples were collected. Although other compounds were detected during the NYSDEC sampling program, TCE concentrations in the sub-slab samples were highest at TCMF. Based on the elevated TCE concentrations observed in the sub-slab soil vapor underlying the TCMF building, NYSDEC and URS suggested that TCMF was a likely source of the observed TCE, and that adjacent buildings may be impacted by this source.

The NYSDOH document titled, Guidance for Evaluating Soil Vapor Intrusion in the State of New York, dated October 2006 (NYSDOH 2006) states that New York State does not currently have any standards, criteria or guidance values for concentrations of compounds in subsurface soil vapors. Risk management decision matrices have been developed that provide recommended actions based on a combination of indoor air concentrations and sub-slab vapor concentrations for TCE, 1,1,1-trichloroethane, tetrachloroethene, 1,1-dichloroethene, *cis*-1,2-dichloroethene, vinyl chloride, and carbon tetrachloride. These risk management decisions that include “no further action” “monitoring and “mitigate” are based on a combination of sub-slab contaminant concentrations and indoor air contaminant concentrations. Based on the sub-slab concentrations, only, the concentrations of TCE in the sub-slab concentrations would warrant action to mitigate. The reported concentrations of the other compounds listed above were either below the ‘no further action” values or within concentrations ranges that would require “monitoring”.

The sub-slab soil vapor samples taken by URS revealed the TCE concentrations presented in Table 2.1.

Table 2.1
Sub-Slab Soil Vapor Information at TCMF

URS Sample ID	Location within TCMF	Trichloroethene Concentrations
TCMF-1	Sub-Slab Soil Vapor In the former Barrel Room Area	1.8 mg/m^3 1,800 µg/m^3 0.33 ppmV **
TCMF-2	Sub-Slab Soil Vapor In the former Plating Room Area	0.35 mg/m^3 350 µg/m^3 0.06 ppmV
TCMF-3	Sub-Slab Soil Vapor In the former Warehouse Area East Addition	13.0 mg/m^3 13,000 µg/m^3 2.4 ppmV

** ppmV – parts-per-million by volume

2.2.1 Sub-Slab Sampling Methods

On February 15, 2005 GeoLogic conducted additional sub-slab soil vapor sampling. Ten sub-slab samples were collected within TCMF, and four at two adjacent properties. The purpose of this work was to further evaluate the potential for contaminated vapors to enter the site's industrial and office buildings and two commercial buildings adjacent to TCMF, as well as to evaluate the horizontal concentration gradients underlying the TCMF buildings and determine whether there was a correlation with the concentrations observed at the two adjacent properties. The results of the sub-slab testing detailed in a status report (GeoLogic, July 29, 2005) to NYSDEC have been incorporated in this report.

The soil vapor samples were collected from directly under the buildings concrete floors and analyzed in accordance with the sampling methodology described in the RI Work Plan. Samples were collected using the following methodology:

- Drill hole through concrete floor and install temporary sealed portal.
- Evacuate hole and tubing of 1 volume of air.
- Using 1-liter canisters collect a 24-hour soil vapor sample for analysis by TO-15 methodology for VOC.
- Seal hole after completing sample collection.

2.2.2 Sample Location Rationale

Nine sub-slab soil vapor samples were collected within TCMF's industrial building, one in the TCMF office building, three within Panko Electric and one within Hillcrest Auto. The following table summarizes the rationale for the sample locations.

Table 2.2
Sub-Slab Soil Vapor Location Information

Sample Identification	Rationale for Location
Triple Cities Metal Finishing	
TCMF-SS-1	North end of East Addition; north of former Outfall 001

Sample Identification	Rationale for Location
TCMF-SS-2	Central section of East Addition. Location of soil vapor sample TCMF-3 reporting elevated TCE concentrations; general vicinity of Outfall 001
TCMF-SS-3	South end of East Addition; south of former Outfall 001
TCMF-SS-4	Adjacent to former process tank. Location of soil vapor sample TCMF-2
TCMF-SS-5	Former Plating Room
TCMF-SS-6	West Addition near Outfall 002 structures
TCMF-SS-7	Former Storage Room
TCMF-SS-8	Former Barrel Room
TCMF-SS-9	Former Process Area
TCMF-SS-10	Basement level of Office Building (residential-type structure)
Hillcrest Auto	
HAC-SS-1	Hillcrest Auto Center storage area
Panko Electric	
PE-SS-1	Northeast corner of Panko Electric work area
PE-SS-2	North central section of Panko Electric storage area
PE-SS-3	Tenant area in Panko Electric building

The three sample locations at Panko Electric were placed within the east side of the building, the side of the building located closest to TCMF.

2.2.3 Soil Vapor Analysis for Evaluating Potential Impact to Indoor Air Quality

The sub-slab soil vapor samples were analyzed by Centek Laboratories, LLC for VOC’s by EPA Method TO-15. A duplicate sample was collected from location TCMF-SS-2. Analytical method, sample handling procedures and laboratory protocols are outlined in the RI Work Plan.

Table 7 summarizes the results (see Appendix A) and Drawing Nos. 4 and 5 depicting the locations are attached in Appendix B.

Several compounds were identified in the soil vapor samples collected beneath the TCMF building floor slabs and at the two commercial buildings on adjacent properties. The highest TCE and Freon 113 were observed at the Panko building. The highest TCE and Freon 113 concentrations observed at TCMF were in the southwest corner of the industrial building.

Based on NYSDOH risk management decision matrices (using sub-slab concentrations only) the concentrations of 1,1,1-trichloroethane observed in the sub-slab at TCMF would warrant mitigation actions. The concentrations of all the other compounds (TCE, tetrachloroethene, 1,1-dichloroethene, *cis*-1,2-dichloroethene, vinyl chloride, and carbon tetrachloride) were either below the 'no further action" values or within concentrations ranges that would require monitoring.

2.3 Task #3 – Soil Vapor Implants

On June 23, 2005, three soil vapor clusters were installed inside the TCMF building to evaluate the vertical gradient of soil vapor quality underlying the TCMF industrial building adjacent to the two Outfall areas, 001 and 002, that have components that underlie the building.

2.3.1 Soil Vapor Implant Installation Method

The soil vapor implant clusters were installed in accordance to the procedures outlined in the RI Work Plan using the following methodologies:

- Cored two adjacent holes through concrete floor slab at each implant cluster location.
- Advanced boring using direct push technology to 1.5 feet below grade at one core hole location and installed a below slab 6-inch stainless steel soil vapor implant into open hole with at-grade access.
- Advanced boring using direct push equipment through second core hole to 20 feet below grade.
- Soil samples were collected continuously from below the concrete floor slab to termination depth.
- Recovered soil samples were screened for VOC's using a photoionization detector Photovac® Model 2020 equipped with 10.6 eV lamp (PID).
- Select soil samples were analyzed for TCL volatile organic compounds, and chromium and cadmium.

- Advanced flush-joint casing to the termination depths (18.5 feet or equipment refusal whichever is shallower) and installed two, 6-inch stainless steel soil vapor implants between 8-10 feet and 16-18 feet with at-grade access.
- Collect soil gas samples from each of the soil vapor clusters and analyze by TO-15 methodology for VOC's.

The Soil Vapor Implant Construction Schematics for each of the three soil vapor clusters are enclosed in Appendix D.

2.3.2 Soil Vapor Implant Location Rationale

Soil vapor cluster VP-1 was advanced on the hydraulically downgradient side of the primary discharge structure for Outfall 001, approximately 6 feet from the former discharge line. Soil vapor clusters VP-2 and VP-3 were advanced near the two discharge structures for Outfall 002; VP-3 was placed in between the two structures and VP-2 on the south side of the southern-most structure (see Drawing No. 5, Appendix B).

Table 2.3
Soil Vapor Implant Location Information

Implant Identification	Boring Depth (feet below floor)	Rationale for Location
VP-1A VP-1B VP-1C	20	Hydraulically downgradient of primary discharge structure for Outfall 001
VP-2A VP-2B VP-2C	20	South of the southern-most outfall structure for Outfall 002
VP-3A VP-3B VP-3C	20	Between the two outfall structures for Outfall 002

2.3.3 Soil Analysis Summary

Select soil samples from the soil-vapor implant borings were analyzed for Target Compound List (TCL) volatile organic compounds, and chromium and cadmium. The soil samples were analyzed by Life Science Laboratories, Inc. (LSL) using EPA Method 8260B for TCL volatiles and EPA Method 6010 for cadmium and chromium.

The samples analyzed were selected to provide vertical contaminant gradients. Table 8 summarizes the analytical results of this work (Appendix A).

Table 2.4
Soil Vapor Implant Analyses Summary Information

Soil Sample Identification	Soil Sample Depth (feet below floor)	PID Reading (ppm)	Analyses	QA/QC Analysis
VP-1	4-6	3.5	TCL VOC Cd, Cr	
	10-12	3.7	TCL VOC	
	16-18	5.7	TCL VOC Cd, Cr	Duplicate
VP-2	6-8	4.3	TCL VOC Cd, Cr	
	10-12	5.6	TCL VOC	
	16-18	7.9	TCL VOC Cd, Cr	
VP-3	11.5-12	6.2	TCL VOC Cd, Cr	
	15-16	5.6	TCL VOC	
	16-20	3.7	TCL VOC Cd, Cr	MS/MSD

MS/MSD – Matrix Spike, Matrix Spike Duplicate; Cd – Cadmium; Cr - Chromium

TCE is the only compound detected in the samples above the instrument detection limits (IDL) (see Attachments, file C0507010 for compound-specific IDL's), but at levels well below the 6NYCRR Part 375 Restricted Use Soil Cleanup Objectives for Commercial (SCO's). Cadmium levels exceeded SCO's and chromium levels are below the SCO's.

2.3.4 Soil Vapor Analyses Summary

Soil vapor samples from each of the three soil vapor clusters were collected on July 7, 2005 in accordance with the sampling methodology described in the RI Work Plan. Table 9 summarizes the analytical results of this work (Appendix A).

Table 2.5
Soil Vapor Implant PID Information

Implant Identification	Implant Depths (feet below floor)	PID Reading from Implants (ppm)
VP-1A VP-1B VP-1C	15.0-15.5 8.0-8.5 0.5-1.0	4.2 1.4 6.5
VP-2A VP-2B VP-2C	18.0-18.5 8.1-8.6 0.5-1.0	2.4 3.1 10.2
VP-3A VP-3B VP-3C	17.8-18.3 8.0-8.5 0.5-1.0	7.1 3.3 3.6

Several VOC's were identified in the soil vapor samples collected from the three soil vapor clusters. There is an apparent TCE concentration vertical gradient at soil vapor cluster VP-1 and VP-2 with highest concentrations recorded within the shallow sub-slab implant depth. These reported TCE concentrations from the shallow soil vapor clusters are similar to those reported during the sub-slab sampling at locations TCMF-SS-2, TCMF-SS-6 and TCMF-SS-7. New York State does not currently have any standards, criteria or guidance values for concentrations of compounds in subsurface soil vapors (NYSDOH 2006).

2.4 Task #4 – Evaluation Outfall 001 and 002 and Overflow Structure for Outfall 001

Outfalls 001 and 002 depicted on Drawing No. 7 (Appendix B) were evaluated to identify whether they are sources of volatile organic contamination that is present in groundwater in the vicinity of TCMF, observed in soil vapor samples collected as part of NYSDEC Hillcrest Site Investigations and observed in soil vapor samples collected at TCMF. Outfalls 001 and 002 were also evaluated to determine whether waste sediments are present within the Outfall drywell structures, and the concentrations of the contaminant of concern within sediment and underlying soils.

Outfall 001 had a primary discharge structure (Drywell A) located under the TCMF building and an overflow structure located within the parking lot area of the adjacent BW

Elliot property (former CAE Link). Elevated soil vapor concentrations have been detected during the NYSDEC Investigation in Hillcrest near this overflow structure (URS May 2004 and June 2005 reports). This overflow structure is a catch basin drain that is also part of the parking lot surface water drainage system.

Outfall 002 has two primary discharge structures, one located off the northwest corner of the TCMF building (Drywell A-002) and the other located under the TCMF building (Drywell B-002).

2.4.1 Outfall 002 Evaluation Method

Drywell A-002

On August 25, 2005, Drywell A-002 for Outfall 002 was located by J. N. Giammarino Construction, Inc., an excavation contractor. The entire drywell structure is located outside the building footprint. The work was completed in accordance to the procedures outlined in the RI Work Plan. The excavation was completed using the following methodology:

- Excavated anticipated area of outfall structure via excavation using a rubber-tired backhoe.
- Exposed drywell structure and removed the contents of the structures.
- Traced via excavation below grade piping associated with the drywell structure.
- The contents of the drywell were characterized for grain-size distribution and screened for VOC’s using a photoionization detector Photovac® Model 2020 equipped with 10.6 eV lamp (PID).
- Select samples were submitted for laboratory analyses for TCL Volatiles by EPA Method 8260B, for total cadmium, chromium and/or zinc. Some samples were analyzed by TCLP chromium and cadmium by EPA Method 6010/7471.

A 4-inch diameter inlet pipe entering into the east side of the drywell and 4-inch diameter pipe connecting to the other drywell (Drywell B-002) for Outfall 002 were observed. The connector pipe was excavated in an attempt to locate the other drywell structure. The pipe was traced back to the foundation of the building suggesting, as anticipated, that the other drywell (Drywell B-002) for Outfall 002 is completely under the building footprint.

An excavation log was prepared summarizing the observations (see Excavation Log, Outfall 002-Drywell A, Appendix D). All excavated materials were placed back into the drywell.

Drywell B-002

On October 7, 2005, a soil boring was advanced at the other drywell (Drywell B-002) associated with Outfall 002. Drywell B-002 is located completely under the TCMF building footprint. The work was completed in accordance to the procedures outlined in the RI Work Plan. The soil boring was completed using the following methodology:

- Cored hole through concrete floor slab inside the TCMF building.
- Advanced one boring using direct push technology to equipment refusal (12 feet below grade) and collected continuous soil samples to the termination depth.
- Recovered soil samples were characterized for grain-size distribution and screened for VOC’s using a photoionization detector Photovac® Model 2020 equipped with 10.6 eV lamp (PID).
- Select samples were submitted for laboratory analyses for TCL Volatiles by EPA Method 8260B, for total cadmium and chromium and/or TCLP Metal by EPA Method 6010/7471.

Waste sediments similar to those observed in Drywell A-002 were observed in the boring confirming that the boring was advanced into the drywell structure.

Also on this date, the waste sediments within Drywell A-002 were re-sampled using direct push sampling techniques due to a laboratory error where the holding time for TCL volatile analysis was not met.

2.4.2 Outfall 001 Evaluation Method

On October 7, 2005, two borings were completed at two structures associated with Outfall 001, Drywell A and the former overflow structure. Drywell A was the primary discharge structure for Outfall 001. The overflow structure is a catch basin located in the parking area east of TCMF.

- For the boring inside the TCMF building the concrete floor slab was cored.
- Advanced two borings using direct push technology and collected continuous soil samples to the termination depths.
- Recovered soil samples were characterized for grain-size distribution and screened for VOC's using photoionization detector Photovac® Model 2020 equipped with 10.6 eV lamp (PID).
- Select samples were submitted for laboratory analyses for TCL Volatiles by EPA Method 8260B, for total and/or TCLP cadmium and chromium by EPA Method 6010.

The observations made at a previous boring (B-13) advanced at Outfall 001 (GeoLogic, 2002) suggested that B-13 was advanced in or near the drywell structure for the Outfall. The subsurface material observed at the boring (Outfall 001-Drywell A) was dissimilar to the subsurface conditions encountered at B-13. At B-13, very dense cobbley material was encountered. At the boring at Outfall 001, Drywell A, loose backfill material consisting of silty sand and gravel with zones of green, grey and white waste sediments was encountered approximately between 4.5 and 13 feet below the concrete floor. Below 13 feet, the soils became dense and refusal was encountered at 16.5 feet.

At a former overflow structure for Outfall 001, a boring was advanced through the catch basin structure. The top of the sediments within the catch basin were approximately 3.8 feet below the asphalt pavement. The boring terminated 12 feet below the top of the sediments. No waste sediments similar to those observed within the other drywell structures for Outfall 001 and Outfall 002 were observed within this catch basin.

The Subsurface Logs for Outfall 001 – Drywell A and Overflow (see Appendix D) are a record of the observations.

2.4.3 Soil and Waste Sediment Sampling and Analytical Methodology

Select soil and waste sediment samples were collected from the drywell structures for analysis for TCL Volatiles by EPA Method 8260B, for total cadmium, chromium and/or zinc, and/or TCLP Metal by EPA Method 6010/7471. The following table summarizes the analytical scope.

Table 2.6
Outfall Analytical Scope Information

Boring/Excavation Identification	Sample Location	Sample ID or Depth	Analyses
Outfall 001	Drywell A-001	Sediment	TCL Total & TCLP – Cd, Cr
	Drywell A-001	Soil 12'-16'	TCL Total – Cd, Cr
	Overflow	Soil 0-4'	TCL
		Soil 4'-8'	TCL Total – Cd, Cr
		Soil 8'-12'	TCL Total – Cd, Cr
Outfall 002	Drywell A-002	Sediments	TCL Total & TCLP – Cd, Cr Total – Zn
		At Influent Pipe	TCL
		In Pipe between Drywells	TCL Total – Cd, Cr, Zn
		Backfill	TCL
	Drywell B-002	Sediments	TCL Total & TCLP – Cd, Cr
		Soil 11'-12'	TCL Total – Cd, Cr

Cd – Cadmium; Cr - Chromium

2.4.4 Soil and Sediment Analysis Summary

TCE was detected only in the sediment sample and soil sample collected at the Drywell A for Outfall 001. The concentrations are below SCO's. Table 10 summarizes the analytical results (see Appendix A).

The only VOC's detected in any of the samples analyzed from Outfall 002 were ethylbenzene and xylenes. The reported concentrations are below the SCO's. The results for the re-sampling of the waste sediments from within this drywell reported no detectable ethylbenzene or xylenes.

Concentrations of cadmium and/or chromium exceeding the SCO's were reported at the two drywells for Outfall 002 and the one drywell for Outfall 001, but not at the overflow structure for Outfall 001.

2.5 Tasks #5 – Sub-Slab Vapor Mitigation System

Revisions to the February 2005 BCP Investigative Work Plan were submitted on August 8, 2005. One of the revisions was to install a Sub-Slab Vapor Mitigation (Depressurization) System in lieu of a Soil Vapor Extraction System. The installation of the system was in response to concentrations of VOCs, primarily TCE, that were observed in the sub-slab soil vapor samples at TCMF that were collected by URS (URS May 2004).

The TCMF facility had been unoccupied for several years and the building had only been used for storage. Once the East Addition portion of the building became occupied by one full-time employee, the installation of a vapor mitigation system became necessary. Sub-slab vapor samples collected in this section of the building exceeded 250 ug/m^3 for TCE (see Section 2.2), the decision Matrix 1 in the NYSDOH Guidance (NYSDOH 2006) indicates concentrations of TCE in the sub-slab above 250 ug/m^3 warrants mitigation.

The East Addition includes a warehouse, an office and a bathroom. The employee does not access any other portion of the building.

2.5.1 Vapor Mitigation Installation Method

The vapor mitigation system evaluation and installation was completed in January 2006.

- A pilot study was performed to determine the extent of potential airflow through the soils underlying the building slab at the east addition to generate the necessary pressure requirements to effectively capture volatile contamination. A 4-inch pilot hole was drilled though the concrete floor into the subsurface soils, a vacuum was pulled using a typical shop vacuum cleaner and a measurable pressure of 0.02 inches of water was observed in the sub-slab zone at a distance of 30 feet. Extraction points for a depressurization system were laid out using a radius of influence of 25 to 35 feet based on the pilot test. Nine ~4-inch diameter holes were cored into the concrete floor around the perimeter of the East Addition. Soils immediately below the concrete floor core holes were removed and 4-inch diameter PVC piping extraction points (labeled 1 through 9 on Drawing No. 5) were seated into the sub-slab material. Four-inch PVC piping runs carry the soil vapor from below the concrete floor to one effluent line that exits the building through a roof wall (Drawing No. 4). The piping was installed in a configuration that ensures that any water within the piping drains back toward the extraction points. Seals were placed around extraction point penetrations through the concrete floor and the effluent pipe penetration roof wall. A Rotron 505 blower in a shelter mounted on the roof of the building is connected to the effluent pipe. Drawing No. 4 is a schematic of the system (see Appendix B).

Verification of communication for the depressurization system was performed confirming sufficient vacuum below the concrete slab (see February 13, 2006 GeoLogic Report).

Four, 3/8-inch pilot holes were drilled through the concrete in the middle of the building addition (labeled A though D on Drawing No. 5, Appendix B). Pressure measurements using a magnehelic gage with an accuracy of 0.01 inches of water were recorded at each pilot point. The Rotron blower was turned on and allowed to run for 15 minutes prior to recording airflow measurements. The airflow within each 4-inch extraction point was measured with a digital air flow meter recording in feet per minute. The flow measurements were taken between 3 and 5 feet above the floor surface from the vertical pipes connected to the nine extraction points. Extraction point #5 was not accessible; storage items blocked access. Pressure readings within the four pilot holes were recorded approximately 30 to 45 minutes after the blower was turned on. Pressure readings ranging from 0.01 to 0.07 inches of water were measured in the pilot points suggesting complete communication of airflow beneath the sub-slab for the occupied space.

On January 24, 2006, a site meeting was held with NYSDEC, NYSDOH and GeoLogic to review the sub-slab depressurization system. The following summarizes the mitigation actions taken to complete the depressurization system:

Reduce air exchange between the occupied space with the remaining unoccupied portions of the building. Reduction of air exchange included installing seals on the sliding and overhead doors between the occupied and unoccupied space, sealing the one floor drain in the occupied space with grout/concrete, and sealing spaces where ceiling joints span the common wall between the occupied space and the unoccupied space.

Seal cracks/joints in the concrete floor of the occupied space.

On January 21, 2008, the Rotron 505 blower was replaced by a Regenerative 404 blower due to equipment failure. After the new blower was installed on June 10, 2008, vacuum readings were collected at two of the same locations where previous measurements were made. Measurements registered between 0.1 and 0.03 WG.

Table 2.7
Pressure Reading Information

Location	Reading WG (Rotron 505) January 2006	Reading WG (Rotron 505) August 2007	Reading WG (Rotron 404) January 2008	Reading WG (Rotron 404) June 2008	Reading WG (Rotron 404) December 2008
A	0.07	0.08	0.04	0.05	0.1
B	0.01	0.01	0.02	0.03	0.03

Location	Reading WG (Rotron 505) January 2006	Reading WG (Rotron 505) August 2007	Reading WG (Rotron 404) January 2008	Reading WG (Rotron 404) June 2008	Reading WG (Rotron 404) December 2008
C	0.03	0.03	0.01	0.02	-
D	0.04	0.03	0.03	0.03	-

Rotron 505 blower replaced by a Rotron 404 blower in January 2008

2.5.2 Building Inventory

The material warehoused in the occupied space contains volatile compounds included dyes, waxes and paints. A flammable material storage cabinet with containers of paints and acetone is also present inside the building. A noticeable odor was observed when the cabinet was opened. Compounds including toluene, light aromatic and aliphatic hydrocarbons, complex mixtures of petroleum hydrocarbons and acetone were noted on MSDS provided by the occupant. The levels of petroleum hydrocarbons noted in the indoor air are attributed to both outside sources and product inventory warehoused inside.

2.5.3 Indoor & Outdoor Air Sampling

Since sub-slab vapor concentrations for two samples collected at TCMF exceed Matrix 1 and Matrix 2 action levels in the NYSDOH Guidance document, evaluation of indoor air within the occupied space was required. Once potential air exchanges between the occupied and unoccupied spaces were mitigated and off-gassing of any sealants used in the mitigation process was completed, one indoor air sample from within the occupied portion of the building and one outdoor air sample were collected for analysis.

Two, 24-hour air samples were collected on March 16-17, 2006, one inside the occupied space and one outside the building along the Nowlan Road side of the building. The samples were submitted for EPA TO-15 analysis with a LOQ of 0.2 µg/m^3 for TCE. An inventory of products containing volatile compounds inside the occupied space was also completed at the time of sampling.

Several compounds were identified in the indoor and outdoor air samples. The concentrations identified in the samples are all less than the NYSDOH indoor air guideline values presented in Section 3.2.5 (NYSDOH 2006). No further modifications were made to the vapor mitigation system or building components.

2.5.4 Monitoring and Maintenance Reporting

The Interim Maintenance and Monitoring Plan and an Annual Maintenance and Monitoring Report for the Vapor Mitigation System documents are included on the attached CD.

2.6 Task #8 – Soil Borings

Soil borings were advanced at TCMF, and upgradient and downgradient of TCMF, to evaluate TCE contaminant levels within the silt unit and whether the observed concentrations point to a potential source at TCMF.

The fifteen (15) borings completed as part of this evaluation were advanced adjacent to or near previously advanced borings completed by GeoLogic, URS and Walter B. Satterthwaite Associates, Inc., consultant for CAE Link. These borings were all advanced into the silt unit.

GeoLogic completed the following scope of work to address NYSDEC's concerns with the focus on the silt unit:

- Advanced fifteen borings (using a drill rig and/or Geoprobe®) into the silt unit and collected soil samples for analyses. Borings were advanced on the east side, south and west sides of TCMF building. The borings on the east side of the building (hydraulically upgradient) were advanced adjacent to the former primary structure for Outfall 001. One boring was advanced inside the former TCMF industrial building at former primary structure for Outfall 001. The locations of the borings on the west side of the building (hydraulically downgradient) were advanced at a location 9SD-03 previously evaluated by URS, consultant for NYSDEC (URS 2005) and adjacent to the two primary structures for Outfall 002. One boring was advanced at the southwest corner of the TCMF property along Beckwith Avenue.

Three borings further east of the TCMF building and three borings on the west side of Chenango Street were advanced to evaluate subsurface conditions upgradient and downgradient of the TCMF property;

- Recovered soil samples were characterized for grain-size distribution and screened for VOC's using a photoionization detector Photovac® Model 2020 equipped with 10.6 eV lamp (PID);
- Collected soil samples from each boring and analyzed the samples for VOC on the TCL by EPA Method 8260;
- Collected discrete groundwater sample(s) from within the upper sand and gravel unit, when present, and silt unit from each boring location and analyzed them for VOC on the TCL by EPA Method 8260;
- Located soil borings to existing site features and boring elevations to the existing datum.

2.6.1 Soil Boring Methodology

Fifteen soil borings were completed by GeoLogic from October 1, 2007 through January 21, 2008 (see Appendix B, Drawing No. 6). The soil borings were completed using a Geoprobe® 6620 direct push unit or a CME-55 drill rig. The borings completed using a Geoprobe® are identified as "GP" and the soil borings completed by a drill rig are identified as "B". When using the Geoprobe®, soil samples were retrieved using a 4-foot long macrocore with single-use acetate liners. As needed, discrete sampling using the macrocore was performed. During this procedure, the macrocore shoe is blocked with a point that is held in place with interior rods. The rods are removed at the start of the desired sampling interval, and the point moves freely within the acetate liner allowing material to enter the macrocore. When using the drill rig, the soil samples were retrieved using a 2-foot long split-spoon sampler. Groundwater was collected from each of the borings using one of four collection techniques: direct grab using a bailer within the drill rig augers; using a 2-foot millslot sampler, using a 4-foot SP-15 screen, or using a Hydropunch® discrete water sampler. Water sampling intervals identified by discrete depths (ex. 43 feet) were collected by either a bailer or the Hydropunch®; two-foot sampling intervals were collected by the millslot; and 4-foot sampling intervals were collected with the SP-15 screen.

2.6.2 Sampling and Analytical Methodology

The Geoprobe® and drill rig tools were cleaned with a Liquinox and municipal water solution and/or steam cleaned using municipal water before starting work at the site and between each boring to minimize the possibility of cross contamination.

All excess soils from the borings were placed back into the borehole.

Sampling was performed by a chemist from GeoLogic. Chain-of-custody procedures were followed from sample acquisition through to sample analysis. The laboratory that performed the analyses was LSL.

The following table summarizes the samples analyzed for volatile compounds.

Table 2.8
Soil Boring Sample Analysis Information

Boring No.	Soil Sample Interval (feet bgs)	Water Sample Interval (feet bgs)	QA/QC Analysis
GP-07-1	34-38	30.5-32.5	
		35.5-39.5	
GP-07-2	34-35	30-32	
	39-43	36-40	
GP-07-3	36-40	30-32	Duplicate (soil)
		36-40	
GP-07-4	40-42	26-28	
		43	
B-07-5	30-32	25	
		32	
B-07-6	27-28	32	
	35-37		
B-07-7	25-27	27	
B-07-8	35-37	21-23	
		38-40	
B-07-9	33-34	21-23	

Boring No.	Soil Sample Interval (feet bgs)	Water Sample Interval (feet bgs)	QA/QC Analysis
		35-37	
B-07-10	33-34	21-22	
	38-39	35-37	
B-07-11	31-32	23-25	
		32-34	
B-08-12	29-31	26.5	
	40-44	32-34	
B-08-13	34-36	30-34	
	44-48	35-39	
GP-08-14	30-34	30-34	Duplicate (water)
	40-44		
GP-08-15	8-16	32-34	
	29-31		Duplicate (soil)
	40-44		

2.6.3 Subsurface Evaluation

The geologic conditions observed at these fifteen soil borings were similar to those previously reported: a sand and gravel unit underlain by a silt unit. A thin sand unit overlies the silt unit at some locations. The Subsurface Logs are a record of this work (see Appendix D).

Table 2.9
Soil Boring Information

Boring No.	Ground Elevation	Total Boring Depth (feet)	Approximate Depth to Top of Silt (feet bgs)	Approximate Top of Silt Elevation
GP-07-1	889.4	39.5	34	855
GP-07-2	889.2	43	34	855
GP-07-3	889.4	40	36	853
GP-07-4	895.4	43	39	856
B-07-5	895.7	32	28	868
B-07-6	895.0	37	26	869
B-07-7	895.5	32	25	870
B-07-8	894.2	40	34	860
B-07-9	894.5	37	32	862

Boring No.	Ground Elevation	Total Boring Depth (feet)	Approximate Depth to Top of Silt (feet bgs)	Approximate Top of Silt Elevation
B-07-10	895.0	40	32	863
B-07-11	896.2	34	29.5	867
B-08-12	901.2	44	30.5	871
B-08-13	900.7	48	30.5	970
GP-08-14	899.0	44	34	865
GP-08-15	902.0	44	29	873

Groundwater was typically encountered within the sand and gravel. At four boring locations, B-07-6, B-07-7, B-08-13 and GP-08-14, no free water was observed within the sand and gravel unit.

No field indications of contamination (ex. visual, olfactory or elevated PID readings) were observed in any of the soil borings, except at B-08-12, where a petroleum-like odor and elevated PID readings were observed within the augers between 0 and 15 feet below ground surface and at GP-08-15 where discolored soils were encountered. The concentrations of TCE in the soils analyzed are presented on Drawing No. 6 (Appendix B).

Water samples were collected from within the sand and gravel unit (except where noted above), and from the silt unit, and soil samples were collected from the silt unit for analysis for VOC analysis by EPA Method 8260. The analytical data is summarized on the attached Table 11 (Appendix A). The concentrations of TCE in groundwater are presented on Drawing No. 7 (Appendix B).

No volatile compounds were detected above the SCO’s in any of the soils analyzed.

TCE and Freon 113 were the two volatile compounds detected in groundwater samples that exceeded NYSDEC Water Quality Standards. The concentrations for TCE ranged from 1.6 to 71.4 ug/L. The two highest TCE concentrations 71.4 ug/L and 31.5 ug/L were detected within the silt unit at GP-07-4 and B-08-12, respectively. Freon 113 was detected in one water sample above water quality standards. A Freon 113 concentration of 8.45 ug/L was detected in the water sample collected from the silt unit at GP-07-3. The water quality standard for TCE and Freon 113 is 5 ug/L.

2.7 Task #6 - Groundwater Monitoring Well Sampling

Samples were collected from monitoring wells MW-1 through MW-5, and MW-18 on October 2, 2007 and from MW-1 through MW-6, and MW-18 on October 8 and December 12, 2008. Depths to groundwater were measured and the wells were purged prior to sample collection. Water removed from the wells was monitored for pH, specific conductivity and temperature to determine efficiency in purging. The samples were submitted for VOC by EPA Method 8260 (see Table 14, Appendix A).

The TCE concentration ranges for the October 2007 and October 2008 sampling events are similar, 4.28 to 11.6 ug/L (October 2007) and 9.71 to 11.0 ug/L (October & December 2008). The TCE concentrations detected upgradient of the TCMF property, at the TCMF property and downgradient of the TCMF property were similar (see Drawing No. 8, Appendix B).

Freon 113 concentrations ranged from ND to 2.92 ug/L for October 2007 and ND to 5.23 ug/L for October 2008 (see Table 12 and 13, Appendix A).

3 REMEDIAL INVESTIGATION FINDINGS

3.1 Sub-Slab and Soil Vapor at TCMF

Soil vapor underlying the TCMF building has been impacted by TCE at levels that warranted vapor mitigation. TCE in sub-slab soil vapors range from 11 to 270 ug/m^3. The concentration of TCE at 13,000 ug/m^3 previously reported in sub-slab soil vapor was not replicated. A vapor mitigation system has been installed within the portion of the TCMF building that is currently occupied.

The results of the vertical soil vapor contaminant gradient underlying the TCMF building do not suggest the presence of deeper (8 foot or greater) contaminant source(s) of the contaminants observed in the sub-slab soil vapor samples. The results do suggest that contaminated vapors collect and concentrate directly under the confining zones of the concrete floor.

3.2 TCE Contamination in the Silt Unit and Groundwater

Four borings were advanced hydraulically upgradient of the TCMF property on the former CAE Electronics property along a transect (B-07-8 through B-07-11). TCE concentrations in groundwater within the sand and gravel unit ranged from approximately 8 to 21 ug/L, and from 16 to 24 ug/L in groundwater within the silt unit. The concentrations of TCE in soil range from non-detect to 200 ug/kg in the silt unit.

Two transects of borings were advanced directly adjacent to the TCMF building. Borings GP-07-1 through GP-07-3 were advanced on the west side of the building. The concentrations of TCE in groundwater in the sand and gravel unit ranged from approximately 4 to 11 ug/L, and from 10 to 18 ug/L within the silt unit. The concentration of TCE in soil in the silt unit ranged from 20 to 72 ug/kg. Borings B-07-5 through B-07-7 were advanced on the east side of the TCMF building. The concentration of TCE in the one groundwater sample collected from the sand and gravel unit was approximately 12 ug/L. TCE concentrations in groundwater within the silt unit ranged from approximately 5 to 20 ug/L. The TCE concentrations in soil in the silt unit ranged from approximately 6 to 11 ug/kg.

The results of the soil and groundwater samples collected from the line of borings advanced hydraulically upgradient of TCMF (B-07-8 through B-07-11) report a dissimilar pattern of compounds from those compounds detected in the borings advanced directly adjacent to the TCMF building (GP-07-1, GP-07-2, GP-07-3, B-07-5, B-07-6 and B-07-7). Except for acetone and xylene, TCE was the only compound detected in the soil and groundwater samples collected from the upgradient borings. Several other compounds besides TCE were detected in the samples collected from the borings advanced directly adjacent to the TCMF building.

The boring advanced inside the TCMF industrial building at the primary outfall structure for Outfall 001 (GP-08-15) terminated approximately 12 feet into the silt unit. Fill material with a discolored zone was encountered at a depth of approximately 8 feet below the floor. Sand and gravel underlies the fill material. The silt unit was encountered at approximately 29 feet below the floor. The concentration of TCE in the fill soil that exhibited discoloration was approximately 6 ug/kg. The concentration of TCE ranged from approximately 5 to 15 ug/kg in the silt unit. The concentration of TCE in groundwater within the silt unit was 22 ug/L.

The boring advanced south of the TCMF office building (GP-07-4) reported a TCE concentration of 170 ug/kg in the silt unit. TCE in groundwater was approximately 8 ug/L in the sand and gravel unit and 76 ug/L in the silt unit. This boring is not near either Outfall 001 or Outfall 002 that received process waste.

Several volatile organic compounds were detected in the soil and groundwater samples collected from borings advanced hydraulically downgradient of the TCMF property, on the west side of Chenango Street (B-08-12, B-08-13 and GP-08-14). Groundwater was only encountered within the sand and gravel unit at boring B-08-12. TCE was detected at a concentration of approximately 2 ug/L in the water sample from the sand and gravel unit. The concentrations of TCE in groundwater within the silt unit ranged from approximately 12 to 32 ug/L. The concentration of TCE in the soil samples collected from the silt unit ranged from non-detect at GP-08-14 to 27 ug/kg at B-08-12.

The concentrations of all other compounds detected in groundwater and soil samples at the 15 boring locations, with the exception of TCE and (Freon 113), were at concentrations below TOGS 1.1.1 and the SCO's (for *Restricted Commercial* use). Freon 113 was detected over water quality standards within the silt unit at borings GP-07-3 and B-08-13, at concentrations of approximately 8 and 17 ug/L, respectively.

The groundwater analytical results for the samples collected from the monitoring wells in October 2007 and October 2008 are summarized on Tables 10 and 11, respectively (Appendix A).

TCE was the compound detected at the highest levels in these samples. The concentrations ranged from 4.3 to 11.6 ug/L. Freon 113 was detected at concentrations ranging from non-detect to 5.2 ug/L. The concentration of Freon 113 was exceeded at two wells during the October 2008 sampling event, MW-4 and MW-6. The concentrations of all other detected compounds were at trace levels below water quality standards.

Direction of groundwater observed in October 2007 and October 2008 is to the west, consistent with previously determined direction of flow.

3.3 Outfalls 001 and 002

At Outfall 001 there was no definitive demarcation between backfill material and waste sediments as observed at Outfall 002. The zones of waste sediments appeared to be dispersed within the backfill material. The TCE concentration within these waste sediment zones was 260 ug/kg decreasing to 10 ug/kg in the soils underlying the backfill material, all below the SCO for TCE No Freon 113 was detected in any of the soil or water samples analyzed at this outfall. The concentration of cadmium and chromium within these waste sediment zones are above the SCO’s.

The results observed at the overflow structure for Outfall 001 do not suggest that this catch basin received discharges from TCMF that impacted soil quality, or is the source of elevated soil vapors that have been observed at nearby sampling points (URS 2005). No volatile compounds were detected in the soils above the method detection limits, and cadmium and chromium concentrations are well below the SCO’s.

Similar waste sediments were observed in the two drywell structures for Outfall 002. No TCE was detected in the backfill material, the waste sediments or underlying soils. The concentration of cadmium and chromium within these waste sediments are above the SCO’s. The concentrations of Freon 113 detected in samples collected adjacent to these two structures were trace (<2 ppb) to non-detect.

With the absences of TCE at Outfall 002, these former discharge points are not considered potential sources of the TCE that has been detected in soil vapor and groundwater in the vicinity of the site. While TCE was detected in the waste sediment zones within the backfill material at the primary discharge structure for Outfall 001, the TCE concentrations decreased with depth to levels that suggest that Outfall 001 is not a source of TCE.

4 CONCLUSIONS

4.1 Source Area Characterization-TCMF

The findings of this work do not suggest an identified source of TCE or Freon 113 at the former TCMF facility. As stated in previous reports, neither TCE nor Freon 113 were reportedly used in the plating processes at the TCMF facility under Mr. Joseph Morgan's ownership. TCE and Freon 113 were not identified as contaminants of concern in the monitoring requirements for the NYSDEC SPDES permits issued for the three former outfalls operated at the facility, two of which received process waste, Outfall 001 and 002. Outfall 003 was identified in the SPDES permit as receiving septic waste. These outfalls were in operation until 1986 when the facility connected to the municipal sewer system.

Based on the evaluations completed to date, only trace amounts of waste sediments remain within the former Outfall 001. No distinct layers of sediments have been observed in the borings advanced at Outfall 001, only small isolated zones (less than ½ inch) of discolored soils and sediments that are likely remnants of the removal process prior to closing out the Outfall were observed. A distinct layer of sediments was observed within the two primary structures for former Outfall 002. No TCE was detected in the waste sediment samples collected from these two former Outfall structures (Status Report, January 30, 2006, GeoLogic). The SCO's for levels of cadmium and chromium are exceeded at Outfall 001 and 002.

Since at least 1965, records indicate that Freon 113 was never purchased or used at TCMF plant. Vapor degreasers were not operated at the TCMF facility. Freon 113 is incompatible with alkali metals, magnesium, zinc and aluminum. TCMF's primary plating production involved zinc. The highest concentration of Freon 113 in groundwater at TCMF was 8.4 ug/L and 9.3 ug/kg in soil. The highest concentrations of Freon 113 in soil vapor have been observed at the southwest corner of the TCMF building both in the sub-slab soil vapors and in the deeper vapor cluster sample. The highest concentration of Freon 113 observed in soil vapor during the investigation was at the adjacent Panko site.

The soil and water samples analyzed for Freon 113 during this investigation do not suggest that a source of Freon113 is present at TCMF.

4.2 Source Area Characterization-Former CAE Link

The recent data collected during this evaluation should be reviewed with an historical perspective. The former CAE Link facility is an identified source of TCE. Historical concentrations of TCE in excess of a million ug/kg have been reported in soils at that facility (H2M 1987). A TCE groundwater plume has been attributed to the former CAE Link facility since at least the early 1980's. Contaminant concentrations over time would normally be expected to increase hydraulically downgradient of the source as a result of groundwater flow.

Data collected during this evaluation as well as during the Source Characterization Studies by NYSDEC and by the CAE Link consultants, have reported 'scattered' elevated concentrations of TCE (>100 ppb) east of the former CAE Link facility, west of the former TCMF facility, and north of Nowlan Road. Based on the historical concentrations reported at the CAE Link facility, the current TCE concentrations observed within groundwater and soil are not considered exceptional. Variability in TCE concentrations should be expected and can be attributed to sample time and seasonal fluctuation of the water table, sample collection, variability in the geologic units in which the monitoring well screens were placed, screen lengths, contaminant plume movement, and variability in the accuracy in laboratory techniques.

5 QUALITATIVE HUMAN HEALTH EXPOSURE ASSESSMENT

In order to assess any actual or potential exposure pathways associated with contaminants present at TCMF and in the vicinity of the site, a qualitative human health exposure assessment (QHHEA) has been completed. The QHHEA was completed in general accordance with the guidance presented in DER-10 Technical Guidance for Site Investigation and Remediation dated December 2002 (NYSDEC 2002) and the Draft Brownfield Cleanup Program Guide dated May 2004.

5.1 Potential Exposure Pathways

In evaluating the potential for human exposure, a first step is to identify the potential for the existence of complete exposure pathway. An exposure pathway describes the mechanism in which an individual or population could be exposed to a chemical(s). A complete exposure pathway consists of five elements:

1. Contaminant Source
2. Contaminant Release and Transport Mechanisms
3. A Point of Exposure
4. A Route of Exposure
5. A Receptor Population

The absence of any one of these five factors results in an incomplete exposure pathway.

A direct exposure pathway is where the point of exposure is at the source, without a release to any other medium and without an intermediate biological transfer step. If the exposure is not at the source, then a transport or exposure medium or both must be present. There are no known direct exposure pathways for the contaminants identified at TCMF to any identified receptor (Hillcrest community resident, building occupant, municipal/utility worker).

Typical exposure pathways include inhalation, ingestion, and dermal contact.

There are (at least) two identified contaminant sources (TCMF and CAE Link) and two classes of contaminants (metals and VOC) that will be evaluated in this QHHEA.

TCMF has been identified as a source with identified releases of cadmium, chromium and zinc. No volatile organic compounds, specifically TCE, have been identified at the TCMF property at levels that suggest a source. The former CAE Electronic facility is an identified source of TCE.

5.2 Evaluation for Metals at TCMF

5.2.1 Potential Exposure Pathways for Hillcrest Community Residents

Potential exposure pathways from the contaminants identified at TCMF to the residents of Hillcrest include inhalation and/or ingestion of soils and drinking water.

5.2.1.1 Exposure Pathway - Inhalation

To evaluate the potential exposure pathways for the residents of Hillcrest, investigative efforts at TCMF began with an Air Emission Study performed under the directive of NYSDEC. The study, which took place over a course of 13 months in 1998 to 1999, assessed air emissions from the plating operations at TCMF and collected particle deposits from within the community and at TCMF. The study concluded that the current emission from TCMF did not exceed New York State Ambient Guidelines concentration in the area surrounding TCMF (1999, NYSDEC).

Current exposure through the inhalation of airborne contaminants from TCMF is non-existent; the facility ceased all metal processing in 1999.

5.2.1.2 Exposure Pathway - Surface Soils

In April 1999, sampling was performed at TCMF and in the Hillcrest community to evaluate metal and cyanide concentrations present in surface soils. The sample location selection process was based upon the following considerations: availability of on-site locations for surface sampling; locations with similar geologic settings as TCMF; the likely patterns of atmospheric deposition from TCMF; the predominant prevailing wind directions; other documented wind direction; and the atmospheric effects associated with the facility location in a valley-hillside setting. The report concluded that the levels of metals likely reflect naturally occurring concentrations for the areas sampled with the majority of the samples below TAGM 4046 NYSDEC Soil Cleanup Objective and Guidelines (GeoLogic, 2000). Elevated levels of chromium, copper, nickel and zinc at one sample location on the TCMF property and elevated levels of zinc and copper at one off-site location were observed. The sample location at TCMF was taken along the east side of the property within a grassy area between the building and the parking area for the former CAE Electronics facility. The other sample location was on the east side of the shopping plaza north of TCMF. These two locations were the only two sample locations that were adjacent to buildings with painted exteriors. Chromium, copper, nickel and zinc are reported constituents of paints. The concentrations of metal in the surface soils sampled at the TCMF property are all below the Restrictive Use Soil Cleanup Objectives for the Protection of Public Health for Commercial Use.

Except for a 6-foot wide strip of grass along the east side of the TCMF industrial building, a 20-foot right-of-way along the west side of the industrial building and mowed lawn on the south side of the former office building, the ground surface at the parcel is primarily covered with building and pavement. No open areas with exposed surface soils with a tendency to generate airborne soil particulate exist at the TCMF property.

Community residents’ exposure to surface soils, either through direct ingestion through hand-mouthing of soils or through the ingestion of airborne soil particulates from TCMF is unlikely given the current site use and the absence of a complete exposure pathway.

5.2.1.3 Exposure Pathway – Subsurface Soils

There are no known exposure pathways to subsurface soils at TCMF to the residents of Hillcrest. The soils that have exhibited the highest metal concentrations are under the building. Soils outside the building footprint that have exhibited elevated concentrations were generally 10 feet below ground surface and deeper.

The exposure pathway of metals in soils via groundwater exposure is discussed in the next section.

5.2.1.4 Exposure Pathway – Groundwater

Groundwater at TCMF has been impacted by heavy metals at levels above NYSDEC Water Quality Standards. Metal concentrations decrease to levels below Water Quality Standards at monitoring wells located within 600 feet downgradient of TCMF. Given the depth to groundwater in the vicinity of TCMF (approximately 30 feet below grade), direct dermal exposure to impacted groundwater is not considered a complete exposure pathway.

Direct ingestion of impacted groundwater is not considered a complete exposure pathway for community residences. It is GeoLogic's understanding that all properties located within the vicinity of TCMF, including TCMF, are connected to the municipal water supply system.

The Hillcrest Water District #1 located in the Town of Fenton has three water supply wells located north of TCMF. Fenton Well #3 is the primary water supply well for the community of Hillcrest and is the closest community water supply well to TCMF, approximately 3,000 feet from TCMF (see Appendix A, Drawing No. 13). The Town of Fenton indicated that Fenton Well #1, operates approximately 1 hour a day to maintain the pumping equipment and Fenton Well #2, reportedly used occasionally (about once a month for well maintenance), are located further north of Fenton Well #3. All three water supply wells are reportedly screened in the lower sand and gravel deposit underlying the silt unit.

The Fenton Wells are monitored by the Broome County Department of Health (BCHD). Since 1984, water samples have been collected from Fenton Well #3 and analyzed for organic compounds. Routine analysis for metals reportedly began in 1990 at Fenton Well #3, and continues on a semi-annual basis. Cadmium and chromium concentrations have never been detected above the detection limits in the samples collected. CAE Electronics installed a monitoring well north of TCMF (MW-27). This well located approximately 750 feet south of Fenton Well #3 has been identified by CAE Electronics as a sentinel well for the Town Water Supply Wells. The monitoring well is screened within the upper sand and gravel unit. No cadmium or chromium has been detected in this well above method detection limits or exceeding Water Quality Standards (O'Brien & Gere, 2000).

Broome County Health Department performed a Time Travel Capture Zone Model that theorized cones of influences of the three Fenton Wells within the lower sand and gravel deposit that the wells draw from. TCMF is located on the fringe of the 10 and 25-year capture zone. The model assumed that all three wells would be pumping at full capacity, 24 hours a day, 365 days per year. This scenario is not realistic since water demand for the Hillcrest community is not likely to increase to the demand that would require this pumping rate. One well, Fenton Well #3, currently meets Hillcrest's water demand and is operated less than full time (reportedly, approximately 4 to 5 hours per day).

There is currently no exposure to heavy metal through ingestion or inhalation of the municipally-provided water based on the chemical data collected directly from the municipal water supply wells. In addition, water quality data for TCMF show those water quality standards for metals in the upper sand and gravel unit are met ½-mile from the closest water supply well. Moreover, the water supply wells obtain water from a lower sand and gravel aquifer that is not hydraulically connected to the upper sand and gravel unit. Thus, the groundwater exposure pathway is incomplete.

5.2.2 Potential Exposure Pathways for Occupants of TCMF

All plating processes inside the TCMF facility ceased in 1999. The processing equipment and hazardous waste from the decommissioning of the equipment were removed from the site. The eastern portion of the building is currently used by a packaging business with one full-time employee. This portion of the building was used for warehousing by TCMF.

In addition to potential exposure pathways discussed for the Hillcrest Community residents, a potential exposure pathway for occupants of the TCMF is the exposure to elevated metals in soils below the building floor. This exposure pathway is considered incomplete for the routine occupancy of the building since there is a barrier (concrete floor) between the contaminant zones and building occupants.

During remodeling work or building demolition, human exposure to the soils underlying the concrete floors in the building could occur through ingestion (through hand-mouthing or ingestion of airborne soil particulates), or dermal contact.

5.2.3 Potential Exposure Pathways for Others

In general, municipal workers, utility workers and environmental drilling contractors, as a group, have the potential of exposure to subsurface soils and groundwater, with the drilling contractors having the greatest potential for exposure.

Buried utilities at TCMF include water, sanitary sewer, storm sewer and natural gas. Utility trenches are typically between 2 and 6 feet below ground surface when the topography is relatively flat, as it is at TCMF. Groundwater at TCMF has historically been encountered approximately 30 feet below ground surface, well below all utility trenches in the vicinity of TCMF. Direct exposure to contaminated groundwater by utility or municipal workers is not likely.

Although elevated metal concentrations were identified in soils outside of the building footprint, the highest concentrations of metals in soils were identified below the building. The potential source of elevated metals in soils outside the building footprint has been identified through former discharges to outfalls, not from surface disposal or discharge. The depths of soils with reported and/or potential elevated metals are generally greater than those work depths (2 to 6 feet below grade) for utility and municipal workers. Thus, the potential exposure pathway for municipal and utility workers is incomplete.

Workers conducting environmental drilling and sampling activities at the site are likely to encounter the on-site contamination both in the subsurface soils and groundwater. While this represents a potential exposure pathway, this group would be the most aware of the potential for exposure, and apply appropriate action to minimize or eliminate the exposure.

5.2.4 Summary

The data collected at the TCMF site indicates that metals are present in subsurface soils at concentrations exceeding the applicable SCO's for restricted commercial site use. There are no points of exposure for metals identified in soils at the site and the groundwater pathway for dissolved metals is incomplete for Hillcrest residences and building occupants, therefore, the exposure pathway is considered incomplete.

Exposure to the metals in the subsurface soils is most likely limited to construction workings engaged in below floor slab activities and utility workers outside the building footprint. This exposure could be mitigated through the use of proper personal protective equipment. Groundwater is not expected to be encountered during typical construction or utility work activities due to the recorded depths of groundwater at the site.

5.3 Evaluation for TCE

Sources of volatile contamination at the site have not been identified. While concentrations of TCE and 1,1,1-trichloroethane in soil vapors underlying the TCMF building suggest the potential for indoor air quality to be impacted, the concentrations of these two VOC's observed in soils at the site do not suggest a source.

The first two elements of a complete exposure pathway for volatile compounds have been documented at the former CAE Electronics facility.

The concentrations of TCE in sub-slab soil vapor underlying the TCMF building indicate the potential exposure through inhalation for building occupants at TCMF. This is considered a complete exposure pathway for TCE at TCMF, therefore, vapor mitigation has been implemented at TCMF for the protection of indoor air quality in the current occupied space. While the potential for vapor intrusion remains a potential exposure concern in the remaining portions of the building, expansion requirements of the current vapor mitigation system are presented in the Maintenance & Monitoring Plan that has been developed for the site.

6 CONCLUSION

The TCMF facility was historically used for industrial purposes. The current property use is commercial. The results of the remedial investigation have been evaluated for restrictive commercial use. The SCO’s set for restrictive commercial use of the TCMF property have not been met. Metal concentrations exceeding the SCO’s are present on the site.

Development of an Alternative Analysis Report and a Remedial Action Plan is the next step in the BCP process.

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APPENDIX A

TABLES

TABLE 1
SUMMARY OF METAL AND TCE CONCENTRATIONS IN SOIL/SEDIMENT SAMPLES

REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

Analytes	No. of Samples Analyzed	Concentration Range mg/kg	6NYCRR Part 375 SCO Commercial mg/kg	No. of Samples Exceeding Part 375 Commercial
Metals				
Antimony	16	<1.05 to <2.26	10,000	0
Arsenic	16	3.0 to 13.9	16	0
Beryllium	16	<0.121 to 0.55	590	0
Cadmium	61	<0.105 to 761	9.3	31
Chromium III	61	7.8 to 18,900	1500	7
Chromium VI	2	<4.78 to 6.39	400	0
Copper	46	13.7 to 3250	270	8
Lead	46	<0.80 to 533	1000	0
Mercury	16	0.020 to 0.076	2.8	0
Nickel	46	11 to 1050	310	6
Selenium	16	3.9 to 28.6	1500	0
Silver	46	<0.065 to 119	1500	0
Thallium	16	<0.598 to 1.8	10,000	0
Zinc	50	37.9 to 22,100	10,000	1
Volatiles				
TCE	46	<0.00008 to 0.260	200	0

- *No SCOs set for Commercial by Part 375*

TABLE 2
SUMMARY OF SURFACE SOIL DATA

REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

Sample Location	Cyanide	Sb	Ar	Be	Cd	Cr	Cu	Pb	Hg	Ni	Se	Ag	Tl	Zn
S-99-1	<0.51	<0.76	4.9	0.43	2.2	60.9	44.4	37.9	<0.06	47.7	<0.38	0.23	<0.76	258
99-1	<0.73	<0.75	5.9	0.41	2.0	65.3	44.1	46.0	<0.05	46.7	1.1	0.38	<0.31	282
S-99-2	<0.06	<0.75	5.5	0.37	0.31	12.4	25.2	16.4	<0.06	18.3	<0.38	<0.12	<0.75	62.8
S-99-3	<0.03	<0.77	4.5	0.43	0.48	14.6	21.7	49.2	<0.06	17.9	<0.38	<0.13	<0.77	78.2
S-99-4	<0.10	<0.91	4.9	0.45	0.45	15.5	25.0	26.6	<0.08	19.7	<0.46	<0.15	<0.91	79.3
S-99-5	<0.07	<0.84	8.9	0.46	1.3	13.7	75.2	250	0.16	13.5	1.2	<0.14	<0.84	291
99-5	<0.72	<0.83	8.0	0.40	0.87	14.6	64.5	195	0.16	12.1	1.2	0.22	<0.34	300
S-99-6*	<0.06	<0.75	5.2	0.50	0.54	16.7	34.0	132	<0.07	20.5	<0.38	<0.13	<0.75	140
99-6	<0.62	<0.72	5.8	0.42	0.29	17.8	33.5	134	0.065	17.0	1.2	0.15	<0.30	161
S-99-7*	<0.15	<0.73	5.7	0.26	0.29	10.6	27.3	22.6	<0.06	13.4	<0.37	<0.12	<0.73	85.1
S-99-8*	<0.13	<0.80	5.9	0.56	0.49	16.8	114	46.6	0.11	20.5	0.56	<0.13	<0.80	96.6
S-99-9	<0.21	<0.99	6.9	0.60	0.72	17.7	23.4	46.1	0.11	21.2	0.64	<0.16	<0.99	105
99-9	<0.84	<0.98	8.5	0.53	0.48	17.1	19.4	45.3	0.11	17.9	1.3	<0.28	<0.41	110
S-99-10	<0.10	<0.80	7.5	0.51	0.53	14.4	30.9	48.7	<0.07	18.6	<0.40	<0.13	<0.80	77.2
99-10	<0.60	<0.69	6.6	0.36	0.22	12.6	19.9	43.8	<0.052	14.4	<0.45	0.20	<0.29	80.7
S-99-11	<0.22	<0.79	4.9	0.52	0.46	17.1	21.7	23.2	<0.06	21.7	<0.39	<0.13	<0.79	103
99-11	<0.63	<0.76	6.1	0.44	0.28	16.3	18.4	24.6	<0.065	18.1	0.75	<0.16	<0.31	108
S-99-12	<0.09	<0.75	5.5	0.50	0.38	12.8	19.0	28.4	<0.06	17.4	<0.38	<0.13	<0.75	65.9
99-12	<0.63	<0.74	5.4	0.40	0.13	12.3	14.7	27.7	<0.055	14.8	<0.48	<0.15	<0.30	71.2
S-99-13	<0.07	<0.84	7.3	0.58	0.34	14.0	17.0	30.7	<0.07	16.8	<0.42	<0.14	<0.84	59.6
99-13	<0.75	<0.87	11.3	0.57	0.15	12.9	11.5	39.3	0.073	11.7	1.9	0.24	<0.44	58.7
S-99-14	<0.13	<0.79	5.6	0.52	0.28	13.4	16.8	16.5	<0.06	18.4	<0.39	<0.13	<0.79	55.1
S-99-15	<0.16	<0.83	6.1	0.54	0.23	13.0	18.1	25.4	<0.08	15.4	<0.48	<0.14	<0.83	63.0
6NYCRR Part 375 SCO Commercial		**10000**	**16**	**590**	**9.3**	**1500/400**	**270**	**1000**	**2.8**	**310**	**1500**	**1500**	**10000**	**10000**
TAGM 4046		**SB**	**7.5 or SB**	**0.16 or SB**	**10**	**50**	**25 or SB**	**400****	**0.1**	**13 or SB**	**2 or SB**	**SB**	**SB**	**20 or SB**

Concentrations in mg/kg , part per million (ppm)

TAGM 4046 - Determination of Soil Cleanup Objectives and Cleanup Levels, May 5, 1998

** - USEPA Interim Lead Hazard Guidance - Residential Screening Level

Highlighted samples are results for the samples collected by NYSDEC

"<" - Analyzed not present above the noted detection limit

SB - Site Background   * - Background Sample

1500/400 - SCO for trivalent chromium/hexavalent chromium

TABLE 3
CONCRETE FLOOR CORES DATA

REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

Sample Location	Date	Ar	Ba	Cd	Cr	Pb	Hg	Se	Ag	Total Volatiles
Core #1	1/19/2000	ND	0.301	ND	ND	ND	0.00067	ND	0.816	ND
Core #2	1/19/2000	ND	0.633	ND	2.90	0.00795	0.00042	ND	0.0263	ND
Core #3	1/19/2000	ND	0.539	ND	0.505	0.00640	0.00075	ND	0.0185	ND
Core #4	1/19/2000	ND	0.589	ND	0.330	0.00621	0.00044	ND	0.0228	ND
TCLP		5.0	100.0	1.0	5.0	5.0	0.2	1.0	5.0	**

TCLP - Toxicity Characteristic Leaching Procedure for determing whether concrete floors would be classified as Hazardous Waste
Concentration reported in mg/L (ppm)
** - varies with compound
ND - No concentration detected above method detection limits

TABLE 4
2000-2001 SUBSURFACE EVALUATION UNDER RCRA

REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

Sample Location	Depth	Sb	Ar	Be	Cd	Cr (Cr IV)	Cu	Pb	Hg	Ni	Se	Ag	Tl	Zn	Total TCE
Geo-3	12'-16'	<1.08	6.0	0.42	137	344	495	30.5	<0.023	466	18.9	1.3	<0.647	2520	<0.008
Geo-7	12'-16'	1.5	9.6	0.37	410	1310	238	157	0.076	338	14.4	3.4	<0.598	510	<0.005
B-1 (MW-1)	8'-12'	<1.08	6.0	0.42	156	126	374	13.8	0.048	237	18.1	<0.325	<0.651	677	<0.007
B-1 (MW-1)	32'-36'	<2.26	7.2	0.49	128	116	206	16.4	0.064	159	28.6	<0.677	<1.35	466	<0.008
B-2 (MW-2)	10'-17.8'	<1.13	7.0	0.32	17.7	883	133	34.8	0.036	181	17.5	3.3	<0.677	1880	<0.006
B-2 (MW-2)	30'-34'	<1.09	3.0	0.31	18.4	64.8	51.2	6.1	0.036	61.1	17.2	<0.327	1.8	492	<0.006
B-3	16'-22'	1.9	6.5	0.41	117	40.5	74.0	10.0	0.020	88.0	18.4	<0.299	<0.599	85.0	<0.009
B-3	32'-36'	<1.21	3.6	0.22	8.4	16.4	24.2	7.6	<0.0222	67.7	13.9	<0.363	<0.726	76.3	0.023
B-4	14'-22'	<1.05	7.3	0.29	10.9	19.0	46.9	9.8	0.028	57.6	17.2	<0.315	<0.629	99.6	<0.005
B-4	26'-28'	<1.29	3.9	0.25	<0.129	10.7	13.7	7.1	<0.0256	18.0	13.8	<0.386	<0.772	45.3	0.008
B-5	5'-21'	<1.05	5.0	0.36	<0.105	14.1	20.6	16.0	0.047	18.4	17.0	<0.314	<0.629	63.5	<0.005
B-6	25'-26'				0.88	9.7	19.6	18.3		17.1		<0.59		50.1	
B-6	29'-30'				1.6	22.7	30.2	28.8		39.1		<0.64		80.6	
B-7	27'28'				1.1	10.7	20.5	18.0		19.3		<0.66		48.8	
B-7	30'-32'				0.76	10.3	16.3	18.0		18.7		<0.53		43.6	
B-8	28'-30'				2.4	14.0	21.0	19.1		21.9		<0.65		62.3	
B-8	33'-34'				0.86	15.4	18.4	19.5		19.3		<0.56		46.5	
B-9 (MW-3)	32'-34'				1.0	37.2	18.0	29.3		16.4		<0.44		37.9	
B-9 (MW-3)	36'-38'				3.2	111	24.7	36.1		41.0		0.64		95.1	
B-10 (MW-4)	32'-34'				0.73	9.5	17.1	15.5		17.2		<0.55		44.6	
B-10 (MW-4)	36'-38'				0.95	13.9	19.0	16.7		26.3		<0.69		56.1	
B-11 (MW-5)	8'-12'				1.5	9.4	18	7.1		14		<0.7		45	
B-11 (MW-5)	25'-29'				11	32	89	9.9		32		<0.90		75	
B-12 (MW-6)	8'-12'				1.4	9.5	15	20		13		<0.8		62	
B-12 (MW-6)	34'-38'				4.2	7.8	16	7.2		11		<1		44	
B-13	9'-16'				62.9	406	128	41.3		116		<0.072		1760	
B-13	11'-12'/19'-20'				109	1710 (6.39)	171	61.1		286		<0.10		4580	
B-13	29.5'-33.5'				2.6	21.5	19.7	7.4		33.1		<0.50		85.1	

TABLE 4
2000-2001 SUBSURFACE EVALUATION UNDER RCRA

REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

Sample Location	Depth	Sb	Ar	Be	Cd	Cr (Cr IV)	Cu	Pb	Hg	Ni	Se	Ag	Tl	Zn	Total TCE
6NYCRR Part 375 SCO Commercial		**10000**	**16**	**590**	**9.3**	**1500/400**	**270**	**1000**	**3**	**310**	**1500**	**1500**	**10000**	**10000**	**200**
TAGM 4046		**SB**	**7.5 or SB**	**0.16 or SB**	**10**	**50**	**25 or SB**	**400****	**0.1**	**13 or SB**	**2 or SB**	**SB**	**SB**	**20 or SB**	**0.700**
Core #1	0-1.3'	<1.15	8.7	0.53	4.6	813	31.6	12.2	<0.0212	118	20.0	2.1	<0.687	86.2	<0.006
Core #2	0-1.8'	<1.21	4.2	<0.121	0.73	40.2	22.6	2.2	<0.0227	141	3.9	<0.363	<0.726	1240	<0.006
Core #3	0-0.8'	<1.1	8.3	0.46	17.7	716	391	31.0	<0.0216	108	21.0	0.47	<0.661	8330	0.008
Core #3	0.8'-1.6'	<1.28	8.0	0.55	9.5	870	613	29.9	0.070	58.7	25.0	0.99	1.20	4110	0.016
Geo-13	4'-6'				328	18900	3250	438		1050		119		22100	
Geo-13	7'-9'				354	267	710	34.2		152		<0.36		3510	
Core #4	0-1.2'	1.5	13.9	0.32	8.5	1710	140	91.5	0.032	85.2	19.3	6.5	<0.738	2960	<0.006
Geo-14	3'-5'				5.1	445	76.4	38.4		61.8		0.41		880	
Geo-14	8'-10'				24.5	428	262	34.6		335		<0.33		1750	
Geo-15	5.5'-7'				13.8	342	125	22.2		564		<0.090		4510	
Geo-17	4'-6'				108	272	2430	533		391		0.40		2380	
Geo-17	9'-11'				246	168	1040	66.2		76.1		<0.078		436	
Geo-19	4'-6'				2.1	24.2	38.9	9.9		46.7		<0.90		70.3	
Geo-19	12'-16'				<2	10	14	6.7		18		<2		44	
Geo-20	2'-4'				1.7	20.0	23.8	7.0		20.0		<0.095		48.8	
Geo-20	14'-16'				50.0	29.4	46.5	8.4		54.4		<0.065		50.5	
Geo-21	4'-6'				1.6	15.2	27.0	8.8		21.2		<0.097		51.5	
Geo-21	15'-17'				761	21.9 (<4.78)	79.4	<0.80		34.5		<0.52		148	
6NYCRR Part 375 SCO Commercial		**10000**	**16**	**590**	**9.3**	**1500/400**	**270**	**1000**	**2.8**	**310**	**1500**	**1500**	**10000**	**10000**	**200**
TAGM 4046		**SB**	**7.5 or SB**	**0.16 or SB**	**10**	**50**	**25 or SB**	**400****	**0.1**	**13 or SB**	**2 or SB**	**SB**	**SB**	**20 or SB**	**0.700**

Concentration reported in mg/kg; parts per million

NYSDEC TAGM 4046 - Determination of Soil Cleanup Objectives and Cleanup Levels, May 5, 1998; SB - Site background

** - USEPA Interim Lead Hazard Guidance - Residential Screening Level

"<" - The metal was analyzed, but not present above the noted detection limit

1500/400 - SCO for trivalent chromium/hexavalent chromium

Highlighted values exceed SCO

TABLE 5
SUMMARY OF METALS DATA FOR GROUNDWATER FROM 2000 TO 2008

REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

Sample Location	Date	Sb	Ar	Ba	Be	Cd	Cr (Cr IV)	Cu	Pb	Hg	Ni	Se	Ag	Tl	Zn
MW-1	2/5/2000	<0.010	<0.005		<0.001	0.0956	0.258	0.155	0.0258	0.00032	0.189	0.0085	<0.003	0.0138	0.291
	12/19/2000					0.0778	0.074	0.0357	0.0256		0.0737		<0.0055		0.102
	9/7/2001					0.0469	0.0422	0.0075	<0.0014		0.0348		<0.0012		0.0474
	3/25/2003					0.086	1.0	0.017	0.01		0.068		<0.01		0.140
	12/15/2008		<0.01	<0.2		0.2	0.57		0.022	<0.0002		0.054	<0.01		
MW-2	2/5/2000	<0.010	<0.005		<0.001	0.0992	1.6	0.341	0.060	0.00055	0.513	0.02	0.0163	0.0243	3.72
	12/19/2000					0.0547	0.247	0.0187	0.0246		0.252		<0.0055		0.489
	9/7/2001					0.245	1.48	0.347	0.0345		0.829		0.0066		4.22
	3/25/2003					0.1	0.32	0.016	<0.010		0.250		<0.010		0.580
	10/8/2008		0.01	0.12		0.12	1.7		0.045	0.000073J		<0.0026	0.0086J		
MW-3	12/19/2000					0.0086	0.0988	<0.0038	0.0242		0.0913		<0.0055		<0.0018
	9/7/2001					0.0396	0.836	0.0629	0.0153		0.246		0.0026		0.334
	3/25/2003					0.026	0.2	<0.010	<0.010		0.270		<0.010		0.053
	10/8/2008		0.018	0.19		0.056	1.2		0.038	0.0004		<0.0026	0.0067J		
MW-4	12/19/2000					<0.0010	0.0258	0.0081	0.0256		0.0139		<0.0055		0.0334
	9/7/2001					0.0067	0.0611	0.0661	0.019		0.0693		<0.00090		0.211
	3/25/2003					<0.010	0.026	<0.010	<0.010		<0.010		<0.010		<0.010
	10/8/2008		0.059	0.45		0.0015J	0.12		0.094	0.00011J		0.0039J	<0.00090		
MW-5	9/7/2001					0.0747	0.0976	0.230	<0.0014		0.805		0.001		0.102
	3/25/2003					0.034	0.13	0.017	<0.010		0.01		<0.010		0.020
	10/8/2008		0.072	0.49		0.48	0.85		0.13	0.00016J		0.0036J	0.0067J		

TABLE 5
SUMMARY OF METALS DATA FOR GROUNDWATER FROM 2000 TO 2008

REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

Sample Location	Date	Sb	Ar	Ba	Be	Cd	Cr (Cr IV)	Cu	Pb	Hg	Ni	Se	Ag	Tl	Zn
TOGS 1.1.1		**0.003**	**0.025**	**1.0**	**0.003**	**0.005**	**0.050**	**0.200**	**0.025**	**0.0007**	**0.1**	**0.010**	**0.050**	**0.0005**	**2.0**
MW-6	9/7/2001					0.0171	0.0323	0.0193	<0.0014		0.0135		0.0017		0.0553
	3/25/2003					0.029	0.045	<0.010	<0.010		<0.010		<0.010		0.098
	10/8/2008		0.019	0.2		0.12	0.1		0.039	0.0002		0.0092J	0.0067J		
MW-18	2/5/2000	<0.010	<0.005		<0.001	0.002	0.098	0.0247	0.01	0.00059	0.0175	<0.004	<0.003	0.019	0.178
	12/19/2000					<0.0010	0.0764	<0.0038	0.0269		0.0026		<0.0055		0.0225
	9/7/2001					0.0032	0.102	0.0227	0.0144		0.024		0.0018		0.151
	3/25/2003					<0.010	0.077	<0.010	<0.010		<0.010		<0.010		0.066
	10/8/2008		0.025	0.12		0.0019J	0.17		0.056	0.000073J		<0.0026	<0.00090		
MW-21	12/19/2000					<0.0010	0.0175	<0.0038	0.016		<0.00090		<0.0055		<0.0018
	9/7/2001					0.0021	0.0256	0.0109	<0.0014		0.0169		<0.00090		0.0627
	3/25/2003					<0.010	0.026	<0.010	<0.010		<0.010		<0.010		<0.010
MW-24	12/19/2000					<0.0010	0.0041	<0.0038	0.0128		<0.00090		<0.0055		<0.0018
	9/7/2001					0.0015	0.0118	0.0116	0.0023		0.0103		<0.00090		0.0426
	3/25/2003					<0.010	<0.010	<0.010	<0.010		<0.010		<0.010		<0.010
TOGS 1.1.1		**0.003**	**0.025**	**1.0**	**0.003**	**0.005**	**0.050**	**0.200**	**0.025**	**0.0007**	**0.1**	**0.010**	**0.050**	**0.0005**	**2.0**

Concentration reported in mg/L; parts per million (ppm)

6NYCRR 700-706 March 1998-TOGS 1.1.1 Water Quality Stsanrds and Guidances

'<' - The metal was analyzed, but not present above the noted detection limit

Highlighted values exceed TOGS 1.1.1

TABLE 6
WATER TABLE ELEVATIONS

REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

WATER TABLE ELEVATIONS									
WELLS	**MW-1**	**MW-2**	**MW-3**	**MW-4**	**MW-5**	**MW-6**	**MW-18**	**MW-21**	**MW-24**
Top of Well Screen Elevation	874.5	875.3	869.7	871.7	873.9	873.1	874.8	868.1	852.4
Bottom of Well Casing Elevation	864.5	865.3	859.7	861.7	863.9	863.1	869.8	863.1	837.4
Reference Elevation	899.05	899.20	899.73	899.69	898.91	898.07	894.72	900.08	879.34
DATE									
2/5/2000	869.76	869.86					873.92		
12/18/2000	869.57	869.63	869.50	866.66			873.81	868.75	842.49
9/7/2001	869.15	869.16	868.99	866.43	869.06	869.50	873.20	868.16	838.86
3/25/2003	870.84	870.82	870.68	867.11	870.77	871.24	876.82	869.80	847.34
10/22/2003	870.24	870.20	870.13	866.93	870.21	870.67	876.03	869.29	MT
10/2/2007	869.36	869.35	869.26	866.52	869.33	NS	873.92	MT	
10/8/2008	NS	869.08	869.04	866.39	869.07	869.56	873.03		
12/15/2008	869.72								

NOTES:

Reference elevation is top of PVC well casing
MT – Monitoring terminated

TABLE 7
SUMMARY OF SUB-SLAB VAPOR CONCENTRATIONS

REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

Sample Location	**TCMF-SS-1**	**TCMF-SS-2**	**TCMF-SS-2**	**TCMF-SS-3**	**TCMF-SS-4**	**TCMF-SS-5**	**TCMF-SS-6**	**TCMF-SS-7**	**TCMF-SS-8**	**TCMF-SS-9**	**TCMF-SS-10**		**PE-SS-1**	**PE-SS-2**	**PE-SS-3**		**HAC-SS-1**
	Subslab	**Subslab**	**Subslab**	**Subslab**	**Subslab**	**Subslab**	**Subslab**	**Subslab**	**Subslab**	**Subslab**	**Subslab**		**Subslab**	**Subslab**	**Subslab**		**Subslab**
			Duplicate														
Sample Date	**2/15/2005**	**2/15/2005**	**2/15/2005**	**2/15/2005**	**2/15/2005**	**2/15/2005**	**2/15/2005**	**2/15/2005**	**2/15/2005**	**2/15/2005**	**2/15/2005**		**2/15/2005**	**2/15/2005**	**2/15/2005**		**2/15/2005**
Parameter																	
Polar and Non-Polar Compounds																	
Method EPA TO-15																	
[Unit - ug/m3]																	
1,1,1-Trichloroethane	130	72	3.0	1.6	90	220	79	1,000	110	35	ND		600	2,300	380		2.0
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	5.3	ND	ND	ND		ND	ND	ND		ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	29	ND	ND		ND	ND	ND		ND
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
1,2,4-Trimethylbenzene	13	11	7.8	9.7	17	9.9	8.1	17	58	11	1.9		9.9	12	15		10
1,2-Dibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
1,2-Dichloroethane	ND	ND	ND	ND	1.1	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
1,3,5-Trimethylbenzene	4.4	3.8	2.7	3.4	3.8	3.6	3.0	4.6	20	3.9	1.0		3.0	5.2	6.1		4.2
1,3-Butadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
1,4-Dioxane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
2,2,4-trimethylpentane	21	15	3.2	15	31	28	7.8	17	62	11	0.62J		12	8.3	6.8		7.9
4-ethyltoluene	7.0	6.8	4.2	5.2	8.0	6.3	5.0	9.0	17	6.2	0.60J		6.4	8.6	9.6		6.5
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	130		ND
Allyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
Benzene	25	30	5.9	16	21	31	20	27	59	15	1.7		27	26	23		23
Benzyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
Carbon disulfide	2.2	1.4	ND	ND	1.0	ND	ND	ND	0.98	ND	ND		5.3	ND	ND		ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
Chloroethane	0.92	ND	ND	ND	ND	ND	ND	ND	0.86	ND	ND		ND	ND	ND		ND
Chloroform	61	1.5	ND	ND	64	16	ND	7.8	ND	0.79	ND		5.6	1.7	ND		ND
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
cis-1,2-Dichloroethene	ND	3.1	ND	ND	0.81	6.8	ND	6.5	2.9	ND	ND		ND	ND	ND		ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
Cyclohexane	29	ND	ND	ND	28	ND	14	14	790	ND	ND		19	13	ND		ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
Ethyl acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
Ethylbenzene	26	34	15	19	33	29	22	33	53	22	1.8		34	43	50		34
Freon 11	5.1	4.4	6.2	5.4	2.7	6.5	4.9	3.5	2.5	3.5	1.6		1.9	1.9	1.7		1.7
Freon 113	6.1	93	9.8	1.0J	2.2	5.0	1.6	4,600	1.2	1.2	ND		4.8	12,000	2,800		10
Freon 114	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
Freon 12	3.4	3.3	3.7	3.4	3.8	5.2	610	4.0	2.9	3.0	2.6		2.9	3.4	2.8		3.4
Heptane	23	14	2.8	5.8	22	41	24	20	110	7.3	0.50J		40	44	15		17
Hexachloro-1,3-butadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND

TABLE 7
SUMMARY OF SUB-SLAB VAPOR CONCENTRATIONS

REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

Sample Location	**TCMF-SS-1**	**TCMF-SS-2**	**TCMF-SS-2**	**TCMF-SS-3**	**TCMF-SS-4**	**TCMF-SS-5**	**TCMF-SS-6**	**TCMF-SS-7**	**TCMF-SS-8**	**TCMF-SS-9**	**TCMF-SS-10**		**PE-SS-1**	**PE-SS-2**	**PE-SS-3**		**HAC-SS-1**
	Subslab	**Subslab**	**Subslab**	**Subslab**	**Subslab**	**Subslab**	**Subslab**	**Subslab**	**Subslab**	**Subslab**	**Subslab**		**Subslab**	**Subslab**	**Subslab**		**Subslab**
			Duplicate														
Sample Date	**2/15/2005**	**2/15/2005**	**2/15/2005**	**2/15/2005**	**2/15/2005**	**2/15/2005**	**2/15/2005**	**2/15/2005**	**2/15/2005**	**2/15/2005**	**2/15/2005**		**2/15/2005**	**2/15/2005**	**2/15/2005**		**2/15/2005**
Parameter																	
Hexane	79	58	5.4	28	40	62	50	62	220	24	1.1		61	42	20		21
Isopropyl alcohol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
m-Xylene	61	78	34	46	76	64	49	77	170	54	4.0		75	96	110		80
Methyl Butyl Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
Methyl Ethyl Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
Methyl Isobutyl Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
Methyl tert-butyl ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
Methylene chloride	ND	1.2	0.46J	0.71	2.4	1.3	3.3	27	3.5	0.95	ND		1.3	ND	ND		ND
o-Xylene	22	26	13	16	27	22	17	27	56	19	1.6		25	32	36		26
p-Xylene	27	34	19	18	36	30	20	35	59	23	1.9		40	45	45		33
Propylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
Tetrachloroethene	3.2	13	1.9	2.6	10	4.8	3.3	28	2.6	3.3	ND		6.5	63	10		8.3
Tetrahydrofuran	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
Toluene	85	130	48	72	90	110	110	100	170	92	6.9		180	230	200J		37
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	8.7	ND	ND	ND	ND	ND		ND	ND	ND		ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
Trichloroethene	13	180	20	11	120	190	52	130	270	31	1.5		1.2	330	150		0.93
Vinyl acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
Vinyl Bromide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND

PE - Panko Electric; HAC - Hillcrest Auto center

J - Data Qualifier: Analyte detected at or below quantitation limit

T A B L E 8
SUMMARY OF SOIL CONCENTRATION AT INTERIOR SOIL VAPOR IMPLANT PROBES

REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

Sample Location	**6NYCRR Part 375 SCO**	**VP-1**				**VP-2**			**VP-3**		
Sample Depth	**Commercial**	**4'-6'**	**10'-12'**	**16'-18'**	**16'-18'**	**6'-8'**	**10'-12'**	**16'-18'**	**11.5'-12'**	**15'-16'**	**16'-20'**
					Duplicate						
Sample Date		**6/23/2005**	**6/23/2005**	**6/23/2005**	**6/23/2005**	**6/23/2005**	**6/23/2005**	**6/23/2005**	**6/24/2005**	**6/24/2005**	**6/24/2005**
Parameter											
Target Compound List											
[Unit - ug/kg]											
1,1,1-Trichloroethane	500,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	500,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	500,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	240,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethene	500,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	30,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroethene	500,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloropropane	500,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-Butanone	500,000	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2-Hexanone	500,000	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
4-Methyl-2-pentanone	500,000	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acetone	500,000	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Benzene	44,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromodichloromethane	500,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromoform	500,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromomethane	500,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Carbon disulfide	500,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Carbon tetrachloride	22,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorobenzene	500,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroethane	500,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	350,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloromethane	500,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
cis-1,3-Dichloropropene	500,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	500,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	390,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methylene chloride	500,000	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Styrene	500,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Tetrachloroethene	150,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	500,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
trans-1,3-Dichloropropene	500,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethene	200,000	5.6	<5	<5	<5	<5	<5	14	<5	<5	<5
Vinyl chloride	13,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Xylenes	500,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total Metals											
[Unit - mg/kg]											
Cadmium	9.3	4.3		28	39	<1		56	250		450
Chromium	1,500	25		64	67	9.4		11	560		68

Highlighted values exceed SCOs

TABLE 9
SUMMARY OF SOIL VAPOR CONCENTRATIONS AT INTERIOR SOIL VAPOR IMPLANTS

REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

Sample Location	**VP-1A**	**VP-1B**	**VP-1C**	**VP-2A**	**VP-2B**	**VP-2C**	**VP-3A**	**VP-3B**	**VP-3C**
Implant Depth	**15-15.5'**	**8.0-8.5'**	**0.5-1.0'**	**18-18.5'**	**8.0-8.5'**	**0.5-1.0'**	**17.8-18.3'**	**8.0-8.5'**	**0.5-1.0'**
Sample Date	**7/7/2005**	**7/7/2005**	**7/7/2005**	**7/7/2005**	**7/7/2005**	**7/7/2005**	**7/7/2005**	**7/7/2005**	**7/7/2005**
Parameter									
Polar and Non-Polar Compounds									
Method EPA TO-15									
[Unit - ug/m3]									
1,1,1-Trichloroethane	22	30	19	35	18	74	7.1	9.4	3.1
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	36	36	36	26	32	30	26	40	13J
1,2-Dibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	0.27	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	11	10	11	9.0	10	9.5	7.5	12	ND
1,3-Butadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-trimethylpentane	6.2	5.9	29	8.3	8.2	7.9	10	11	11
4-ethyltoluene	11	11	11	9.0J	10	10	9.0	12	ND
Acetone	ND	ND	ND	ND	ND	35	31	52	ND
Allyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	8.8	8.8	8.4	14	14	14	9.4	14	5.8J
Benzyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	1.3	0.73	0.73	0.92	0.63	0.38J	0.66	0.76	0.51
Carbon tetrachloride	0.58J	ND	ND	ND	ND	ND	ND	ND	0.64J
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	4.0	ND	ND	0.43	ND	ND	ND	ND	ND
Chloroform	0.79	ND	0.55J	1.1	ND	1.5	ND	0.74	0.5J
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	3.0	1.0	2.5	4.3	4.7	6.2	ND	ND	ND

TABLE 9
SUMMARY OF SOIL VAPOR CONCENTRATIONS AT INTERIOR SOIL VAPOR IMPLANTS

REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

Sample Location	**VP-1A**	**VP-1B**	**VP-1C**	**VP-2A**	**VP-2B**	**VP-2C**	**VP-3A**	**VP-3B**	**VP-3C**
Implant Depth	**15-15.5'**	**8.0-8.5'**	**0.5-1.0'**	**18-18.5'**	**8.0-8.5'**	**0.5-1.0'**	**17.8-18.3'**	**8.0-8.5'**	**0.5-1.0'**
Sample Date	**7/7/2005**	**7/7/2005**	**7/7/2005**	**7/7/2005**	**7/7/2005**	**7/7/2005**	**7/7/2005**	**7/7/2005**	**7/7/2005**
Parameter									
Polar and Non-Polar Compounds									
Method EPA TO-15									
[Unit - ug/m3]									
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	5.1	ND	ND	5.1	ND	5.0	ND	6.5	4.9
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	20	18	20	20	23	21	15	12	7.9J
Freon 11	4.3	5.1	6.1	8.1	8.5	10	10	8.7	9.3
Freon 113	3.1	1.1J	1.9	93	43	51	5.0	ND	ND
Freon 114	16	16	80	ND	ND	ND	ND	ND	ND
Freon 12	1.8	4.1	4.8	23	100	40	63	100	ND
Heptane	6.2	6.1	6.7	14	12	11	9.0	12	8.6
Hexachloro-1,3-butadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexane	23	10	11	19	17	16	13	16	9.3J
Isopropyl alcohol	ND	20	20	ND	28	20	ND	ND	ND
m-Xylene	52	45	58	53	56	56	38	56	20
Methyl Butyl Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Ethyl Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Isobutyl Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	ND	ND	0.92	1.6	1.6	1.8	2.1	1.9	2.1
Methylene chloride	ND	0.78	0.74	1.4	1.3	1.4	1.3	1.7	1.3
o-Xylene	28	25	28	26	29	26	20	30	11J
p-Xylene	23	23	19	21	25	20	17	25	8.8J
Propylene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	2.0	ND	ND	ND	ND	2.3	ND	ND
Tetrachloroethene	1.4	1.3	1.2	2.1	2.3	3.4	1.6	1.5	1.7
Tetrahydrofuran	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	80	76	74	99	110	87	65	90	34
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	60	39	140	19	31	160	11	17	7.3
Vinyl acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Bromide	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND

Sample "A" Deep; Sample "B" Mid"; Sample "C" Shallow

J - Analyte detected at or below quantitation limit

TABLE 10

SUMMARY OF OUTFALLS 001 AND 002 SAMPLING

REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

		Outfall 001				
Sample Location	**6NYCRR Part 375 SCO**	**Drywell A-001**		**Overflow**		
Sample	**Commerical**	**Sediments**	**12'-16'**	**0-4'**	**4'-8'**	**8'-12'**
Sample Date		**10/7/2005**	**10/7/2005**	**10/7/2005**	**10/7/2005**	**10/7/2005**
Parameter						
[Unit - ug/kg]						
Acetone	500,000	<50	<10	<50	<50	<10
Benzene	44,000	<20	<5	<20	<20	<5
Bromodichloromethane	500,000	<20	<5	<20	<20	<5
Bromoform	500,000	<20	<5	<20	<20	<5
Bromomethane	500,000	<20	<5	<20	<20	<5
2-Butanone	500,000	<20	<10	<20	<20	<10
Carbon disulfide	500,000	<20	<5	<20	<20	<5
Carbon tetrachloride	22,000	<20	<5	<20	<20	<5
Chlorobenzene	500,000	<20	<5	<20	<20	<5
Chloroethane	500,000	<20	<5	<20	<20	<5
Chloroform	350,000	<20	<5	<20	<20	<5
Chloromethane	500,000	<20	<5	<20	<20	<5
Dibromochloromethane	500,000	<20	<5	<20	<20	<5
1,1-Dichloroethane	240,000	<20	<5	<20	<20	<5
1,2-Dichloroethane	30,000	<20	<5	<20	<20	<5
1,1-Dichloroethene	500,000	<20	<5	<20	<20	<5
1,2-Dichloroethene (Total)	500,000	<20	<5	<20	<20	<5
1,2-Dichloropropane	500,000	<20	<5	<20	<20	<5
cis-1,3-Dichloropropene	500,000	<20	<5	<20	<20	<5
trans-1,3-Dichloropropene	500,000	<20	<5	<20	<20	<5
Ethylbenzene	390,000	<20	<5	<20	<20	<5
2-Hexanone	500,000	<50	<10	<50	<50	<10
Methylene Chloride	500,000	<50	<10	<50	<50	<10
4-Methyl-2-pentanone	500,000	<50	<10	<50	<50	<10
Styrene	500,000	<20	<5	<20	<20	<5
1,1,2,2-Tetrachloroethane	500,000	<20	<5	<20	<20	<5
Tetrachloroethene	150,000	<20	<5	<20	<20	<5
Toluene	500,000	<20	<5	<20	<20	<5
1,1,1-Trichloroethane	500,000	<20	<5	<20	<20	<5
1,1,2-Trichloroethane	500,000	<20	<5	<20	<20	<5
Trichloroethene	200,000	260	10	<20	<20	<5
Vinyl chloride	13,000	<20	<5	<20	<20	<5
Xylenes (Total)	500,000	<20	<5	<20	<20	<5
Units - mg/kg (Totals) mg/l (TCLP)						
[TCLP concentration]						
Cadmium	9.3	150 [2.2]	86		1.4	<1
Chromium	1,500	3100 [1.0]	1000		15	16

T A B L E 10
SUMMARY OF OUTFALLS 001 AND 002 SAMPLING

REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

		Outfall 002						
Sample Location	**6NYCRR Part 375 SCO**	**Drywell A-002**					**Drywell B-002**	
Sample	**Commercial**	**Sediments at 15'**	**At Influent Pipe**	**In Pipe between**	**Backfill**	**Sediments at 15'**	**Sediments**	**at 11'-12'**
Sample Date		**8/25/2005**	**8/25/2005**	**8/25/2005**	**8/25/2005**	**10/7/2005**	**10/7/2005**	**10/7/2005**
Parameter								
[Unit - ug/kg]								
Acetone	500,000	<10	<10	<10	<10	<10	<50	<10
Benzene	44,000	<5	<5	<5	<5	<5	<20	<5
Bromodichloromethane	500,000	<5	<5	<5	<5	<5	<20	<5
Bromoform	500,000	<5	<5	<5	<5	<5	<20	<5
Bromomethane	500,000	<5	<5	<5	<5	<5	<20	<5
2-Butanone	500,000	<10	<10	<10	<10	<10	<20	<10
Carbon disulfide	500,000	<5	<5	<5	<5	<5	<20	<5
Carbon tetrachloride	22,000	<5	<5	<5	<5	<5	<20	<5
Chlorobenzene	500,000	<5	<5	<5	<5	<5	<20	<5
Chloroethane	500,000	<5	<5	<5	<5	<5	<20	<5
Chloroform	350,000	<5	<5	<5	<5	<5	<20	<5
Chloromethane	500,000	<5	<5	<5	<5	<5	<20	<5
Dobromochloromethane	500,000	<5	<5	<5	<5	<5	<20	<5
1,1-Dichloroethane	240,000	<5	<5	<5	<5	<5	<20	<5
1,2-Dichloroethane	30,000	<5	<5	<5	<5	<5	<20	<5
1,1-Dichloroethene	500,000	<5	<5	<5	<5	<5	<20	<5
1,2-Dichloroethene (Total)	500,000	<5	<5	<5	<5	<5	<20	<5
1,2-Dichloropropane	500,000	<5	<5	<5	<5	<5	<20	<5
cis-1,3-Dichloropropene	500,000	<5	<5	<5	<5	<5	<20	<5
trans-1,3-Dichloropropene	500,000	<5	<5	<5	<5	<5	<20	<5
Ethylbenzene	390,000	32	<5	<5	<5	<5	<20	<5
2-Hexanone	500,000	<10	<10	<10	<10	<10	<50	<10
Methylene Chloride	500,000	<10	<10	<10	<10	<10	<50	<10
4-Methyl-2-pentanone	500,000	<10	<10	<10	<10	<10	<50	<10
Styrene	500,000	<5	<5	<5	<5	<5	<20	<5
1,1,2,2-Tetrachloroethane	500,000	<5	<5	<5	<5	<5	<20	<5
Tetrachloroethene	150,000	<5	<5	<5	<5	<5	<20	<5
Toluene	500,000	<5	<5	<5	<5	<5	<20	<5
1,1,1-Trichloroethane	500,000	<5	<5	<5	<5	<5	<20	<5
1,1,2-Trichloroethane	500,000	<5	<5	<5	<5	<5	<20	<5
Trichloroethene	200,000	<5	<5	<5	<5	<5	<20	<5
Vinyl chloride	13,000	<5	<5	<5	<5	<5	<20	<5
Xylenes (Total)	500,000	13	<5	<5	<5	<5	<20	<5
[Units - mg/kg (Totals) mg/l (TCLP)]								
Totals (TCLP)								
Cadmium	9.3	68 (1.3)		15			650 (5.8)	340
Chromium	1,500	3700 (<1)		910			7100 (<1)	180
Zinc	10,000	7300		4700				

Highlighted Values exceed the SCOs

TABLE 11
GROUNDWATER AND SOIL DATA SUMMARY
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REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

	NYS Standard	6NYCRR Part 375 SCO	GP-07-1			GP-07-2				GP-07-3				GP-07-4	
Sample Location	or	Commercial	10/3/2007	10/3/2007	10/3/2007	10/3/2007	10/3/2007	10/3/2007	10/3/2007	10/2/2007	10/2/2007	10/2/2007	10/2/2007	10/18/2007	10/4/2007
	Guidances		Soil 34'-38'	Water 30.5'-32.5'	Water 35.5-39.5'	Soil 34'-35'	Soil 39'-43'	Water 30'-32'	Water 36'-40'	Soil 36'-40'	Soil 36'-40'	Water 30'-32'	Water 36'-40'	Soil 40'-42'	Water 26'-28'
Unit	ug/L	(ug/kg)	ug/kg	ug/l	ug/l	ug/kg	ug/kg	ug/l	ug/l	ug/kg	ug/kg	ug/l	ug/l	ug/kg	ug/l
Parameter											Duplicate				
Volatile Target Analyte															
List (TAL)															
1,1,1-Trichloroethane	5	500,000	ND	1.51	1.02	ND	ND	1.63	1.31	1.0J	2.9J	0.86	1.39	1.6J	0.86
1,1,2,2-Tetrachloroethane	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	5	500,000	ND	ND	0.35J	ND	ND	0.28J	1.17	4.2	9.3	ND	8.45	ND	ND
1,1,2-Trichloroethane	1	500,000	ND	0.27J	0.20J	ND	ND	0.16J	0.19J	ND	0.67J	ND	ND	ND	0.19J
1,1-Dichloroethane	5	240,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	500,000	ND	ND	ND	ND	ND	ND	0.12J	ND	1.6J	ND	0.11J	ND	ND
1,2,4-Trichlorobenzene	5	500,000	ND	ND	ND	0.70J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	4.7	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	5	30,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	1	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	5	280,000	ND	ND	ND	0.64J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	5	250,000	ND	0.14J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	50	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	50	500,000	6.5J	2.13J	1.74J	7.4J	7.8J	1.81J	2.03	5.7J	7.6J	3.40J	ND	9.5J	ND
Benzene	1	44,000	ND	ND	ND	ND	ND	ND	0.12J	ND	ND	0.12J	ND	ND	ND
Bromodichloromethane	50	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	50	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	5	500,000	ND	ND	ND	0.72J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	60	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	5	22,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	7	350,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.4	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	50	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	390,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl acetate	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
methyl tert-butyl ether	10	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane	---	500,000	ND	ND	0.13J	ND	ND	ND	ND	ND	ND	ND	0.17J	ND	ND
Methylene chloride	5	500,000	ND	0.16J	0.11J	ND	ND	ND	0.14J	ND	ND	0.18J	0.12J	ND	ND
Styrene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	150,000	ND	ND	ND	ND	ND	0.26J	0.16J	ND	ND	0.14J	ND	ND	0.10J
Toluene	5	500,000	ND	0.10J	0.17J	ND	ND	0.15J	0.23J	ND	ND	0.32J	0.29J	ND	0.17J
trans-1,2-Dichloroethene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.4	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	200,000	50	11.1	10.3	12	34	8.33	17.8	50	72	3.60	11.1	170	8.14
Trichlorofluoromethane	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	2	13,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	5	500,000	ND	ND	ND	ND	ND	0.10J	ND	ND	ND	0.17J	0.14J	ND	ND

TABLE 11
GROUNDWATER AND SOIL DATA SUMMARY
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REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

	NYS Standard	6NYCRR Part 375 SCO	GP-07-4	B-07-5			B-07-6			B-07-7	
Sample Location	**or**	**Commercial**	**10/18/2007**	**10/18/2007**	**10/18/2007**	**10/18/2007**	**10/19/2007**	**10/19/2007**	**10/19/2007**	**10/19/2007**	**10/19/2007**
	Guidances		**Water 43'**	**Soil 30'-32'**	**Water 25'**	**Water 32'**	**Soil 27'-28'**	**Soil 35'-37'**	**Water 32'**	**Soil 25'-27'**	**Water 27'**
Unit	**ug/L**	**(ug/kg)**	**ug/l**	**ug/kg**	**ug/l**	**ug/l**	**ug/kg**	**ug/kg**	**ug/l**	**ug/kg**	**ug/l**
Parameter											
Volatile Target Analyte											
List (TAL)											
1,1,1-Trichloroethane	5	500,000	1.85J	ND	0.90	0.24J	ND	ND	0.86	ND	1.21
1,1,2,2-Tetrachloroethane	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	5	500,000	0.55J	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	500,000	ND	ND	0.33J	0.29J	ND	ND	0.35J	ND	0.49J
1,1-Dichloroethane	5	240,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	4.7	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	5	30,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	1	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	5	280,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	5	250,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	50	500,000	ND	ND	9.20J	3.22J	ND	ND	ND	ND	1.48J
2-Hexanone	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	50	500,000	ND	10J	23.3	14.0	11J	10J	3.89J	10J	4.98J
Benzene	1	44,000	ND	ND	0.30J	0.27J	ND	ND	0.27J	ND	0.10J
Bromodichloromethane	50	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	50	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	60	500,000	ND	ND	0.14J	0.51	ND	ND	0.31J	ND	ND
Carbon tetrachloride	5	22,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	7	350,000	ND	ND	ND	ND	ND	ND	ND	ND	0.13J
Chloromethane	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.4	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	50	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	390,000	ND	ND	ND	0.16J	ND	ND	ND	ND	ND
Isopropylbenzene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl acetate	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
methyl tert-butyl ether	10	500,000	ND	ND	ND	ND	ND	ND	ND	ND	0.10J
Methylcyclohexane	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	150,000	ND	ND	ND	ND	ND	ND	ND	ND	0.11J
Toluene	5	500,000	1.00J	ND	0.38J	0.79	ND	ND	0.44J	ND	ND
trans-1,2-Dichloroethene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.4	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	200,000	71.4	5.7	12.5	4.83	6.6	11	11.1	11	19.9
Trichlorofluoromethane	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	2	13,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	5	500,000	0.55J	ND	0.31J	0.61	ND	ND	ND	ND	ND

TABLE 11
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REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

	NYS Standard	6NYCRR Part 375 SCO	B-07-8			GP-07-9			B-07-10				B-07-11		
Sample Location	or	Commercial	12/13/2007	12/13/2007	12/13/2007	12/14/2007	12/14/2007	12/14/2007	12/18/2008	12/18/2008	12/18/2008	12/18/2008	12/18/2008	12/18/2008	12/18/2008
	Guidances		Soil 35'-37'	Water 21'-23'	Water 38'-40'	Soil 33'-34'	Water 21'-23'	Water 35'-37'	Soil 33'-34'	Soil 38'-39'	Water 21'-22'	Water 35'-37'	Soil 31'-32'	Water 23'-25'	Water 32'-34'
Unit	ug/L	(ug/kg)	ug/kg	ug/l	ug/l	ug/kg	ug/l	ug/l	ug/kg	ug/kg	ug/l	ug/l	ug/kg	ug/l	ug/l
Parameter															
Volatile Target Analyte															
List (TAL)															
1,1,1-Trichloroethane	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	240,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	5	30,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	1	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	50	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	50	500,000	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	44,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	50	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	50	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	60	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	5	22,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	7	350,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.4	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	50	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	390,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	150,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.4	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	200,000	17	8.4	17	ND	21	24	11	200	12	22	ND	14	16
Vinyl chloride	2	13,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	5	500,000	ND	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 11
GROUNDWATER AND SOIL DATA SUMMARY
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REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

	NYS Standard	Commercial	B-08-12				B-08-13				GP-08-14			
Sample Location	or		1/17/2008	1/17/2008	1/17/2008	1/17/2008	1/16/2008	1/16/2008	1/14/2008	1/16/2008	1/21/2008	1/21/2008	1/21/2008	1/21/2008
	Guidances		Soil 29'-31'	Soil 40'-44'	Water 26.5'	Water 32'-34'	Soil 34'-36'	Soil 44'-48'	Water 30'-34'	Water 35'-39'	Soil 30'-34'	Soil 40'-44'	Water 30'-34'	Water 30'-34'
Unit	ug/L	(ug/kg)	ug/kg	ug/kg	ug/l	ug/l	ug/kg	ug/kg	ug/l	ug/l	ug/kg	ug/kg	ug/l	ug/l
Parameter														Duplicate
Volatile Target Analyte														
List (TAL)														
1,1,1-Trichloroethane	5	500,000	ND	ND	0.21J	ND	ND	ND	1.48	1.85	ND	ND	1.86	1.89
1,1,2,2-Tetrachloroethane	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	5	500,000	7.1	ND	0.23J	4.62	ND	ND	3.21	16.9	ND	ND	4.66	4.8
1,1,2-Trichloroethane	1	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	240,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	500,000	ND	ND	ND	0.28J	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	4.7	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	5	30,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	1	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	5	280,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	5	250,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	50	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	50	500,000	3.4J	3.4J	20.9	15.5J	2.5J	3.0J	5.45J	ND	ND	2.3J	ND	ND
Benzene	1	44,000	ND	ND	0.93	0.20J	ND	ND	0.16J	ND	ND	ND	ND	ND
Bromodichloromethane	50	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	50	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	60	500,000	ND	ND	ND	ND	ND	ND	0.72	ND	ND	ND	ND	ND
Carbon tetrachloride	5	22,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	7	350,000	0.86J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5	500,000	ND	ND	ND	0.38J	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.4	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	---	500,000	ND	ND	ND	2.22	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	50	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	390,000	ND	ND	ND	ND	ND	ND	0.30J	0.27J	ND	ND	ND	ND
Isopropylbenzene	5	500,000	ND	ND	ND	ND	ND	ND	ND	0.17J	ND	ND	ND	ND
Methyl acetate	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
methyl tert-butyl ether	10	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	5	500,000	ND	ND	ND	ND	ND	1.1J	ND	ND	0.84J	ND	ND	ND
Styrene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	150,000	ND	ND	ND	ND	ND	ND	0.18J	0.12J	ND	ND	0.27J	0.25J
Toluene	5	500,000	ND	ND	0.69	0.26J	ND	ND	0.58	0.11J	ND	ND	0.23J	0.25J
trans-1,2-Dichloroethene	5	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.4	500,000	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	200,000	27	6.7	1.6	31.5	6.2	9.2	11.6	13	0.81J	ND	15.2	14.5
Trichlorofluoromethane	---	500,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	2	13,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	5	500,000	ND	ND	0.13J	ND	ND	ND	1.93	1.3	ND	ND	ND	ND

TABLE 11
GROUNDWATER AND SOIL DATA SUMMARY
OCTOBER/DECEMBER 2007 AND JANUARY 2008

REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

	NYS Standard	6NYCRR Part 375 SCO	GP-08-15				
Sample Location	or	Commercial	1/18/2008	1/18/2008	1/18/2008	1/18/2008	1/18/2008
	Guidances		Soil 8'-16'	Soil 29'-31'	Soil 29'-31'	Soil 40'-44'	Water 32'-34'
Unit	ug/L	(ug/kg)	ug/kg	ug/kg	ug/kg	ug/kg	ug/l
Parameter					Duplicate		
Volatile Target Analyte							
List (TAL)							
1,1,1-Trichloroethane	5	44,000	ND	ND	ND	ND	0.48J
1,1,2,2-Tetrachloroethane	5	500,000	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	5	500,000	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	500,000	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	500,000	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	500,000	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	5	500,000	2.3J	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	---	13,000	ND	ND	ND	ND	ND
1,2-Dibromoethane	5	500,000	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	4.7	500,000	2.2J	ND	ND	ND	ND
1,2-Dichloroethane	5	500,000	ND	ND	ND	ND	ND
1,2-Dichloropropane	1	500,000	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	5	500,000	2.2J	ND	ND	ND	ND
1,4-Dichlorobenzene	5	200,000	1.5J	ND	ND	ND	ND
2-Butanone (MEK)	50	500,000	ND	ND	ND	ND	ND
2-Hexanone	---	390,000	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	---	500,000	ND	ND	ND	ND	ND
Acetone	50	500,000	2.6J	3.2J	4.1J	ND	14.2J
Benzene	1	500,000	ND	ND	ND	ND	ND
Bromodichloromethane	50	350,000	ND	ND	ND	ND	ND
Bromoform	50	150,000	ND	ND	ND	ND	ND
Bromomethane	5	500,000	ND	ND	ND	ND	ND
Carbon disulfide	60	500,000	ND	ND	ND	ND	ND
Carbon tetrachloride	5	500,000	ND	ND	ND	ND	ND
Chlorobenzene	5	500,000	ND	ND	ND	ND	ND
Chloroethane	5	240,000	ND	ND	ND	ND	ND
Chloroform	7	500,000	ND	ND	ND	ND	ND
Chloromethane	5	500,000	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5	500,000	ND	ND	ND	ND	0.22J
cis-1,3-Dichloropropene	0.4	500,000	ND	ND	ND	ND	ND
Cyclohexane	---	500,000	ND	ND	ND	ND	ND
Dibromochloromethane	50	500,000	ND	ND	ND	ND	ND
Dichlorodifluoromethane	---	500,000	ND	ND	ND	ND	ND
Ethylbenzene	5	500,000	ND	ND	ND	ND	ND
Isopropylbenzene	5	500,000	ND	ND	ND	ND	ND
Methyl acetate	---	30,000	ND	ND	ND	ND	ND
methyl tert-butyl ether	10	250,000	ND	ND	ND	ND	ND
Methylcyclohexane	---	500,000	ND	ND	ND	ND	ND
Methylene chloride	5	500,000	1.0J	ND	0.85J	0.91J	ND
Styrene	5	500,000	ND	ND	ND	ND	ND
Tetrachloroethene	5	500,000	ND	ND	ND	ND	ND
Toluene	5	500,000	ND	ND	ND	ND	0.30J
trans-1,2-Dichloroethene	5	280,000	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.4	500,000	ND	ND	ND	ND	ND
Trichloroethene	5	22,000	6.2	15	5.2	5.2	22.3
Trichlorofluoromethane	---	500,000	ND	ND	ND	ND	ND
Vinyl chloride	2	500,000	ND	ND	ND	ND	ND
Xylenes (total)	5	500,000	ND	ND	ND	ND	ND

Highlight value exceed TOGS 1.1.1 Water Quality Standards and Guidances
J - Data Qualifier:Analyte detected at or below quantitation limit

TABLE 12
GROUNDWATER DATA SUMMARY
OCTOBER 2007

REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

	NYS Standards	MW-1	MW-2	MW-2	MW-3	MW-4	MW-5	MW-18
Sample Location	**or**	10/2/2007	10/2/2007	10/2/2007	10/2/2007	10/2/2007	10/2/2007	10/2/2007
	Guidance	Water	Water	Water	Water	Water	Water	Water
Unit	**ug/L**	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
				Duplicate				
Parameter								
Volatile Target Analyte List (TAL)								
Dichlorodifluoromethane	---	ND	ND	ND	ND	ND	ND	ND
Chloromethane	5	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	2	ND	ND	ND	ND	ND	ND	ND
Bromomethane	5	ND	ND	ND	ND	ND	ND	ND
Chloroethane	5	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	---	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	5	0.61	ND	ND	0.16J	2.92	0.56	ND
Acetone	50	ND	ND	ND	ND	2.40J	1.49J	ND
Carbon disulfide	60	ND	ND	ND	ND	ND	ND	ND
Methyl acetate	---	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	5	ND	ND	ND	ND	ND	0.24J	ND
trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND
methyl tert-butyl ether	10	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	50	ND	ND	ND	ND	ND	ND	ND
Chloroform	7	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	5	1.79	0.96	0.93	1.55	0.88	1.06	0.86
Cyclohexane	---	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	5	ND	ND	ND	ND	ND	ND	ND
Benzene	1	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	5	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	9.49	9.09	9.05	11.6	4.28	8.34	11.1
Methylcyclohexane	---	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	1	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	50	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.4	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	---	ND	ND	ND	ND	ND	ND	ND
Toluene	5	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.4	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	0.16J	0.18J	0.17J	0.21J	ND	ND	0.20J
Tetrachloroethene	5	0.25J	ND	ND	0.13J	ND	0.27J	ND
2-Hexanone	---	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	50	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	5	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	5	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	5	ND	ND	ND	ND	ND	ND	ND
Styrene	5	ND	ND	ND	ND	ND	ND	ND
Bromoform	50	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	5	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	5	ND	ND	ND	ND	ND	0.11J	ND
1,2-Dichlorobenzene	4.7	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	---	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND

Highlighted value exceed TOGS 1.1.1 Water Quality Standards and Guidances

J - Date Qualifier:Analyte detected at or below quantitation limit

TABLE 13
GROUNDWATER DATA SUMMARY OCTOBER/DECEMBER 2008

REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

	NYS Standards	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-18	MW-18
Sample Location	**or**	12/15/2008	10/8/2008	10/8/2008	10/8/2008	10/8/2008	10/8/2008	10/8/2008	10/8/2008
	Guidances	Water	Water	Water	Water	Water	Water	Water	Water
Unit	**ug/L**	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
									Duplicate
Parameter									
Volatile Target Analyte									
List (TAL)									
Dichlorodifluoromethane	---	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	5	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	2	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	5	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	---	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	5	ND	ND	0.30J	5.04	3.05	5.23	ND	ND
Acetone	50	ND	ND	ND	ND	ND	ND	ND	3.14J
Carbon disulfide	60	ND	ND	ND	ND	ND	ND	ND	ND
Methyl acetate	---	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	5	ND	ND	ND	ND	ND	ND	ND	0.19J
trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND
methyl tert-butyl ether	10	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5	ND	ND	0.16J	ND	ND	ND	ND	ND
2-Butanone (MEK)	50	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	7	ND	0.16J	ND	ND	0.13J	0.11J	0.14J	0.16J
1,1,1-Trichloroethane	5	2.2	1.25	1.34	1.34	1.15	1.01	0.72	0.70
Cyclohexane	---	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	5	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	9.0	11.0	10.4	9.71	9.1	10.7	10.1	10.7
Methylcyclohexane	---	ND	ND	0.41J	ND	ND	ND	ND	ND
1,2-Dichloropropane	1	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	50	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	0.4	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	---	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.4	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	ND	0.25J	0.39J	ND	ND	ND	0.31J	0.30J
Tetrachloroethene	5	ND	0.13J	0.15J	0.12J	0.24J	0.10J	ND	ND
2-Hexanone	---	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	50	ND	ND	ND	ND	ND	ND	0.49J	ND
1,2-Dibromoethane	5	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	5	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	5	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	50	ND	ND	ND	ND	ND	ND	1.9	ND
Isopropylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	4.7	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	---	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND
RCRA Metals									
Unit	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
Arsenic	0.025	<0.01	0.01	0.018	0.059	0.072	0.019	0.025	0.0093J
Barium	1.0	<0.2	0.12	0.19	0.45	0.49	0.2	0.37	0.12
Cadmium	0.005	0.2	0.12	0.056	0.0015J	0.48	0.12	0.0093J	0.0019J
Chromium	0.050	0.57	1.7	1.2	0.12	0.85	0.1	0.48	0.17
Lead	0.025	0.022	0.045	0.038	0.094	0.13	0.039	0.21	0.065
Selenium	0.010	0.054	<0.0026	<0.0026	0.0039J	0.0036J	0.0036J	<0.0026	<0.0026
Silver	0.050	<0.01	0.0086J	0.0067J	<0.00090	0.0092J	0.0067J	0.0019J	<0.00090
Mercury	0.0007	<0.0002	0.000073J	0.0004	0.00011J	0.00016J	0.0002	0.00017J	0.000073J

Highlight value exceed NYSDEC TOGS 1.1.1 Water Quality Standards and Guidances

J - Data Qualifier:Analyte detected at or below qualitation limit

TABLE 14
GROUNDWATER PARAMETERS

REMEDIAL INVESTIGATION REPORT
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK

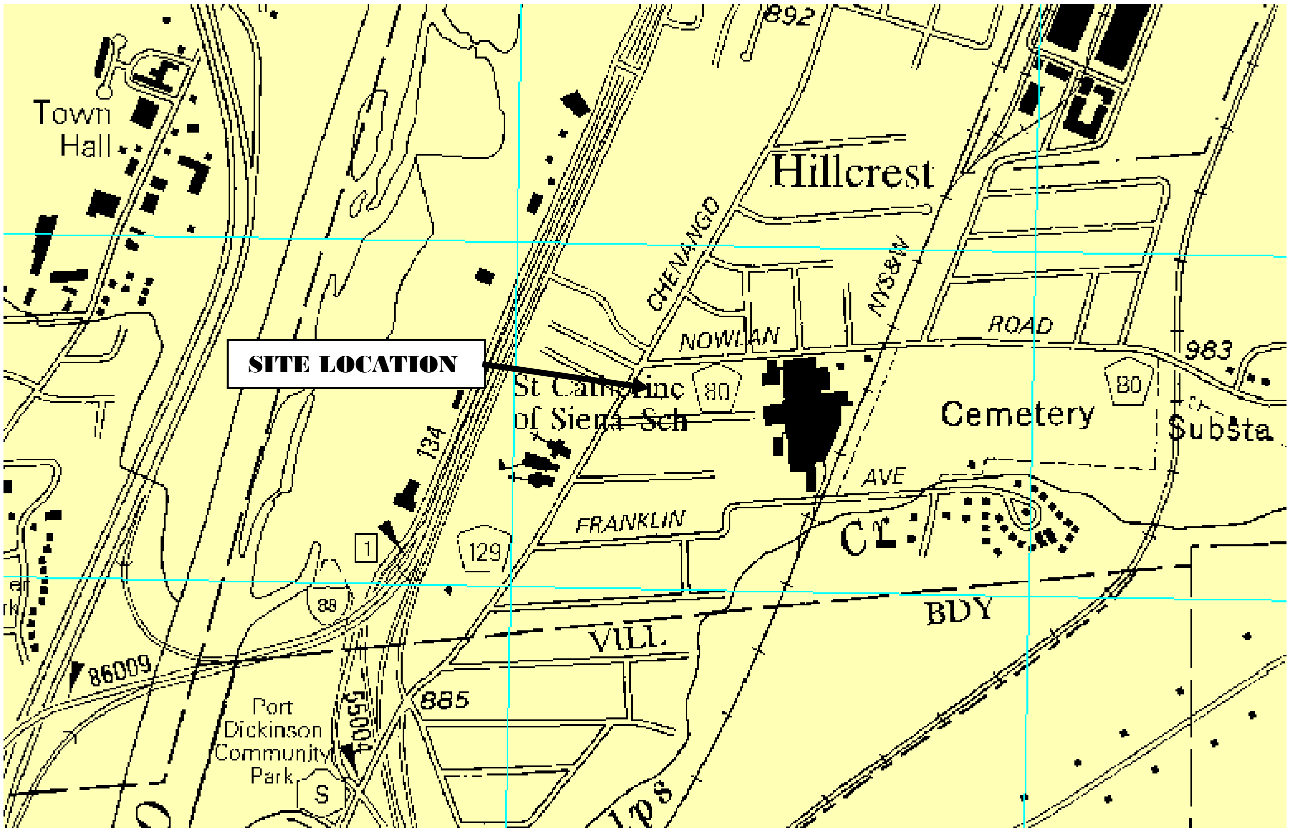
Sample Location	Date	Temp. (˚C)	pH (SU)	Turbidity (NTU)	Conductivity (µmS/cm)
MW-1	2/5/2000	11.8	7.7		1280
	12/18/2000	111.8	7.9		1180
	9/7/2001	11.7	7.7		
	3/25/2003	14.7			840
	10/2/2007	13.9	8.1	12.5	1015
	12/15/2008	13.5	7.1	22.3	441
MW-2	2/5/2000	11.1	8.0		
	12/18/2000	11.8	7.7		
	9/7/2001	11.7	7.6		
	3/25/2003	14.0			
	10/2/2007	14.2	7.7	9.9	1100
	10/8/2008	13.4	7.2	14.5	940
MW-3	12/18/2000	12.4	7.7		1690
	9/7/2001	12.0	7.7		
	3/25/2003	15.5			1135
	10/2/2007	13.8	7.8	31.6	1180
	10/8/2008	12.9	7.1	45.2	650
MW-4	12/18/2000	12.1	7.9		1910
	9/7/2001	11.8			
	3/25/2003	14.5	7.9		1221
	10/2/2007	14.1	7.9	22.7	1290
	10/8/2008	11.8	7.3	53.8	880
MW-5	9/7/2001	11.7	7.9		
	3/25/2003	15.5			730
	10/2/2007	14.8	8.1	8.3	1230
	10/8/2008	12.3	7.7	11.1	1060
MW-6	9/7/2001	12.0	7.6		
	3/25/2003	14.0			910
	10/2/2007	NS	NS	NS	NS
	10/8/2008	11.5	7.0	10.3	1170
MW-18	2/5/2000	11.8	7.7		1140
	12/18/2000	11.8	7.9		1180
	9/7/2001	12.1	7.8		
	3/25/2003	13.0			671
	10/2/2007	15.0	7.8	37.8	560
	10/8/2008	14.2	7.4	49.5	720

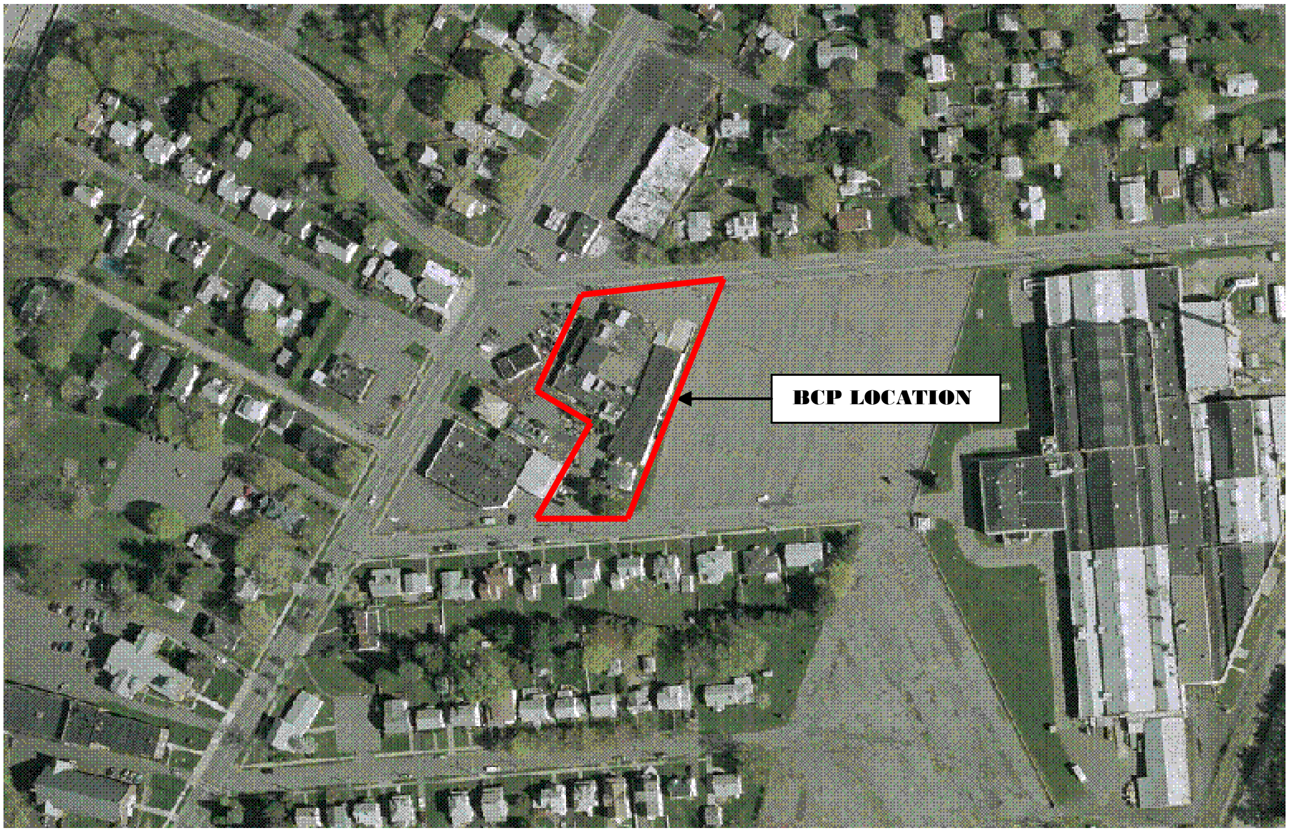
Notes:

The recorded field parameters are immediately prior to sample collection
pH reported in Standard Units (SU)
Specific conductivity recorded in miliSiemens per centimeter(µS/cm)
Turbidity recorded in Nephelometric Turbidity Units (NTU)
NS - Not sampled; construction materials staged over well

APPENDIX B

DRAWINGS





Source: www.nysgis.state.ny.us

REMEDIAL INVESTIGATION
SITE LOCATION PLAN
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK
Drawing No. 1

File: P:\PROJECTS\1999\99011A\BCP Files\Report\Remedial Investigation Report\Appendix B\Drawing No. 1.doc

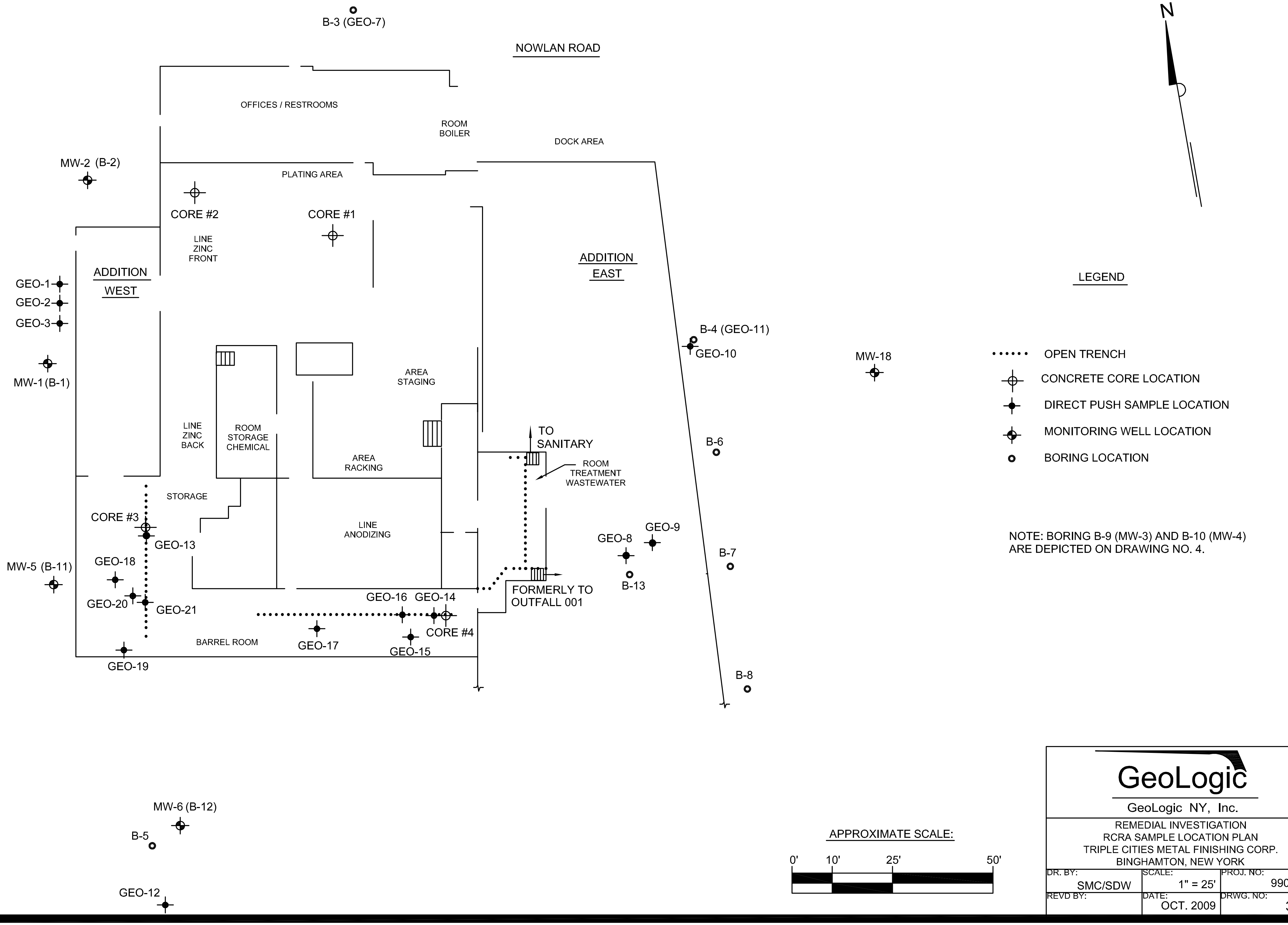
Source: www.nysgis.state.ny.us

Approximate Scale: 1 inch = 800 feet

🟥 Catchbasin ○ Surface Soil Sample

REMEDIAL INVESTIGATION
SURFACE SOIL AND CATCHBASIN SAMPLE LOCATION PLAN
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK
Drawing No. 2

File:..99011A/BCP/Report/Rem InvRevised/Drw2



NOTE: BORING B-9 (MW-3) AND B-10 (MW-4)
ARE DEPICTED ON DRAWING NO. 4.

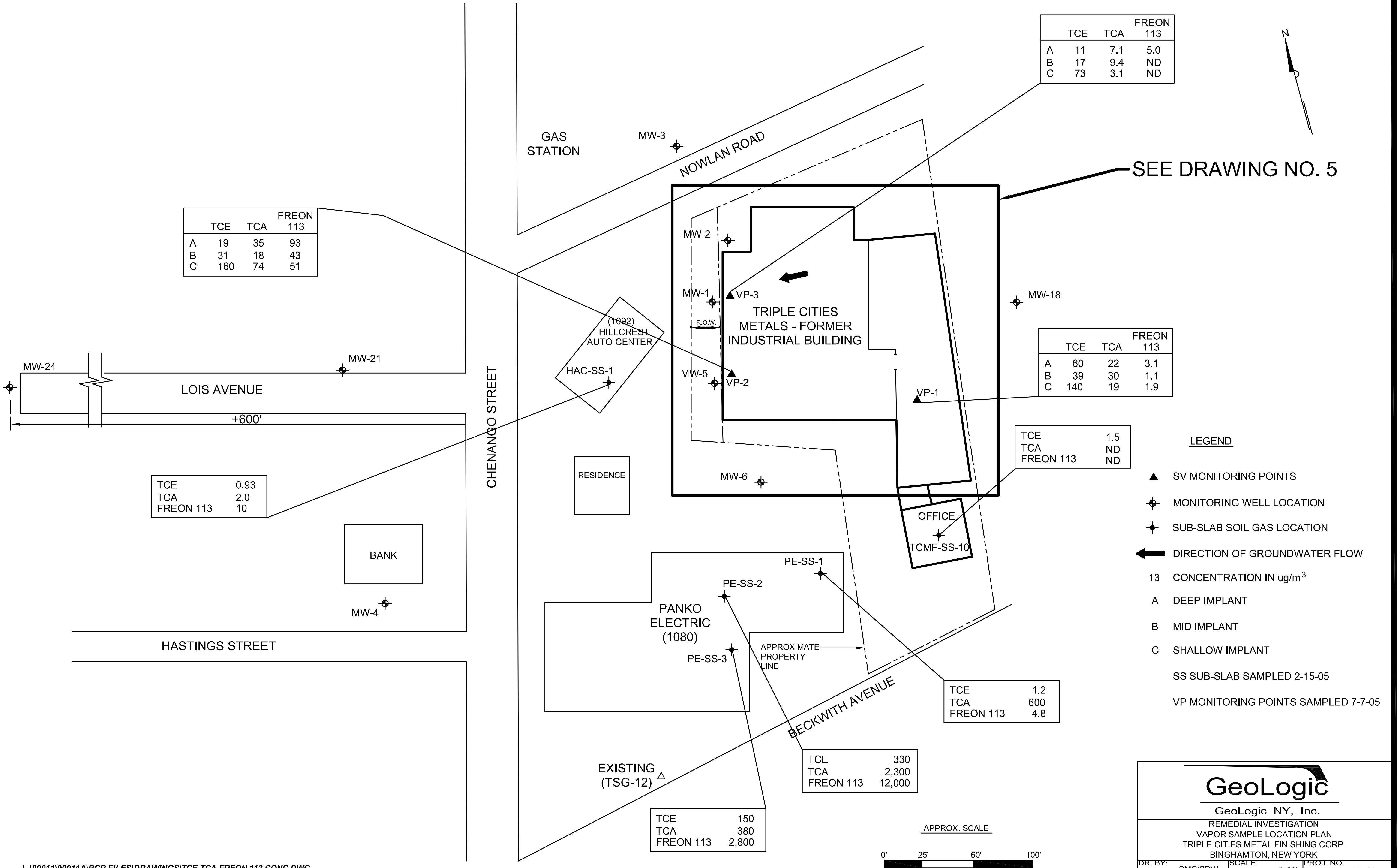
\..\99011A\BCP FILES\Drawings\RCRA SAMPLE LOCATION PLAN.DWG

GeoLogic

GeoLogic NY, Inc.

REMEDIAL INVESTIGATION
RCRA SAMPLE LOCATION PLAN
TRIPLE CITIES METAL FINISHING CORP.
BINGHAMTON, NEW YORK

DR. BY:	SCALE:	PROJ. NO:
SMC/SDW	1" = 25'	99011A
REVD BY:	DATE: OCT. 2009	DRWG. NO: 3



	TCE	TCA	FREON 113
A	11	7.1	5.0
B	17	9.4	ND
C	73	3.1	ND

	TCE	TCA	FREON 113
A	19	35	93
B	31	18	43
C	160	74	51

	TCE	TCA	FREON 113
A	60	22	3.1
B	39	30	1.1
C	140	19	1.9

TCE	1.5
TCA	ND
FREON 113	ND

TCE	0.93
TCA	2.0
FREON 113	10

TCE	1.2
TCA	600
FREON 113	4.8

TCE	330
TCA	2,300
FREON 113	12,000

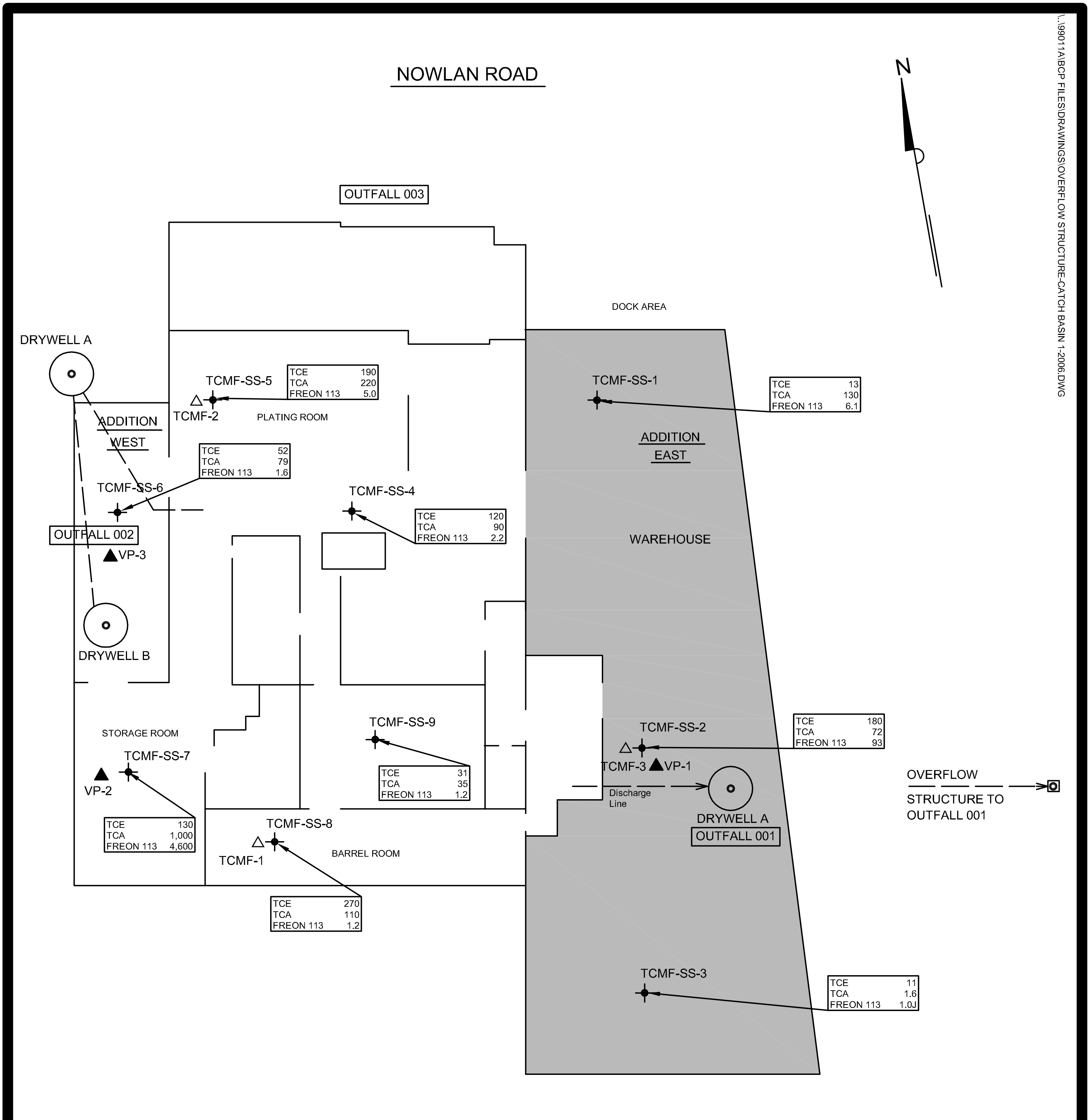
TCE	150
TCA	380
FREON 113	2,800

\..\99011\99011A\BCP FILES\DRAWINGS\TCE-TCA-FREON 113 CONC.DWG

GeoLogic
GeoLogic NY, Inc.

REMEDIAL INVESTIGATION
VAPOR SAMPLE LOCATION PLAN
TRIPLE CITIES METAL FINISHING CORP.
BINGHAMTON, NEW YORK

DR. BY: SMC/SDW	SCALE: 1"=60'	PROJ. NO: 99011A
REVD BY: -	DATE: JULY 2005	DRWG. NO: 4



\..\99011A\BCP FILES\DRAWINGS\OVERFLOW STRUCTURE-CATCH BASIN 1-2006.DWG

LEGEND

○ LOCATION OF OUTFALL STRUCTURES

▲ SOIL VAPOR MONITORING POINT LOCATION

▨ VAPOR MITIGATION SYSTEM AREA

⊕ SUB-SLAB SOIL GAS LOCATION, 02/15/2005

△ SOIL GAS LOCATION (BY NYSDEC), 02/25/04

190 CONCENTRATION IN ug/m ^{3}

° BORING LOCATIONS

APPROXIMATE SCALE:

0' 10' 30' 60'

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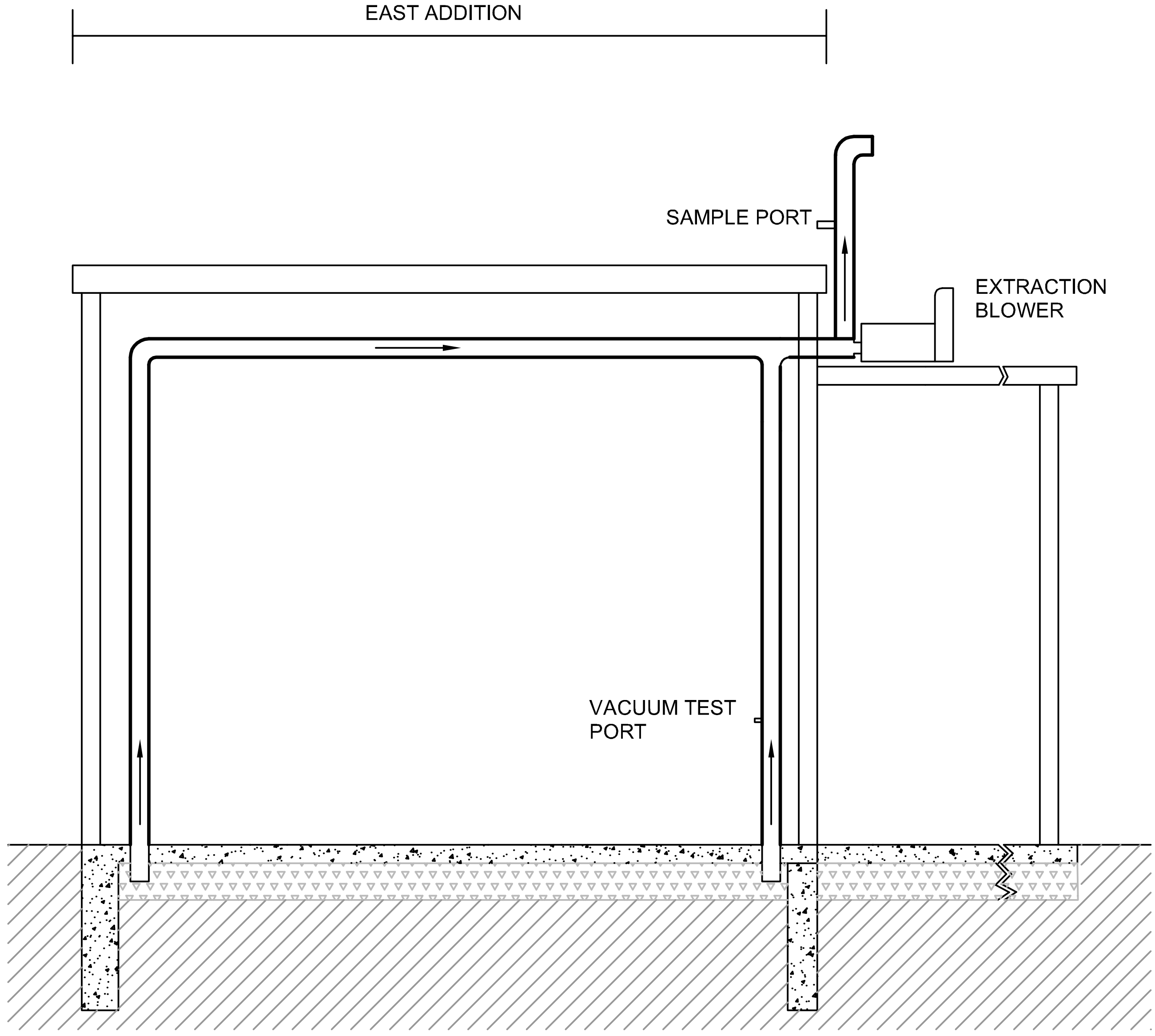
GeoLogic NY, Inc.

REMEDIAL INVESTIGATION
SAMPLE LOCATION PLAN - INSET
TRIPLE CITIES METAL FINISHING CORP.
BINGHAMTON, NEW YORK

DR. BY: SMC/SDW	SCALE: 1"=30'	PROJ. NO: 99011A
REVD BY:	DATE: JAN. 2006	DRWG. NO: 5



▨ CONCRETE

▨ SUBBASE

▨ SOILS

← DIRECTION OF AIR FLOW

GeoLogic

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REMEDIAL INVESTIGATION
VAPOR MITIGATION SYSTEM SCHEMATIC
TRIPLE CITIES METAL FINISHING CORP.
BINGHAMTON, NEW YORK

DR. BY: SMC/JAM	SCALE: NTS	PROJ. NO: 99011A
REVD BY:	DATE: APRIL 2007	DRWG. NO: 6

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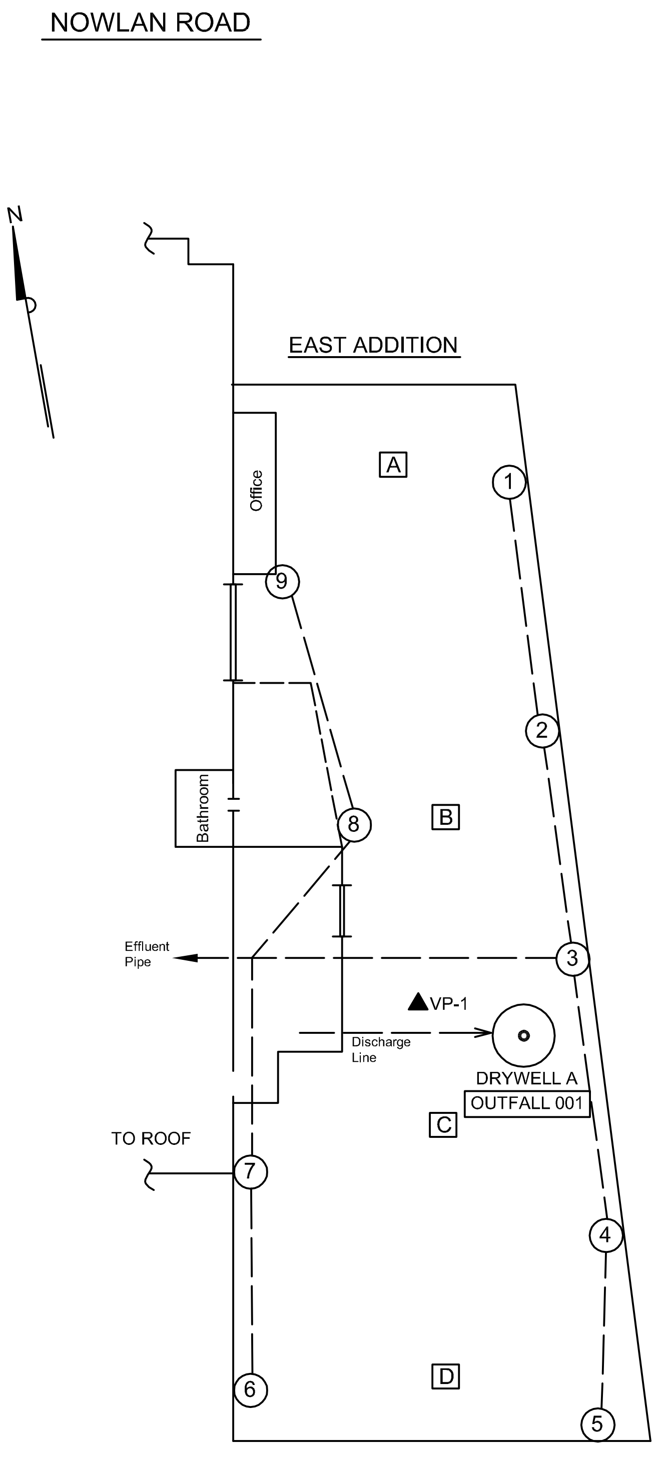

Communication Verification

Point	Pressure (inches H_2O)		PID (ppm)
	Pre-Start	Post	
A	0	0.07	8.4
B	0	0.01	8.2
C	0	0.03	6.3
D	0	0.04	5.9
VP-1A	0	0	0
VP-1B	0	0	9
VP-1C	0	0.01	9.4

Extraction Point	Air Flow (ft./min.)	PID (ppm)
1	320	
2	1000	
3	450	
4	450	
5	-	
6	635	
7	575	
8	85	
9	185	
Effluent	1750	0

LEGEND:

① EXTRACTION POINT-4" DIAMETER PVC PIPING

A PILOT POINT

▲ VAPOR POINT CLUSTER

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REMEDIAL INVESTIGATION
VAPOR MITIGATION SYSTEM
TRIPLE CITIES METAL FINISHING
BINGHAMTON, NEW YORK

DR. BY: SMC/SDW	SCALE: NTS	PROJ. NO: 99011A
REVD BY:	DATE: APRIL 2007	DRWG. NO: 7

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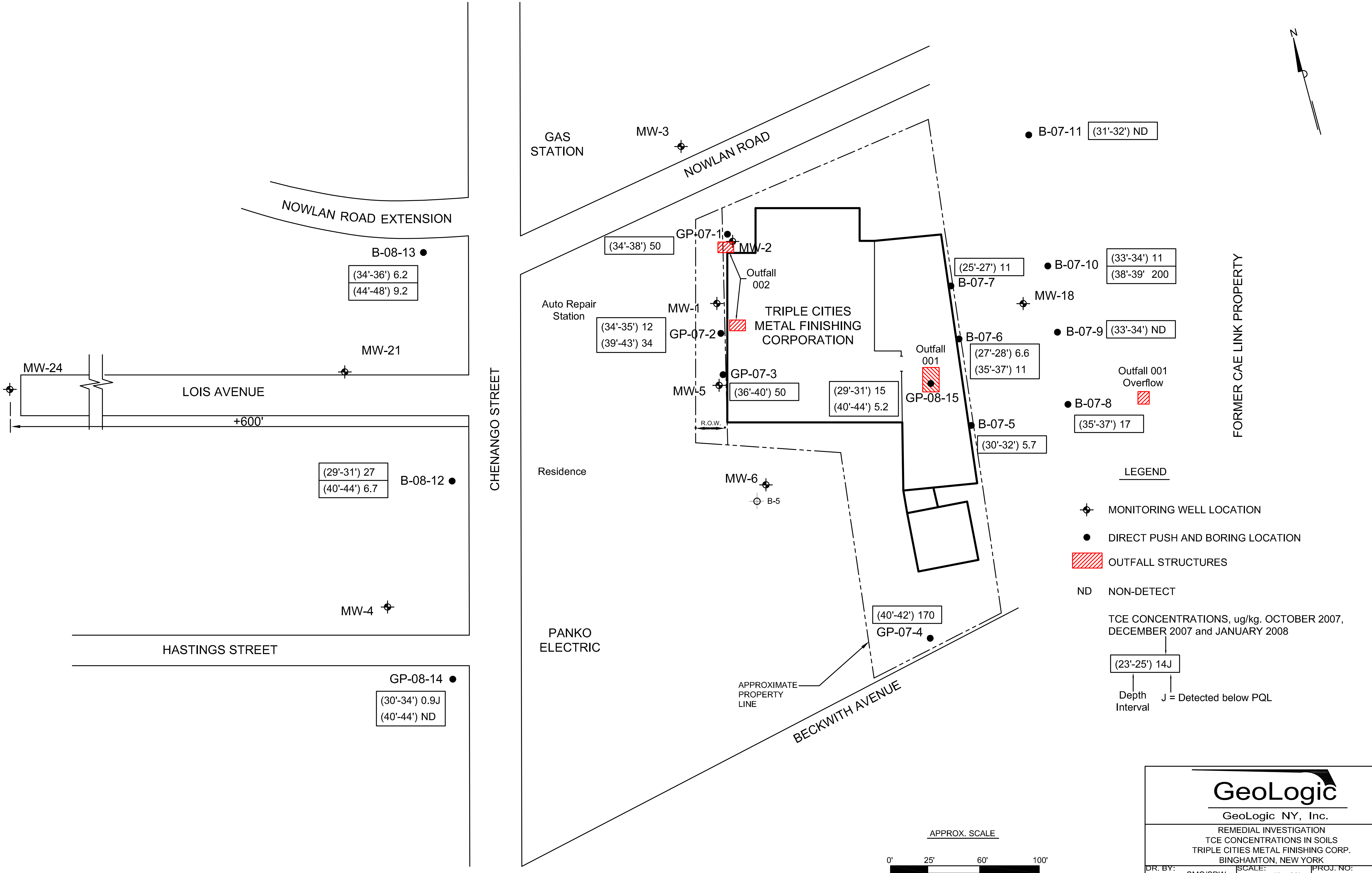


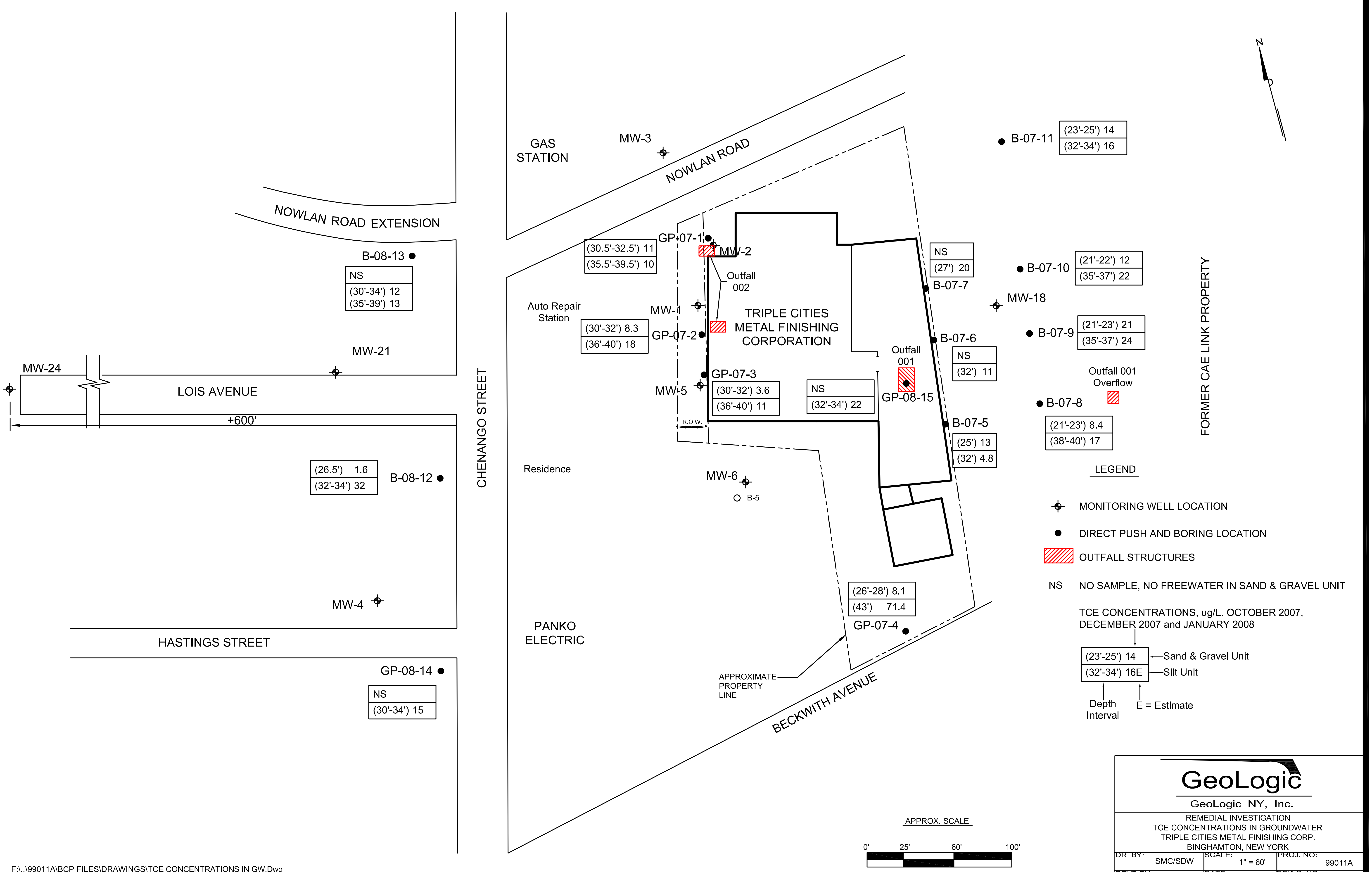
GeoLogic

GeoLogic NY, Inc.

REMEDIAL INVESTIGATION
TCE CONCENTRATIONS IN SOILS
TRIPLE CITIES METAL FINISHING CORP.
BINGHAMTON, NEW YORK

DR. BY: SMC/SDW	SCALE: 1" = 60'	PROJ. NO: 99011A
REVD BY: SEM	DATE: JULY 2008	DRWG. NO: 8

F:\..\99011A\BCP FILES\DRAWINGS\TCE CONCENTRATIONS IN SILT UNIT.DWG



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GeoLogic

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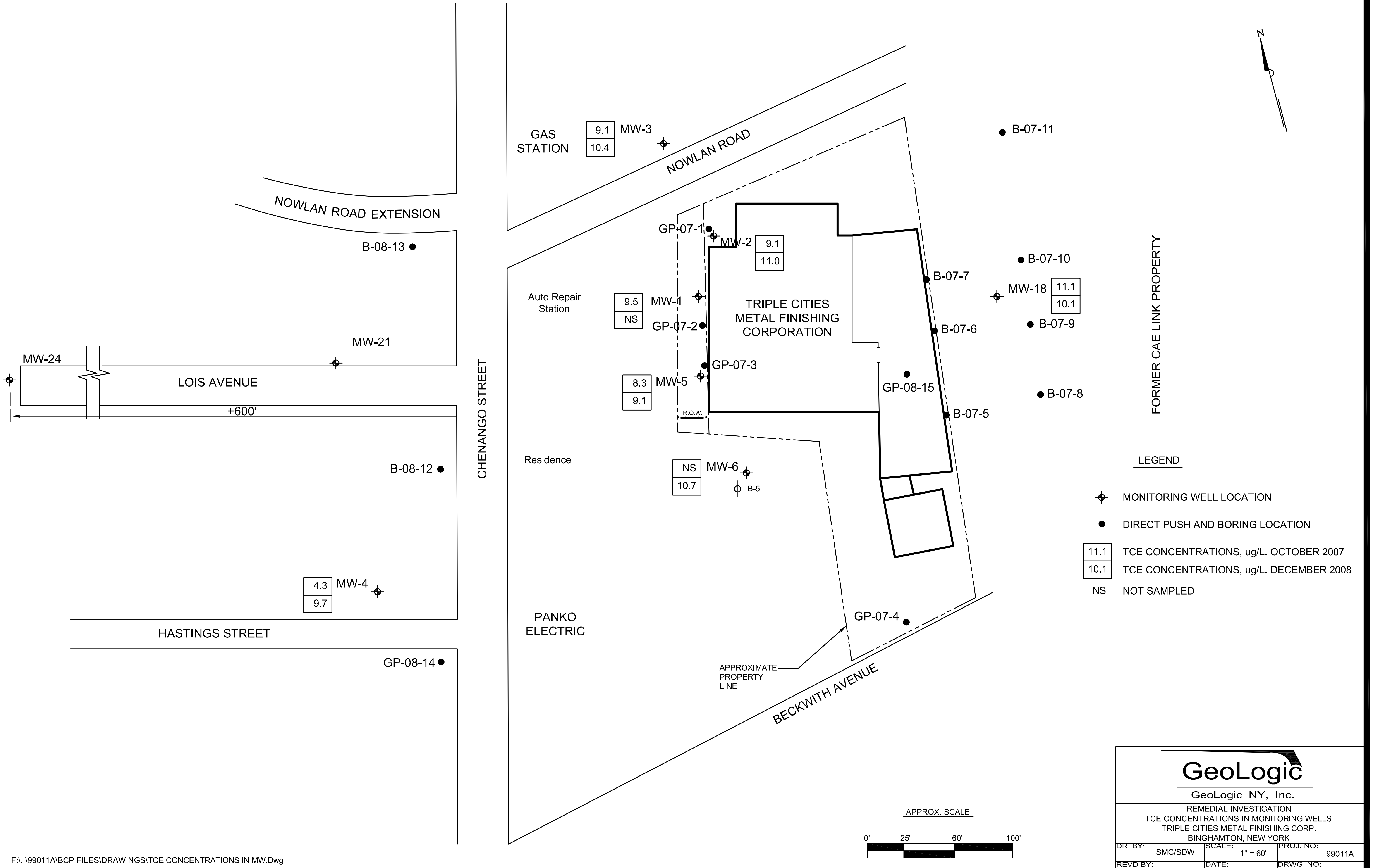
REMEDIAL INVESTIGATION
TCE CONCENTRATIONS IN GROUNDWATER
TRIPLE CITIES METAL FINISHING CORP.
BINGHAMTON, NEW YORK

DR. BY: SMC/SDW	SCALE: 1" = 60'	PROJ. NO: 99011A
REVD BY: SEM	DATE: JULY 2008	DRWG. NO: 9



GeoLogic

GeoLogic NY, Inc.

REMEDIAL INVESTIGATION
TCE CONCENTRATIONS IN MONITORING WELLS
TRIPLE CITIES METAL FINISHING CORP.
BINGHAMTON, NEW YORK

DR. BY: SMC/SDW	SCALE: 1" = 60'	PROJ. NO: 99011A
REVD BY: SEM	DATE: JULY 2008	DRWG. NO: 10

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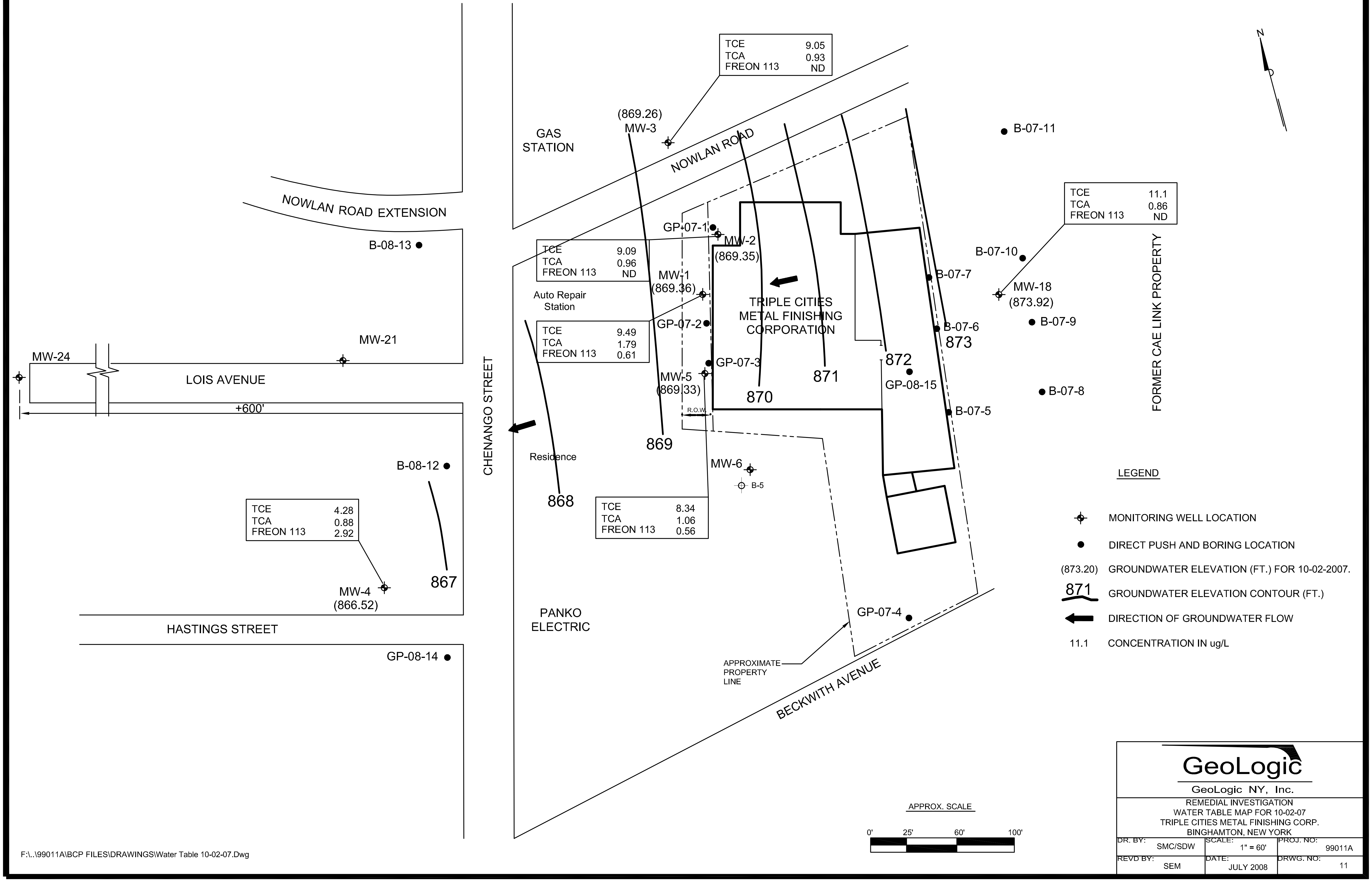

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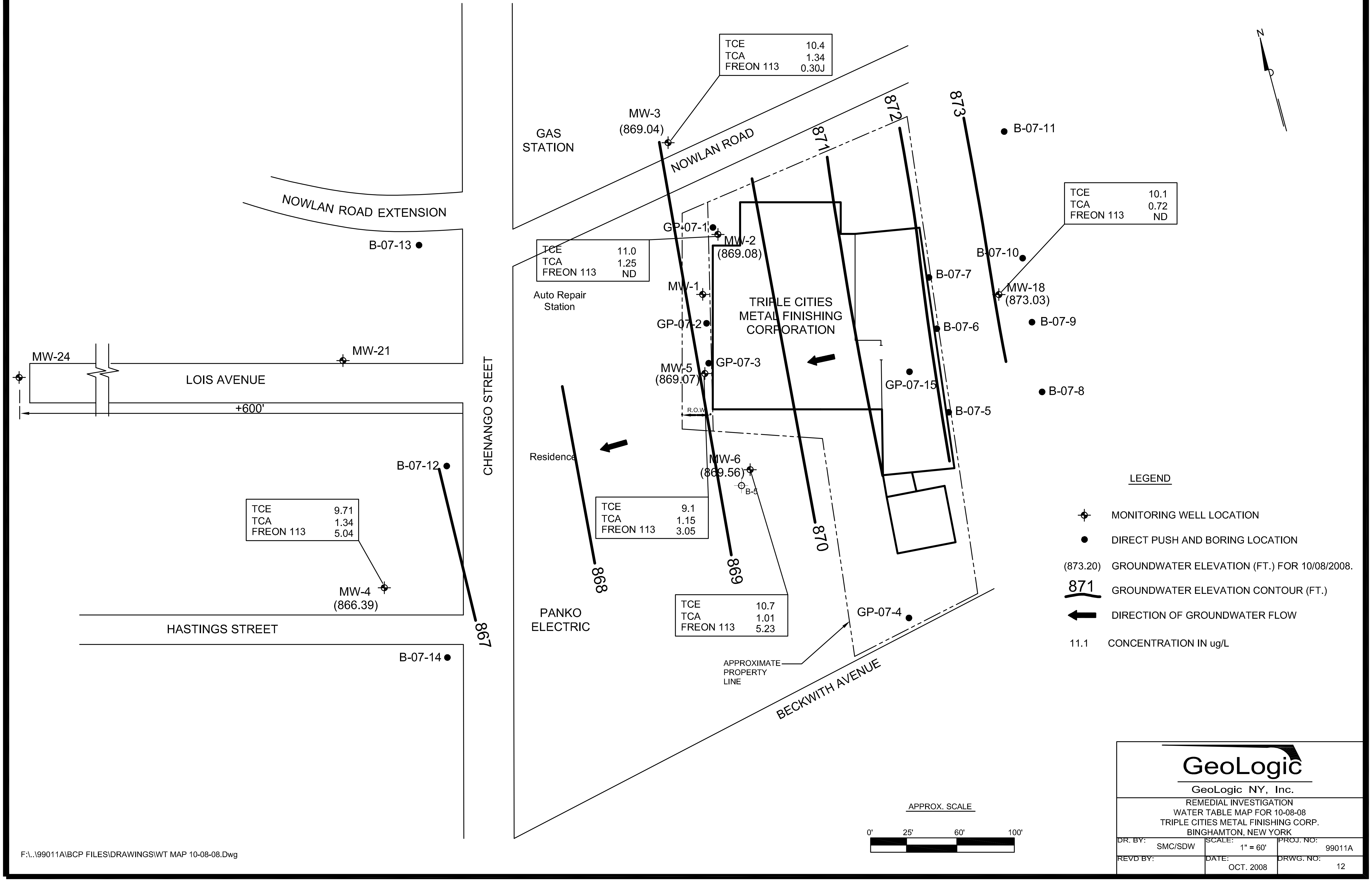
GeoLogic
GeoLogic NY, Inc.

REMEDIAL INVESTIGATION
WATER TABLE MAP FOR 10-02-07
TRIPLE CITIES METAL FINISHING CORP.
BINGHAMTON, NEW YORK

DR. BY: SMC/SDW	SCALE: 1" = 60'	PROJ. NO: 99011A
REVD BY: SEM	DATE: JULY 2008	DRWG. NO: 11



GeoLogic

GeoLogic NY, Inc.

REMEDIAL INVESTIGATION
WATER TABLE MAP FOR 10-08-08
TRIPLE CITIES METAL FINISHING CORP.
BINGHAMTON, NEW YORK

DR. BY: SMC/SDW	SCALE: 1" = 60'	PROJ. NO: 99011A
REVD BY:	DATE: OCT. 2008	DRWG. NO: 12

Source: www.nysgis.state.ny.us

REMEDIAL INVESTIGATION
MUNICIPAL WATER SUPPLY WELLS
TRIPLE CITIES METAL FINISHING CORPORATION
BINGHAMTON, NEW YORK
Drawing No. 13
Approximate Scale: 1 inch = 800 feet

APPENDIX C

VAPOR MITIGATION SYSTEM

NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing.

Preparer's Name Susan Cummins Date/Time Prepared March 16, 2006

Preparer's Affiliation Geologic NY, Inc Phone No. 607-749-5000

Purpose of Investigation Elevated sub-slab concentration in adjacent portion of bldg not occupied

1. OCCUPANT:

Interviewed: [✓ Y] / N –

Last Name: Hunter First Name: Patricia

Address:

County: Broome

Home Phone: — Office Phone: 607-762-5724

Number of Occupants/persons at this location 1 Full Time Work Week Age of Occupants 50 MSDS provided

2. OWNER OR LANDLORD: (Check if same as occupant ___)

Interviewed: Y / N

Last Name: Morgan First Name: Joseph

Address: Triple Cities Metal Finishing Corp 349 Industrial Park Drive Binghamton NY

County: Broome

Home Phone: — Office Phone: 607-722-3431

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential	School	Commercial/Multi-use
[✓ Industrial]	Church	Other:

If the property is residential, type? (Circle appropriate response) NA

Ranch
Raised Ranch
Cape Cod
Duplex
Modular

2-Family
Split Level
Contemporary
Apartment House
Log Home

3-Family
Colonial
Mobile Home
Townhouses/Condos
Other:________________

If multiple units, how many? ________

If the property is commercial, type?

Business Type(s) Current - Warehouse

Does it include residences (i.e., multi-use)? Y [✓ N] If yes, how many? _______

Other characteristics:

Number of floors 1

Building age Varies 1930 to 1980's
Area Occupied / Tested

Is the building insulated? [✓ Y] / N
Roof System

How air tight? Tight / Average / Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors

Airflow near source

Outdoor air infiltration

Infiltration into air ducts

5. **BASEMENT AND CONSTRUCTION CHARACTERISTICS** (Circle all that apply)

a. Above grade construction: wood frame [✓ concrete Block] stone brick

b. Basement type: full crawlspace [✓ slab] other ________

c. Basement floor: concrete dirt stone other ________ NA

d. Basement floor: uncovered covered covered with ______________ NA

e. Concrete floor: unsealed [✓ sealed] sealed with ________________

f. Foundation walls: [✓ poured] block stone other ________

g. Foundation walls: unsealed sealed sealed with painted

h. The basement is: wet damp dry moldy NA

i. The basement is: finished unfinished partially finished NA

j. Sump present? Y [✓ N]

k. Water in sump? Y / N / [✓ not applicable]

Basement/Lowest level depth below grade: NA (feet) Slab on grade 2-3' above exterior grade

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

Concrete Floor construction joints ?

____

6. **HEATING, VENTING and AIR CONDITIONING** (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary) Natural gas

[✓ Hot air circulation] Heat pump Hot water baseboard
Space Heaters Stream radiation Radiant floor
Electric baseboard Wood stove Outdoor wood boiler Other __________

The primary type of fuel used is:

[✓ Natural Gas] Fuel Oil Kerosene
Electric Propane Solar
Wood Coal

Domestic hot water tank fueled by: ___________________________

Boiler/furnace located in: Basement Outdoors Main Floor Other Ceiling-mounted hot air heating units; natural gas

Air conditioning: Central Air Window units Open Windows [✓ None]

Are there air distribution ducts present? Y [✓ N]

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

____

____

____

____

7. OCCUPANCY

Is basement/lowest level occupied? Full-time Occasionally Seldom Almost Never

Level	**General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)**
Basement	
1st Floor	
2nd Floor	
3rd Floor	
4th Floor	

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. **Is there an attached garage?** Y / N NA

b. **Does the garage have a separate heating unit?** Y / N / [✓ NA]

c. **Are petroleum-powered machines or vehicles stored in the garage** (e.g., lawnmower, atv, car) Y / N / [✓ NA] Please specify__________

d. **Has the building ever had a fire?** Y [✓ N] When?__________

e. **Is a kerosene or unvented gas space heater present?** Y [✓ N] Where? __________

f. **Is there a workshop or hobby/craft area?** Y [✓ N] Where & Type? __________

g. **Is there smoking in the building?** [✓ Y] N How frequently? 1 individual - workweek

h. **Have cleaning products been used recently?** [✓ Y] N When & Type? Clorox, Windex, Comet, Pledge, Spic Span, Future Floor Finish

i. **Have cosmetic products been used recently?** Y [✓ N] When & Type? __________

Propane-powered forklift present

j. Has painting/staining been done in the last 6 months? Y / [✓ N] Where & When? ______________

k. Is there new carpet, drapes or other textiles? Y / [✓ N] Where & When? ______________

l. Have air fresheners been used recently? Y / [✓ N] When & Type? ______________

m. Is there a kitchen exhaust fan? Y / [✓ N] If yes, where vented? ___________

n. Is there a bathroom exhaust fan? Y / [✓ N] If yes, where vented? ___________

o. Is there a clothes dryer? Y / [✓ N] If yes, is it vented outside? Y / N

p. Has there been a pesticide application? Y / [✓ N] When & Type? ______________

Are there odors in the building? Y / N

If yes, please describe: ____

Do any of the building occupants use solvents at work? Y / [✓ N]

(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? ______________________________________

If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly)
Yes, use dry-cleaning infrequently (monthly or less)
Yes, work at a dry-cleaning service
[✓ No]
Unknown

Is there a radon mitigation system for the building/structure? Y / N Date of Installation: ___________

Is the system active or passive? Active/Passive

A vapor mitigation system installed Jan 2006 with roof-mounted blower

9. WATER AND SEWAGE

Water Supply: [✓ Public Water] Drilled Well Driven Well Dug Well Other: _______

Sewage Disposal: [✓ Public Sewer] Septic Tank Leach Field Dry Well Other: _______

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: ______________________________

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel

c. Responsibility for costs associated with reimbursement explained? Y / N

d. Relocation package provided and explained to residents? Y / N

11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:

First Floor:

12. OUTDOOR PLOT

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.

97

— Section 1 —
Product Identification

Material Safety Data Sheet

The Sherwin-Williams Co.
101 Prospect Ave. N.W.
Cleveland, OH 44115

Emergency telephone number (216) 566-2917
Information telephone number (216) 566-2902
Date of preparation August 18, 1997

Reducers

SOL/2

						Toluene (Toluol) R2 K 1	Xylene (Xylol) R2 K 4	High Flash Naphtha - 100 R2 K 5 R7 K 100	High Flash Naphtha - 150 R2 K 7	Acrylic Enamel Reducer Standard R4 K 35	Warm Weather R4 K 36
CAS No.	— Section 2 — Hazardous Ingredient (percent by weight)	ACGIH TLV <STEL>	OSHA PEL <STEL>	Units	Vapor Pressure (mm Hg)	154-2364 154-2372 154-8668	154-2380 154-2398 154-8684	154-4576 154-4584 154-8767	154-4592 154-4600 154-8809		
64742-89-8	Lt. Aliphatic Hydrocarbon Solvent	100	100	PPM	53.0					29	
108-88-3 §	Toluene.	50	100 <150>	PPM (Skin)	22.0	100				38	29
100-41-4 §	Ethylbenzene	100 <125>	100 <125>	PPM	7.1		15	1			7
1330-20-7 §	Xylene.	100 <150>	100 <150>	PPM	5.9		85	5		5	42
64742-95-6	Light Aromatic Hydrocarbons.	Not Established			3.8			22			
98-82-8 §	Cumene.	50	50	PPM (Skin)	10.0			5			
108-67-8	1,3,5-Trimethylbenzene	25	25	PPM	10.0			27	1		
95-63-6 §	1,2,4-Trimethylbenzene	25	25	PPM	2.0			40	2		
64742-94-5	Med. Aromatic Hydrocarbons.	Not Established			0.1				84		
91-20-3 §	Naphthalene	10 <15>	10 <15>	PPM	1.0				13		
111-76-2 §	2-Butoxyethanol	25	25	PPM (Skin)	0.6					6	
67-64-1	Acetone.	750 <1000>	750 <1000>	PPM	180.0					15	
78-93-3 §	Methyl Ethyl Ketone.	200 <300>	200 <300>	PPM	70.0						4
112-07-2 §	2-Butoxyethyl Acetate.	Not Established			1.0					3	16
	Weight per Gallon (lbs.)					7.18	7.17	7.24	7.40	6.76	7.25
	VOC (Volatile Organic Compounds) Total - lbs./gal.					7.18	7.17	7.24	7.40	5.71	7.25
	VOC Less Federally Exempt Solvents - lbs/gal.					7.18	7.17	7.24	7.40	6.79	7.25
	Photochemically Reactive					Yes	Yes	Yes	Yes	Yes	Yes
	Flash Point (°F) / DOL Storage Category					40 / 1B	80 / 1C	105 / 2	140 / 3A	10 / 1B	10 / 1B
	Flammability Classification (Flammable - Combustible)					Flammable	Flammable	Combustible	Combustible	Flammable	Flammable
	HMIS (NFPA) Rating (health - flammability - reactivity)					2 3 0	2 3 0	3 2 0	3 2 0	2 3 0	2 3 0

PERCENT BY WEIGHT

§ Ingredient subject to the reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313, 40 CFR 372.65 C

→→→ *MSDS Text Page Follows* →→→

Section 3 — Physical Data

PRODUCT WEIGHT	See TABLE	*EVAPORATION RATE*	Slower than Ether
SPECIFIC GRAVITY	0.81-0.89	*VAPOR DENSITY*	Heavier than Air
BOILING RANGE	132-425 °F	*MELTING POINT*	N.A.
VOLATILE VOLUME	99-100 %	*SOLUBILITY IN WATER*	N.A.

Section 4 — Fire And Explosion Hazard Data

FLAMMABILITY CLASSIFICATION *FLASH POINT* See TABLE *LEL* 0.5 *UEL* 12.8
See TABLE

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Keep containers tightly closed. Isolate from heat, electrical equipment, sparks, and open flame. Closed containers may explode when exposed to extreme heat. Application to hot surfaces requires special precautions. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Section 5 — Health Hazard Data

ROUTES OF EXPOSURE

Exposure may be by INHALATION and/or SKIN or EYE contact, depending on conditions of use. Alcohols in R4K36 Acrylic Enamel Reducer can be absorbed through the skin.

To minimize exposure, follow recommendations for proper use, ventilation, and personal protective equipment.

ACUTE Health Hazards

EFFECTS OF OVEREXPOSURE

Irritation of eyes, skin and respiratory system. May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

EMERGENCY AND FIRST AID PROCEDURES

If INHALED: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
If on SKIN: Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
If in EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
If SWALLOWED: Never give anything by mouth to an unconscious person. DO NOT INDUCE VOMITING. Give several glasses of water. Seek medical attention.

CHRONIC Health Hazards

No ingredient in these products is an IARC, NTP or OSHA listed carcinogen.

Methyl Ethyl Ketone may increase the nervous system effects of other solvents.

Prolonged overexposure to solvent ingredients in:
Acrylic Enamel Reducers R4K35 and R4K36 may cause adverse effects to the liver, urinary, blood forming, cardiovascular and reproductive systems.
High Flash Naphtha-100, High Flash Naphtha-150 and Xylene may cause adverse effects to the liver, urinary and reproductive systems.
Toluene may cause adverse effects to the liver, urinary, cardiovascular and reproductive systems.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Section 6 — Reactivity Data

STABILITY -- Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION – Will Not Occur

Section 7 — Spill Or Leak Procedures

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate and remove with inert absorbent.

WASTE DISPOSAL METHOD

Waste from these products may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State, and Local regulations regarding pollution.

Section 8 — Protection Information

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation. Avoid breathing vapor and spray mist. Avoid contact with skin and eyes. Wash hands after using.

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section II is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section II.

PROTECTIVE GLOVES

Wear gloves which are recommended by glove supplier for protection against materials in Section II.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

Section 9 — Precautions

DOL STORAGE CATEGORY – See TABLE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Keep away from heat, sparks, and open flame.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

Section 10 — Other Regulatory Information

CALIFORNIA PROPOSITION 65

WARNING: These products, except for R2K7 High Flash Naphtha - 150, contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in these products are listed, or are exempt from listing, on the TSCA Inventory.

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of additives or other coatings materials to these products may substantially alter the composition and hazards of the products. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

MATERIAL SAFETY DATA SHEET

PARAMOLD MANUFACTURING LTD.
90 Bourne Boulevard
Sayville, NY 11782
Telephone: (631) 589-5454
Fax: (631) 589-1232

SECTION I - IDENTIFICATION

Product Name: 120 RP, 125 RP, 130 FRP, 135 FRP, 140 FRP, 145 FRP, 150 FRP, 155 FRP, 160 FRP

Chemical Name: Clay treated paraffin wax

Formula: Complex mixture of petroleum hydrocarbons

Synonyms: Fully refined paraffin wax, Refined Paraffin, Paraffin

Transportation Emergency: CHEMTREC 1-800-424-9300 (US & Canada)

SECTION II - TYPICAL COMPOSITION

% Weight: 100%

CAS #: 64742-43-4

OSHA PEL: None

Other TWA: None

ACGIH TLV: None Established

Chemical Identity: Clay treated paraffin wax

Emergency Overview: White waxy solid, practically odorless. Will burn in a fire

SECTION III - POTENTIAL HEALTH EFFECTS

Primary routes of exposure: Skin contact

Injection: This material is considered to be in the slight to non-toxic category. Low oral toxicity.

Skin: May be irritating to the skin upon prolonged or repeated contact.

Eye: Vapors from heated product may cause irritation

Inhalation: Vapors from heated product may cause irritation of the nose, throat, and lung.

SECTION IV - FIRST AID

Ingestion: If swallowed, give two glasses of water to drink. Never give anything by mouth to an unconscious person. Do not induce vomiting. Consult a physician.

Skin: Wash affect area thoroughly with waterless cleaner and/or soap and water. If irritation persists, consult a physician.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. Give oxygen if needed. Seek medical attention.

Eyes: Flush eyes with large amounts of water for at least 15 minutes, holding eyelids open. Consult a physician if irritation persist.

SECTION IX - PHYSICAL & CHEMICAL PROPERTIES

Appearance:	White waxy solid
Odor:	Practically odorless
Physical State:	Solid (at 70 F, 14.7 PSIA)
Vapor Pressure	Nil
Solubility in water	Nil
pH:	Not Applicable
Melting Point:	120 - 160 F
Specific Gravity:	(Water = 1.0) 0.80 - 0.82
Flash Point	Greater than 370 F

SECTION X - STABILITY AND REACTIVITY

Stability:	Stable under normal storage and handling conditions.
Conditions to Avoid:	High temperatures and open flame.
Incompatibility:	Strong Oxidizing Agents.
Hazardous Decomposition Products:	When heated to decomposition, may emit oxides of carbon.
Hazardous Polymerization:	Will not occur.

SECTION XI - REGULATORY INFORMATION

Workplace Classifications:	This product is considered non-hazardous under the OSHA Hazard Communication Standard. This product is not a controlled product under the Canadian Workplace Hazardous Materials Information Systems (WHMIS).
Transportation Classifications:	US Department of Transportation (DOT) Hazard Class - Nonregulated
Emergency planning and Community Right-to Know:	SARA Title III Section 311.312 Categorizations (40 CFR 370) This product not a hazardous chemical under 29 CFR 1910.1200, and therefore is no covered by SARA Title III of SARA
Comprehensive Environmental Response, Compensation & Liability Act (40 CFR 302.4):	Releases of this material to air, land or water are not reportable to the National Response Center under CERCLA/Superfund or to state and local emergency planning committees under the Superfund Amendments Reauthorization Act (SARA) Title III Section 304.
Resource Conservation & Recovery Act:	When this product becomes a waste, it is classified as a nonhazardous waste under the criteria of RCRA (40 CFR 261)

SECTION V - FIRE FIGHTING PROCEDURES

Flash Point:	Greater than 376 F
Extinguishing Media:	Carbon dioxide, dry chemical, foam, water fog.
Special Firefighting Procedures:	For small fires involving this product, no special procedures or precautions are necessary. For large fires, such as in any fire, wear self-contained breathing apparatus (pressure demand, MSHA/NIOSH approved or equivalent) and full protective gear. Keep personnel removed from and upwind fire.
Unusual Fire and Explosion Hazards:	None

SECTION VI - ACCIDENTAL RELEASE MATERIALS

Steps to be taken if material is released or spilled:	Clean up spills as soon as possible. If materials in a liquid state, absorb on commercially available material, such as absorbent clay. If material is in a solid state, scoop or shovel into containers for recovery or disposal.
Waste Disposal Method:	Incinerate material at a permitted facility in accordance with current local, state and federal regulations. Alternatively, place material into containers suitable for disposal and bury in an approved landfill according to current local, state and federal regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate.

SECTION VII - HANDLING AND STORAGE

Precautions to be taken in Handling & Storage:	This material is not hazardous under normal handling and storage conditions. Do not store near high heat or open flames.
Precautions During Use:	Avoid prolonged or repeated skin contact. Skin contact can be minimized by wearing chemically resistant gloves. Good personal hygiene is essential; hands and other exposed areas should be washed thoroughly with soap and after contact, especially before eating and/or smoking. Regular laundering of contaminated clothing will reduce indirect skin contact with this material.

SECTION VIII - EXPOSURE CONTROLS

Ventilation:	None required under normal operating conditions. The ventilation system employed is dependant on the user's specific application of the material.
Respiratory Protection:	None required under normal operating conditions.
Protective Gloves:	Chemically resistant gloves should be should be worn to minimize skin exposures where prolonged or repeated contact can occur.
Eye Protection:	Wear safety glasses or chemical splash goggles (ANSI Z87.1 or approved equivalent) to reduce the possibility or accidental eye contact.
Other Protective Equipment:	None necessary for normal use.

MATERIAL SAFETY DATA SHEET

FRENCH COLOR AND CHEMICAL COMPANY
488 GRAND AVENUE, ENGLEWOOD, NJ 07631
TEL: 201-567-6883 (For All Information)

Prepared: Feb 2001

I. PRODUCT INFORMATION:

Trade Name: Fluorescent Blue Pigment Dispersion #P-1269
Chemical Family: Mixture
CAS #: N/A (Mixture)

II. HAZARDOUS INGREDIENTS

Components: Pigment CAS # 26160-89-1
(OSHA 29 CFR 1910.1200)
Diisononyl phthalate , CAS # 28553-12-0
SUS 350 Vis USP Mineral Oil

III. PHYSICAL DATA:

Appearance: Fluid
Color and Odor: Fluorescent Blue, mild odor
Solubility in Water: Insoluble
Vapor Density (air=1): 15.5
Specific Gravity: 1.13
Approx. Boiling Point: 485^{o}F, 5 mm Hg

IV. FIRE AND EXPLOSION DATA:

Flash Point (Method Used): 450^{o}F (SETAFLASH CLOSED CUP)
Extinguishing Media: Water fog, foam, carbon dioxide, dry chemical.
Special Firefighting Procedures: Burning of this product will result in the release of toxic fumes. Firefighters should wear self-contained breathing apparatus and protective clothing.

V. HEALTH EFFECTS DATA:

Effects of Overexposure: Exposure to the liquid, mist or vapor may produce mild eye irritation. Excessive skin contact may produce at least mild irritation. No known effects for inhalation or ingestion.

Emergency and First Aid Procedures

Eye Contact: Rinse with copious amounts of water for at least 15 minutes. If irritation develops, consult a physician.
Skin Contact: Wash all exposed areas with soap and water. Was contaminated clothing separately before reuse.
Inhalation: Remove to fresh air. If symptoms develop, seek immediate medical attention. If not breathing, give artificial respiration. Give oxygen if trouble breathing.
Ingestion: If conscious give 1-2 glasses of milk or water, induce vomiting and call a physician. Never give anything by mouth to unconscious person.

MATERIAL SAFETY DATA SHEET

Note to Physician:	Treatment should be directed at preventing absorption, administering to the symptoms as they occur & providing supportive therapy.

VI. <u>REACTIVITY DATA</u>:

Stability:	Stable
Polymerization:	Will not occur.
Incompatibility:	Strong oxidizing agents
Decomposition:	During combustion carbon dioxide, carbon monoxide and organic acids may be generated.

VII. <u>SPILL OR LEAK PROCEDURES</u>:

Steps to be taken in case material is released or spilled:

Soak up with sand or other absorbent. Shovel into drum. Flush spill area with water. Avoid generating dust from dried down material. Comply with Federal, State, and Local regulations on reporting releases.

Waste Disposal Method:

As provided under Resources Conservation and Recovery Act (RCRA), and in accordance with Federal, State, and Local regulations.

VII. <u>SPECIAL PROTECTION INFORMATION</u>:

Eye Protection:	Side-shield protective goggles
Skin Protection:	Neoprene or other non-permeable gloves
Respiratory Protection:	NIOSH/MSHA approved dust mask
Body Protection:	Discardable or washable full length clothing
Ventilation:	Local exhaust - Sufficient exhaust to avoid vapors, mists and dusts.

IX. <u>SPECIAL PRECAUTION</u>:

Precautions to be taken in handling & storing:

Store in cool, dry place away from food and beverage in a well ventilated area. Keep containers closed when not in use. Make sure the drums are always labeled. Do not reuse container for food, clothing or products for human or animal consumption or where skin contact may occur.

D.O.T. Hazard Regulations: Non-regulated

WORK/HYGENIC PRACTICES:

Wear protective clothing while handling. Do not smoke. Wash off all accidental contamination. Keep drum closed when not in use.

The data contained in this Material Safety Data Sheet is accurate to the best knowledge of French Color & Chemical Co.; applies to the product as supplied by French Color & Chemical Co. and does not relate to use in combination with any other material or in any process. Data and information is furnished without warranty expressed or implied, nor does French Color & Chemical Co. assume responsibility for use or reliance upon this data.

MATERIAL SAFETY DATA SHEET

FRENCH COLOR & FRAGRANCE CO., INC.
488 GRAND AVENUE, ENGLEWOOD, NJ 07631
FOR ALL INFORMATION: (201) 567-6883
FAX: (201) 567-5749

Prepared: October, 2004

HAZARD RATING:

0 = Least
1 = Slight
2 = Moderate
3 = High
4 = Extreme

HEALTH 1
FLAMMABILITY 2
REACTIVITY 0
PERSONAL PROTECTION B

I. IDENTIFICATION

PRODUCT NAME: **COCONUT #2063**
DESCRIPTION: A complex mixture of fragrance materials
INGREDIENTS: The specific chemical identities of the ingredients of this mixture are considered by French Color to be Trade Secrets and are withheld in accordance with the provisions of 1910.1200 of Title 29 of the Code of Federal Regulations.

II. PHYSICAL DATA

SPECIFIC GRAVITY: .98 = 8.16 LBS./ GAL.
SOLUBILITY IN WATER: INSOLUBLE
FORM: CLEAR LIQUID
COLOR: PALE YELLOW
ODOR: COCONUT

III. FIRE AND EXPLOSION HAZARD

FLASH POINT (Closed Cup): 210 degrees Fahrenheit
EXTINGUISHING MEDIA: Carbon dioxide, foam, or dry chemical
COMBUSTION PRODUCTS: Carbon monoxide, carbon dioxide and smoke.
UNUSUAL FIRE OR EXPLOSION HAZARDS: None Known.

IV. REACTIVITY

This product presents no significant hazard. Hazardous polymerization will not occur. Normally stable even at elevated temperatures and pressures. Not pyrophoric nor reactive with water. Does not undergo explosive decomposition, is shock stable, and is not an oxidizer. Does not form explosive mixtures with other organic materials. AVOID STRONG OXIDIZING AGENTS.

V. HEALTH HAZARDS

CONTACT: May lead to mild eye or skin irritation.
None of the ingredients are listed as known carcinogens.
Based on health hazard determinations of ingredients present at concentrations of more than 1 %, this mixture presents no known health hazards.

VI. FIRST AID

EYE CONTACT: Flush immediately with copious amounts of water for at least 15 minutes. If irritation persists, obtain medical advice.

SKIN CONTACT: Remove contaminated clothes. Wash affected area with soap and water. If irritation persists, obtain medical advice.

INGESTION: Drink milk or water to dilute. Induce vomiting. Contact a physician immediately.

INHALATION: Remove from the exposure to fresh air.

VII. SPILLS, CLEAN-UP AND STORAGE

SPILLS & CLEAN-UP: Eliminate all ignition sources. Absorb liquid spills on suitable absorbent material. Sweep up solids and dispose of in accordance with local, state, and federal regulations.

STORAGE: Store in cool, dry, ventilated area away from any heat source. Keep containers tightly closed and in upright position when not in use.

VIII. SPECIAL PROTECTION

EYE PROTECTION: Splash resistant safety glasses.

SKIN PROTECTION: The use of chemical resistant gloves is recommended. Contaminated clothing and shoes should be cleaned before reusing. Acceptable industrial hygiene practices should be maintained.

RESPIRATORY: None Generally Required.

VENTILATION: General ventilation is adequate. Use exhaust fan if necessary.

DISCLAIMER

The information and recommendations contained in this data sheet represent, to the best of FRENCH COLOR's knowledge and belief, an accurate and reliable representation as to the known data for this material. The data has been obtained from a number of sources and FRENCH COLOR cannot guarantee its accuracy, reliability or completeness nor can FRENCH COLOR assume any liability for any loss or damage arising out of the use of this data. It is the user's responsibility to evaluate the information and to use it in a manner that is consistent for its particular purpose.

GeoLogic

GeoLogic NY, Inc.
P.O. Box 350 • 37 Copeland Ave. • Homer, NY 13077 • 607.749.5000 • Fax: 607.749.5063

Revised: January 8, 2009
October 9, 2008

Mr. Gary Priscott
NYSDEC – Region 7 Sub-Office
1679 NY Route 11
Kirkwood, NY 13795

Reference: Annual Interim Maintenance & Monitoring Report
Binghamton Realty, Inc.
Former TCMF Facility
4 Nowlan Road, Hillcrest, NY
BCP ID C704045

Dear Mr. Priscott:

In response to sub-slab vapor samples collected at TCMF that exceeded Matrix 1 Action Levels set in the NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, a sub-slab vapor mitigation system was installed in the East Addition of the industrial building. A Maintenance & Monitoring Plan for the Sub-Slab Vapor Mitigation System was submitted in May 2007.

Background

TCMF has one tenant that moved into the building in late 2005. The tenant occupies the East Addition portion of the building that includes a warehouse, an office and a bathroom. One employee occupies this portion of the building during the work week. The employee does not access any other portion of the building.

A blower in a shelter mounted on the roof is connected to the effluent pipe. The system has been operating since January 19, 2006. The system operates 24 hours a day, seven days a week.

To reduce air exchange between the occupied space with the remaining unoccupied portions of the building, seals on the sliding and overhead doors between the occupied and unoccupied spaces were installed; one floor drain in the occupied space was sealed with concrete, and spaces where ceiling joists span the common wall between the occupied space and the unoccupied space were sealed with insulation (see GeoLogic's report, dated February 13, 2006).

Monitoring & Maintenance

The sub-slab vapor mitigation system is audible from the occupied space. The current employee has been instructed to contact Mr. Joseph Morgan, if the system is not operating or if the mitigation system becomes damaged (ex. breakage of extraction piping). To ensure that proper notification is in place in case of new employee(s), the following information was posted inside the East Addition.

- Schematic of Sub-Slab Vapor Mitigation System and the Location of the System Components;
- Labeling of Components accessible to Occupant(s); and
- Contact information for Joseph Morgan, Charles Morgan and Susan Cummins.

NYSDEC and NYSDOH will be notified within 24 hours of failures to the vapor mitigation system.

System Monitoring

The Sub-Slab Vapor Mitigation System monitoring by GeoLogic has included the following:

Routine maintenance commenced in June 2007. Visual inspections of the system components and building were performed by GeoLogic on August 9, September 28, October 30, and November 30, 2007, and January 13, January 21, February 21, April 3, May 8 and June 10, 2008. There have been no changes to the building or to the HVAC system that would change air exchange pathways.

On January 17, 2008, GeoLogic was notified that the blower was not operating. The Rotron 505 blower was replaced on January 21, 2008 with a Regenerative 404 Blower.

Except for the above noted interruption in the mitigation system in January 2008, no other interruptions have occurred. No damage has been reported or observed to the system piping. The system has been in operation for 35 months.

After replacing the blower, flow rate measurements within each of the nine extraction points range from approximately 100 to 350 feet/min. Previous flow ranges within the nine extraction points ranged between 85 to 1,000 feet/min. Flow has been observed within each of the nine extraction points during each system check.

All effluent PID readings have registered 0 ppm.

Pressure readings were recorded in January 2006 at the start-up of the vapor mitigation system and also on August 9, 2007. After the new Rotron 404 blower was installed, vacuum readings were collected at locations similar to previous measurements. Measurements registered between 0.02 and 0.04 WG.

During a system check in December 2008, the air flow at extraction points 8 and 9 were lower (<100 fpm) than previous measurements (100-300 fpm range). The vertical and horizontal piping were checked for breakage or leakage at the joints. Although no leakage was observed at the pipe joints, the joints were resealed. Sub-slab pressure measurements were collected at points A and B to assure adequate sub-slab pressure influence.

Location	**Reading WG (Rotron 505) January 2006**	**Reading WG (Rotron 505) August 2007**	**Reading WG (Rotron 404) January 2008**	**Reading WG (Rotron 404) June 2008**	**Reading WG (Rotron 404) December 2008**
A	0.07	0.08	0.04	0.05	0.1
B	0.01	0.01	0.02	0.03	0.03
C	0.03	0.03	0.01	0.02	-
D	0.04	0.03	0.03	0.03	-

Rotron 505 blower replaced by a Rotron 404 blower in January 2008

Recommendations

The system has operated for 37 months with one interruption. The regenerative 404 blower vacuum influence readings of 0.02 to 0.04 WG are well above the required 0.004 WG. We recommend that monitoring requirements be reduced to semi-annually with verification of the system influence performed only when changes to the blower occurs or when building modifications occur that could influence air flow within the building.

If you have any questions or require additional information, please contact the undersigned.

Sincerely,

GeoLogic NY, Inc.

Susan M. Cummins

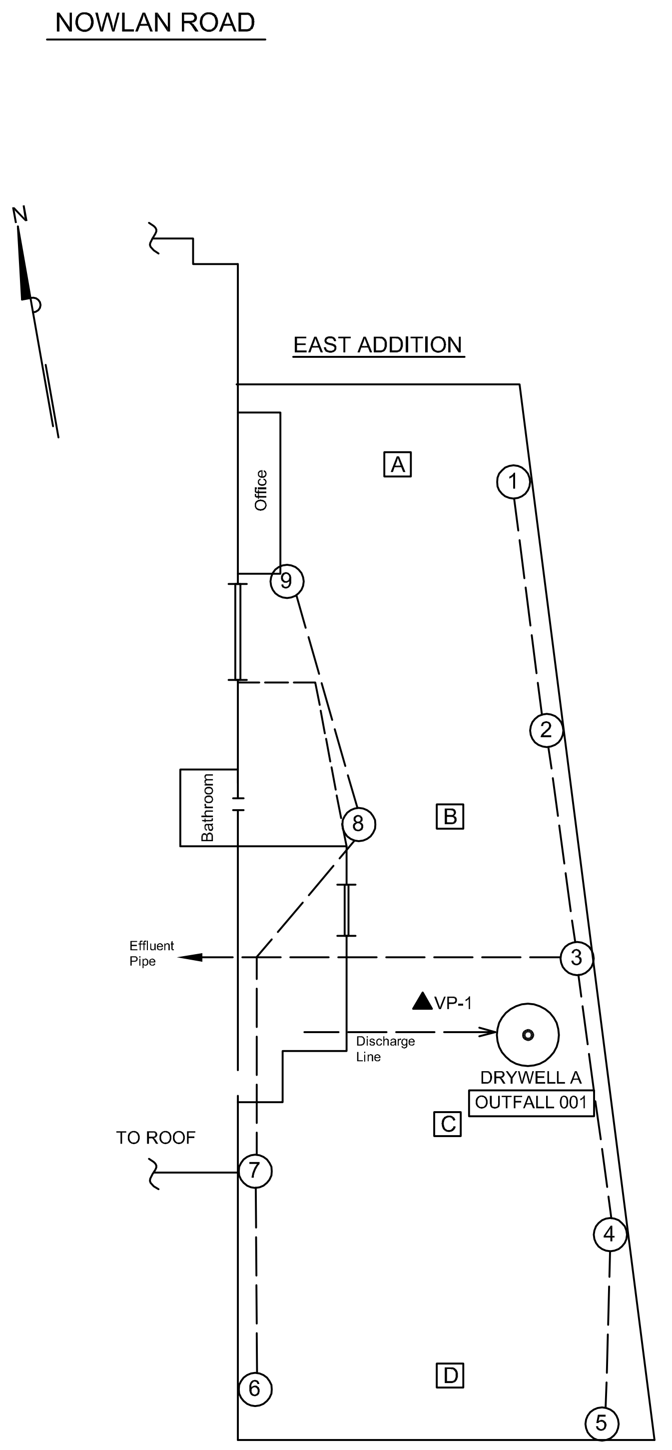
Susan M. Cummins
Project Manager

CHRISTOPHER MARONEY /JRD

Christopher Maroney, P.E.

Enc: Drawing No. 1, NYSDEC letter

cc: J. Morgan
G. Townsend, P.E., NYSDEC
R. Denz, BCHD
J. Deming, NYSDOH
Fenton Public Library
File: ..99011A\BCP Files\Report\annual system report revised



LEGEND:

①	EXTRACTION POINT-4" DIAMETER PVC PIPING
A	PILOT POINT
▲	VAPOR POINT CLUSTER

GeoLogic

GeoLogic NY, Inc.

REMEDIAL INVESTIGATION
VAPOR MITIGATION SYSTEM
TRIPLE CITIES METAL FINISHING
BINGHAMTON, NEW YORK

DR. BY: SMC/SDW	SCALE: NTS	PROJ. NO: 99011A
REVD BY:	DATE: DEC. 2008	DRWG. NO: 1

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New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 7
1679 NY Route 11, Kirkwood, New York 13795-1602
Phone: (607) 775-2545 • **FAX:** (607) 775-2019
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

December 4, 2008

Ms. Susan M. Cummins
GeoLogic NY, Inc.
P.O. Box 350
Homer, NY 13077

Re: Review of Annual Interim Maintenance and Monitoring Report, October 9, 2008
TCMF Hillcrest Facility
Site No. C704045

Dear Ms. Cummins:

The New York State Department of Environmental Conservation and the New York State Department of Health (the Departments) have reviewed the Annual Interim Maintenance and Monitoring Report (Report), dated October 9, 2008. Based on our review of the Report the Departments have the following comments and requests:

- Please provide a table to the Departments that includes the vacuum readings collected at each location during pressure field extension testing of both the Rotron 505 and the Regenerative 404 blowers.

- Please notify the Departments within 24 hours of any sub-slab vapor mitigation system failures.

If you have any questions, please do not hesitate to contact me.

Respectfully,

Gary Priscott

Gary Priscott
Project Manager

cc: Joseph Morgan

ec: Gregg Townsend
James Charles, Esq.
Justin Deming

NOTIFICATION INFORMATION
Vapor Mitigation System

Please contact one of the following if there is a problem with the Vapor Mitigation System (ex. system not running; breakage of a Soil Vapor Extraction (SVE) pipe):*

Joseph Morgan, Triple Cities Metal Finishing,	607-722-3431 (office) 607-343-5294 (cell)
Charles Morgan, Triple Cities Metal Finishing,	607-722-3431 (office) 607-343-5290 (cell)
Susan Cummins, GeoLogic NY, Inc.,	607-749-5000 (work)

* A schematic showing the locations of the SVE Piping is attached. The SVE Piping has been marked with yellow marking tape with black arrows and labeled “SVE Pipe”

File:P:\PROJECTS\1999\99011A\BCP Files\Report\Remedial Investigation Report\Appendix C\Notification Information.doc

GeoLogic NY, Inc.

PO Box 350, Homer, NY 13077, 607-749-5000, Fax: 607-749-5063

INTERIM MAINTENANCE & MONITORING PLAN
SUB-SLAB VAPOR MITIGATION SYSTEM
BINGHAMTON REALTY
FORMER TRIPLE CITIES METAL FINISHING FACILITY
4 NOWLAN ROAD
HILLCREST, NEW YORK

Prepared For:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Prepared By:

Binghamton Realty, Inc.
and
GeoLogic NY, Inc.

May 2007
PROJECT NO. 99011A

TABLE OF CONTENTS

1 INTRODUCTION

In response to sub-slab vapor samples collected at TCMF that exceeded Matrix 1 Action Levels set in NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, a sub-slab vapor mitigation system was installed in the East Addition on the industrial building.

TCMF has one tenant that moved into the building in late 2005. The tenant occupies the East Addition portion of the building that includes a warehouse, an office and a bathroom. One employee occupies this portion of the building during the workweek. The employee does not access any other portion of the building.

2 VAPOR MITIGATION SYSTEM

A vapor mitigation system was installed in the occupied East Addition of the TCMF building. The vapor mitigation system has 4-inch diameter extraction points that currently pulls vapor from below the concrete slab-on-grade floor and discharges the vapor through an emission pipe located on the roof. A Rotron 505 blower in a shelter mounted on the roof is connected to the effluent pipe. The system has been operating continuously since January 19, 2006. The system operates 24-hours a day, seven days a week.

To reduce air exchange between the occupied space with the remaining unoccupied portions of the building, seals on the sliding and overhead doors between the occupied and unoccupied space were installed, one floor drain in the occupied space was sealed with concrete, and spaces where ceiling joists span the common wall between the occupied space and the unoccupied space were sealed with insulation.

2.1 Additional Vapor Mitigation System Installation

If additional space within the TCMF industrial building becomes occupied, the vapor mitigation system will be expanded to influence the additional occupied space. If the attached office building that has a basement (residential structure) becomes occupied, a separate vapor mitigation system will be installed.

Before expanding the current vapor mitigation system or installing a separate vapor mitigation system in the attached building, a pilot study will be performed to determine the extent of potential airflow through the soils underlying the building slab. A pilot hole will be drilled through the concrete floor into the subsurface soils, a vacuum will be pulled through a pilot hole and the pressure will be measured to establish the radius of influence (ROI). Extraction points for a depressurization system will be laid out to effectively influence the entire sub-slab area using the determined ROI. Four-inch diameter holes will be cored into the concrete floor at the determined locations and the soils immediately below the concrete slab will be pulled through the core hole. PVC piping extraction points will be seated into the sub-slab material. PVC piping runs carry the soil vapor from below the concrete floor to effluent lines that will be installed at locations appropriate to existing building conditions. The effluent piping will exit the building and connect to a blower or an in-line fan capable of extracting at the required vacuum. The piping will be installed in a configuration that ensures that any water within the piping drains back toward the extraction points. Seals will be placed around extraction point penetrations through the concrete floor and the effluent pipe penetrations through roof or wall.

Verification of communication for the vapor mitigation system will be performed. Pilot holes will be drilled through the concrete floor and pressure measurements using a magnehelic gage with an accuracy of 0.01 inches of water will be recorded at each pilot point. The blower or fan will be turned on and allowed to run for 15 minutes prior to recording airflow measurements. The NYSDOH minimum recommended pressure difference to assure sufficient vacuum is 0.004 inches of water.

The airflow within each extraction point will be measured with a digital air flow meter recording in feet-per-minute. The flow measurements will be collected between 3 and 5 feet above the floor surface from the vertical pipes connected to the points.

In addition to the installation of the vapor mitigation system, the follow building conditions will be reviewed:

> Reduce air exchange between the occupied space(s) with the remaining unoccupied portions of the building. Reduction of air exchange may include installing seals on the sliding and overhead doors between the occupied and unoccupied space, sealing floor drains with grout/concrete, and sealing spaces where ceiling joints span the common wall between the occupied space and the unoccupied space.

Sealing any cracks/joints in the concrete floor of the occupied space.

The evaluation of sub-slab and indoor air quality will be in accordance with the decision Matrices1 and 2 action levels in the NYSDOH Guidance document. An inventory of the occupied space will also be completed at the time of sampling.

3 MONTIORING AND MAINTENANCE

3.1 Tenant Notification

3.1.1 Current Tenant

At the time that the vapor mitigation system was installed, the current tenant and their one employee that occupies the industrial building's East Addition was informed of the vapor mitigation system and its intent.

The sub-slab vapor mitigation system is audible from the occupied space. The current employee has been instructed to contact Mr. Joseph Morgan, if the system is not operating or if the mitigation system becomes damaged (ex. breakage of extraction piping). To assure that proper notification is in place in case of new employee(s), the following information was posted inside the East Addition.

- Schematic of Sub-Slab Vapor Mitigation System and the Location of the System Components;
- Labeling of Components accessible to Occupant(s); and
- Contact information for Joseph Morgan, Charles Morgan and Susan Cummins.

3.1.2 Future Tenant(s)

Should additional space within the TCMF industrial building or former office building becomes occupied by new tenant(s), a site meeting will be held to inform the tenant of the sub-slab vapor mitigation system. A posting of the information listed above will be provided.

The tenants will not be responsible for any system maintenance tasks or for the operation of the system. Specific information regarding such will not be provided to the tenants.

3.2 System Monitoring

The Sub-Slab Vapor Mitigation System will be monitored monthly by GeoLogic and will include the following:

- Confirm operation of the vacuum blower;
- PID readings of the effluent emission;
- Direct airflow within the extraction point PVC piping will be measured with a digital air flow meter recording in feet-per-minute to assure extraction is occurring at each point; and
- Perform semi-annual sub-slab pressure readings for one year in areas being mitigated.

3.3 System Maintenance

The system has been operating without interruption for 16 months. Routine maintenance will commence in June 2007 and will occur every 12 months, thereafter.

During the routine maintenance the following tasks will be performed:

A visual inspection of the complete system will be performed by individual(s) experienced in troubleshooting the system components. Components that are damaged or not operating properly will be corrected;

Inspection of building conditions to assure that changes or renovations have not occurred to impact air exchange between the occupied portion(s) of the building with the remaining unoccupied spaces. Any new air exchange pathways will be sealed;

Inspection of new building components, especially HVAC components that could effect the depressurization of the sub-slab will be performed. If adequate depressurization is not occurring, reasons will be identified and corrected.

APPENDIX D

SUBSURFACE LOGS

GeoLogic NY, Inc.
P.O. Box 350
Homer, New York 13077
(607) 749-5000

KEY TO SUBSURFACE LOG

Boring No.: B-1
Project No.: 208001
Date Started: 1/31/08
Date Completed: 1/31/08

Sheet 1 of 1

Reference Elevation: 100.0

Project:
Location:

Depth (ft.)	Sample No.	Type	SPT Blows	N-Value	Recovery (ft.)	PID Reading (ppm)	MATERIAL DESCRIPTION	REMARKS
0							Ground Surface	Water level at 2.0' with augers at 7.5'.
1	1	ss	1 2 2 1	4	2.0	32	Brown SILT, Some fine-coarse Sand, trace clay, moist-loose	At completion water level at 2.2' with augers at 10.0'.
2	2						Gray SHALE, medium hard weathered, thin bedded, some fractures	Run #1: 3.0'-5.0' 95% Recovery, 50% RQD

1 2 3 4 5 6 7 8 9 10

TABLE I

Identification of soil type is made on basis of an estimate of particle sizes, and in the case of fine-grained soils also on basis of plasticity.

Soil Type		Soil Particle	
Boulder		> 12"	
Cobble		12" - 3"	
Gravel	- Coarse	3" - 3/4"	Coarse Grained
	- Fine	3/4" - #4	(Granular)
Sand	- Coarse	#4 - #10	
	- Medium	#10 - #40	
	- Fine	#40 - #200	
Silt-Non Plastic (Granular)		< #200	Fine Grained
Clay-Plastic (Cohesive)			

TABLE II

The following terms are used in classifying soils consisting of mixtures of two or more soil types. The estimate is based on weight of total sample.

Term	Percent of Total Sample
"and"	35 - 50
"some"	20 - 35
"little"	10 - 20
"trace"	1 - 10

(When sampling gravelly soils with a standard split spoon, the true percentage of gravel is often not recovered due to the relatively small sampler diameter.)

TABLE III

The relative compactness or consistency is described in accordance with the following terms.

Granular Soils		Cohesive Soils	
Term	**Blows per Foot, N**	**Term**	**Blows per Foot, N**
Loose	< 11	Very Soft	< 2
Firm	11 - 30	Soft	2 - 4
Compact	31 - 50	Medium	4 - 8
Very Compact	> 51	Stiff	8 - 15
		Very Stiff	15 - 30
		Hard	>30

(Large particles in the soils will often significantly influence the blows per foot recorded during the Penetration Test.)

TABLE IV

Stratified Soils

Descriptive Term	Thickness
Parting	- 0" - 1/16"
Seam	- 1/16" - 1/2"
Layer	- 1/2" - 12"
Stratum	- >12"
Varved Clay	- Alternating seams or layers of sand, silt & clay
Pocket	- small, erratic deposit, usually <12"
Lens	- lenticular deposit
Occasional	- one or less per foot of thickness
Frequent	- more than one per foot of thickness

TABLE V

Rock Classification Terms

Term		**Meaning**	
Hardness	Soft	Scratched by fingernail	
	Medium Hard	Scratched easily by penknife	
	Hard	Scratched with difficulty by penknife	
	Very Hard	Cannot be scratched by penknife	
Weathering	Very Weathered	Judged from the relative amounts of disintegration,	
	Weathered	iron staining, core recovery, clay seams, etc.	
	Sound		
Bedding	Laminated	Natural breaks in Rock Layers	<1"
	Thin bedded		1"-4"
	Bedded		4"-12"
	Thick bedded		12"-36"
	Massive		>36"
(Fracturing refers to natural breaks in the rock oriented at some angle to the rock layers.)			

GENERAL INFORMATION & KEY TO SUBSURFACE LOGS

The information presented in the following defines some of the procedures and terms used on the Subsurface Logs to describe the conditions encountered.

1. The figures in the Depth column define the scale of the Subsurface Log.
2. The Sample No. is used for identification on sample containers.
3. The sample column shows, graphically, the depth range from which a sample was recovered. (ss – split spoon; core – rock core; st – shelby tube; dp – direct push). If not shown as a separate column, the sample type should be referenced in the Remark column or in the footnote.
4. Blows on Sampler - shows the results of the "Penetration Test", recording the number of blows required to drive a split spoon sampler into the soil. The number of blows required for each six inches of penetration is recorded. The first 6 inches of penetration is considered to be a seating drive. The number of blows required for the second and third 6 inches of penetration is termed the penetration resistance, N. The outside diameter of the sampler, the hammer weight and the length of drop are noted at the bottom of the Subsurface Log.
5. Recovery shows the length of the recovered soil sample for the sample device noted.
6. All recovered soil samples are reviewed in the office by an experienced technical specialist or geologist, unless noted otherwise. The visual descriptions are made on the basis of a combination of the field descriptions and observations and the sample as received in the office. The method of visual classification is based primarily on the Unified Soil Classification (ASTM D 2487-83) with regard to the particle size and plasticity. (See Table I). Additionally, the relative portion, by weight, of two or more soil types is described for granular soils in accordance with "Suggested Methods of Test for Identification of Soils" by D.M. Burmister, ASTM Special Technical Publication 479, June 1970. (See Table II) The description of the relative soil density or consistency is based upon the penetration records as defined on Table No. III. The description of the soil moisture is based upon the relative wetness of the soil as recovered and is described as damp, moist, wet and saturated. Water introduced in the boring either naturally or during drilling may have affected the moisture condition of the recovered sample. Special terms are used as required to describe materials in greater detail; several such terms are listed in Table IV. When sampling gravelly soils with a standard two-inch diameter split spoon, the true percentage of gravel is often not recovered due to the relatively small sampler diameter. The presence of boulders and large gravel is sometimes, but not necessarily, detected by an evaluation of the casing/hollow stem augers and samplers blows or through the "action" of the drill rig.
7. The description of the rock shown is based on the recovered rock core and the field observations. The terms frequently used in the description are included in Table V.
8. The stratification lines represent the approximate boundary between soil types, and the actual transition may be gradual.
9. Miscellaneous observations and procedures noted in the field are shown in this column, including water level observations. It is important to realize the reliability of the water level observations depends upon the soil type (water does not readily stabilize in a hole through fine grained soils), and that drill water used to advance the boring may have influenced the observations. The groundwater level typically will fluctuate seasonally. One or more perched or trapped water levels may exist in the ground seasonally. All the available readings should be evaluated. If definite conclusions cannot be made, it is often prudent to examine the conditions more thoroughly through test pit excavations or monitoring wells.
10. The length of core run is defined as the length of penetration of the core barrel. Core recovery is the length of core recovered divided by the core run. The RQD (Rock Quality Designation) is the total pieces of NX core exceeding 4 inches in length divided by the core run. The size of the core barrel used is also noted at the bottom of the subsurface log.

The Subsurface Logs attached to this report present the observations and mechanical data collected at the site, supplemented by classification of material removed from the borings as determined through visual identification. It is cautioned that the materials removed from the borings represent only a fraction of the total volume of the deposits at the site and may not necessarily be representative of the subsurface conditions between adjacent borings or between the sampled intervals. The data presented on the Subsurface Logs together with the recovered samples will provide a basis for evaluating the character of the subsurface conditions relative to the project. The evaluation must consider all the recorded details and their significance relative to each other. Often analyses of boring data indicate the need for additional testing or sampling procedures to more accurately evaluate the subsurface conditions. Any evaluation of the contents of this report and the recovered samples must be performed by knowledgeable Professionals.

GeoLogic NY, Inc.

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607-749-5000
607-749-5063 (fax)

SUBSURFACE LOG
DIRECT PUSH

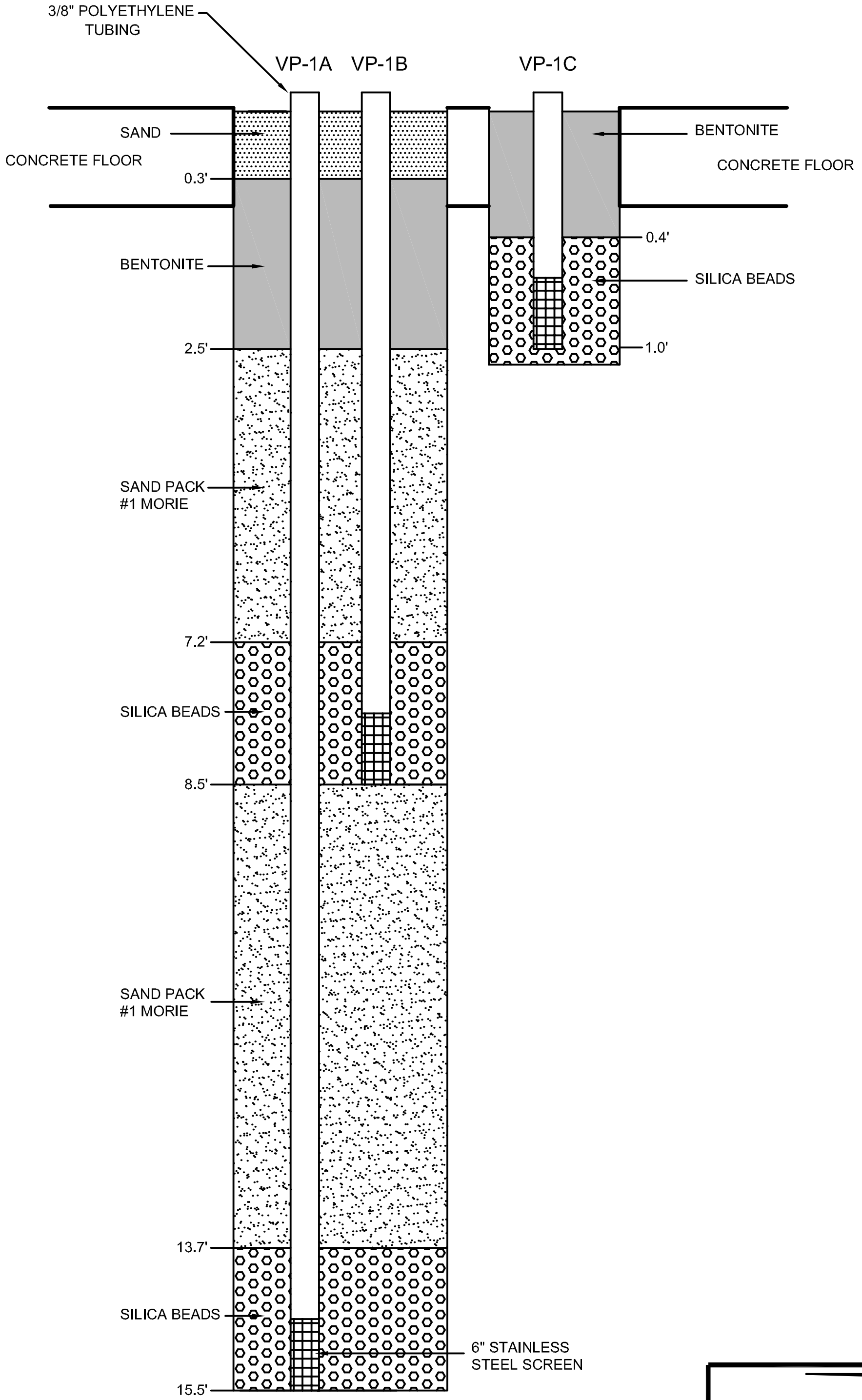
Boring No.: VP-1
Project No.: 99011A
Date Started: 06/23/05
Date Completed: 06/23/05

Project: TCMF - East Addition Outfall 001
Location: Hillcrest, New York

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm	MATERIAL DESCRIPTION	Remarks
0				Concrete 0.4' FILL: Brown coarse-fine SAND and GRAVEL, Some Silt, dry	
1					
2	1	2.4	1.6 3.5		
3				becomes dark Brown, dry (near original grade)	
4				similar, Brown	
5					
6	2	2.7	3.6 3.5		
7				- moist zone	
8				similar, becomes moist	
9					
10	3	2.9	3.9 3.7		
11					
12				similar	
13					
14	4	3.8	3.1 3.0		
15					
16				similar, hole caving	
17	5	2.0	5.7		No groundwater encountered.
18				similar	Pushed flush-joint casing to 15.5' - refusal.
19	6	2.0	6.1		
20				End of Borehole	
21					
22					

Visually Classified by: S. Cummins

File: 99011A/tech/VP-1



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REMEDIAL INVESTIGATION
SOIL VAPOR IMPLANT CONSTRUCTION SCHEMATIC
TRIPLE CITIES METAL FINISHING CORP.
BINGHAMTON, NEW YORK

DR. BY: SMC/SDW	SCALE: NTS	PROJ. NO: 99011A
REVD BY:	DATE: JULY 2005	DRWG. NO: SV POINT: VP-1

\..\99011A\BCP FILES\DRAWINGS\IMPLANT VP-1.DWG

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SUBSURFACE LOG
DIRECT PUSH

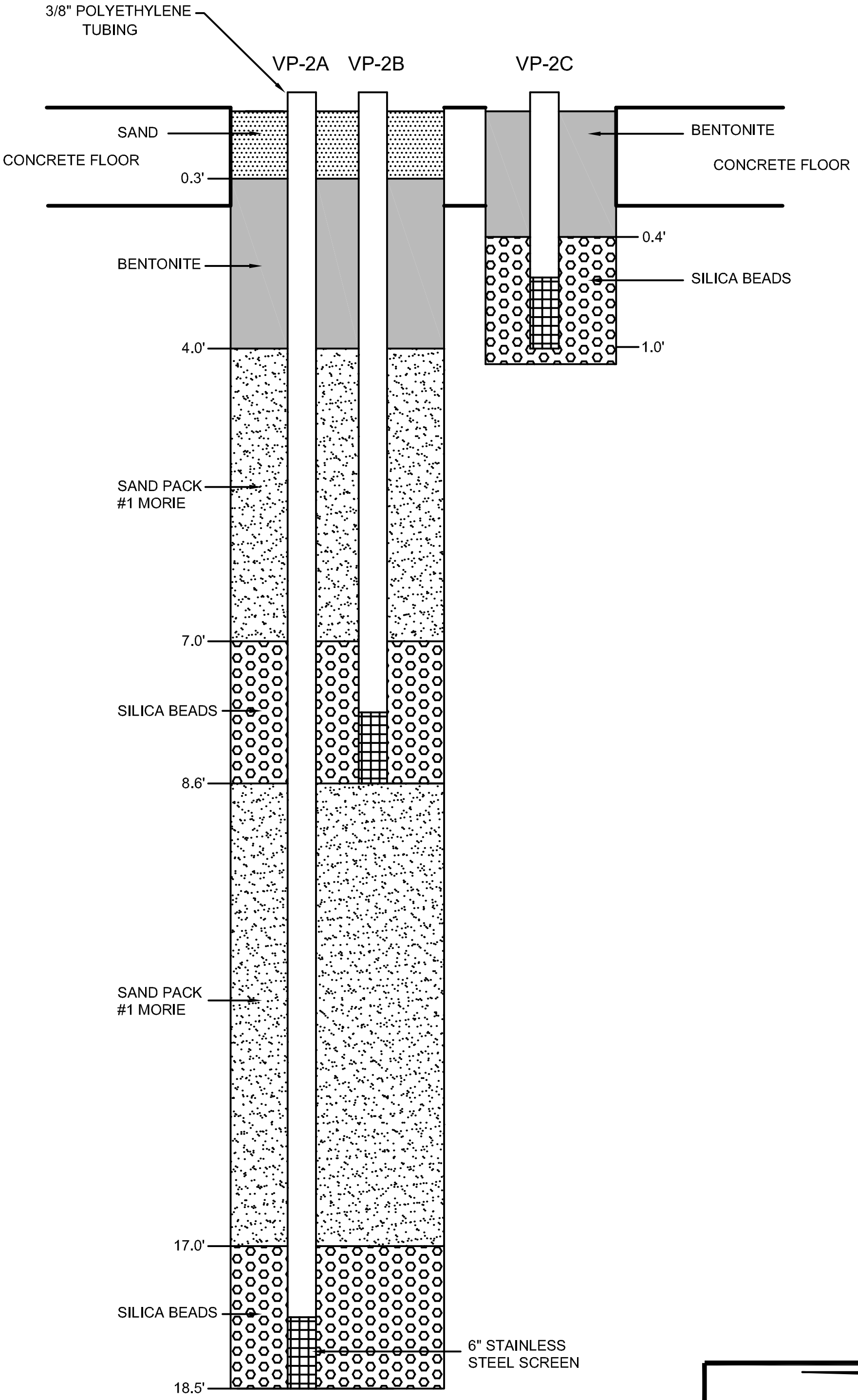
Boring No.: VP-2
Project No.: 99011A
Date Started: 06/23/05
Date Completed: 06/23/05

Project: TCMF - West Addition Outfall 002
Location: Hillcrest, New York

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm	MATERIAL DESCRIPTION	Remarks
0				Concrete 0.4' FILL: Brown / Black coarse-fine SAND and GRAVEL, ash, cinders, damp	
1					
2	1	3.1	7.2 3.5	Brown SILT, partially organic, damp (original grade)	
3					
4					
5				Brown SILT and medium-fine SAND, little gravel, damp	
6	2	3.0	3.5 4.3	Brown SILT, damp	
7				Brown SILT, coarse-fine SAND and GRAVEL, damp	
8					
9				Brown coarse-fine SAND and GRAVEL, Some Silt, damp	
10	3	2.7	2.0 5.6		
11					
12				similar with little silt, damp	
13					
14	4	3.3	4.2 5.7		
15					
16				similar	
17					No groundwater encountered.
18	5	4.0	7.9 5.6		Pushed flush-joint casing to 18.5'.
19					
20				End of Borehole	
21					
22					

Visually Classified by: S. Cummins

File: 99011A/tech/VP-2



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REMEDIAL INVESTIGATION
SOIL VAPOR IMPLANT CONSTRUCTION SCHEMATIC
TRIPLE CITIES METAL FINISHING CORP.
BINGHAMTON, NEW YORK

DR. BY: SMC/SDW	SCALE: NTS	PROJ. NO: 99011A
REVD BY:	DATE: JULY 2005	DRWG. NO: SV POINT: VP-2

\..\99011A\BCP FILES\DRAWINGS\IMPLANT VP-2.DWG

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SUBSURFACE LOG

DIRECT PUSH

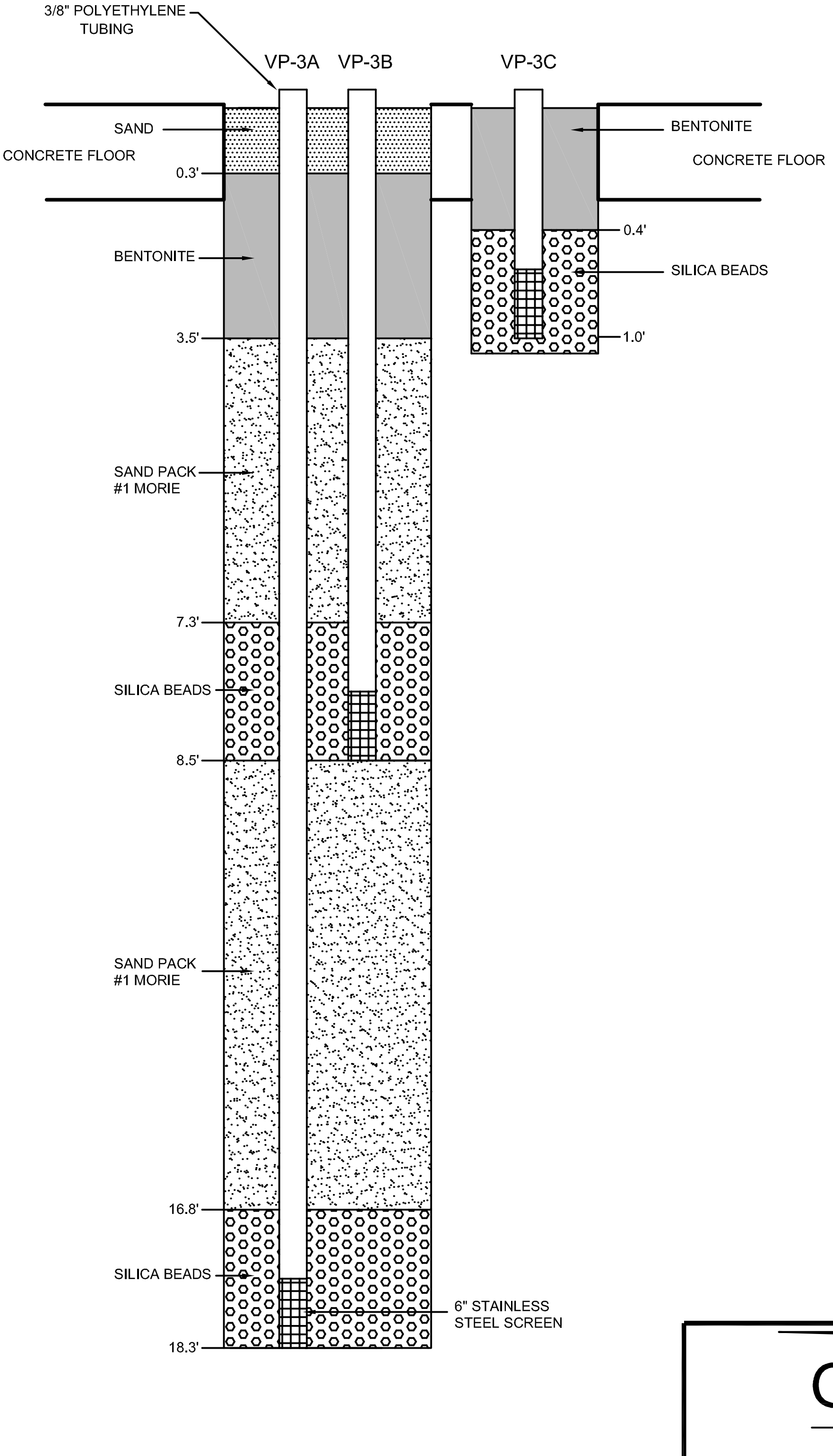
Boring No.: VP-3
Project No.: 99011A
Date Started: 06/24/05
Date Completed: 06/24/05

Project: TCMF - Southwest corner of building, South of Outfall 002
Location: Hillcrest, New York

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm	MATERIAL DESCRIPTION	Remarks
0					
1				Concrete 0.4' Fill: Brown coarse-fine SAND and GRAVEL, Some Silt, dry, caving	
2	1	1.5	3.2		
3					
4					
5				Brown coarse-fine SAND, GRAVEL and SILT, moist	
6	2	2.0	4.2		
7					
8				similar, damp	
9					
10	3	3.7	5.0 6.2		
11					
12				- wet seam at 11.5' similar, damp	
13					
14	4	4.0	5.0 4.8 5.6		
15				seam of medium-fine SAND at 14.8' Brown coarse-fine SAND and GRAVEL, Some Silt, damp	
16					
17					No groundwater encountered.
18	5	4.0	3.7 3.5		Pushed flush-joint casing to 18.3' - refusal.
19					
20				End of Borehole	
21					
22					

Visually Classified by: S. Cummins

File: 99011A/tech/VP-3



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GeoLogic NY, Inc.

REMEDIAL INVESTIGATION
SOIL VAPOR IMPLANT CONSTRUCTION SCHEMATIC
TRIPLE CITIES METAL FINISHING CORP.
BINGHAMTON, NEW YORK

DR. BY: SMC/SDW	SCALE: NTS	PROJ. NO: 99011A
REVD BY:	DATE: JULY 2005	DRWG. NO: SV POINT: VP-3

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SUBSURFACE LOG

(Page 1 of 1)

Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : Outfall 001 - Drywell A
Project No.: : 99011A
Date Started: : 10/07/05
Date Completed: : 10/07/05

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
0				Concrete 4.5"	
1				FILL: Brown coarse-fine SAND and GRAVEL, little silt, damp	
2	1	2.9	27.4		
3					
4					
5				similar with zones of Gray Green White fine-grained waste sediments, damp	
6	2	2.5	17.2		
7					
8				similar, rust	
9	3	1.2	7.3		
10				similar	
11	4	1.4	5.2		
12					
13				Brown coarse-fine SAND and GRAVEL, Some Silt, moist	
14	5	2.3	14.7		
15					Macrocore refusal at 16.8'.
16	6	0.9	-		No free water observed.
17				END OF BOREHOLE	
18					
19					
20					

Visually Classified by: S. Cummins

File: 99011A/technical/Outfall 001 - Drywell A

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SUBSURFACE LOG

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : Outfall 001 - Overflow
Project No.: : 99011A
Date Started: : 10/07/05
Date Completed: : 10/07/05

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
0				Top of sediments in catch basin	
1				Gray Brown coarse-fine SAND	
2	1	4.8	20.7		
3					
4				Gray SILT, Some Sand, moist	
5					
6	2	4.0	11.9		
7					
8				Brown coarse-fine SAND and GRAVEL, Some Silt, moist-wet	
9					
10	3	4.0	15.5		
11					No free water observed.
12				END OF BOREHOLE	
13					
14					
15					
16					
17					
18					
19					
20					

Visually Classified by: S. Cummins

File: 99011A/technical/Outfall 001 - Overflow

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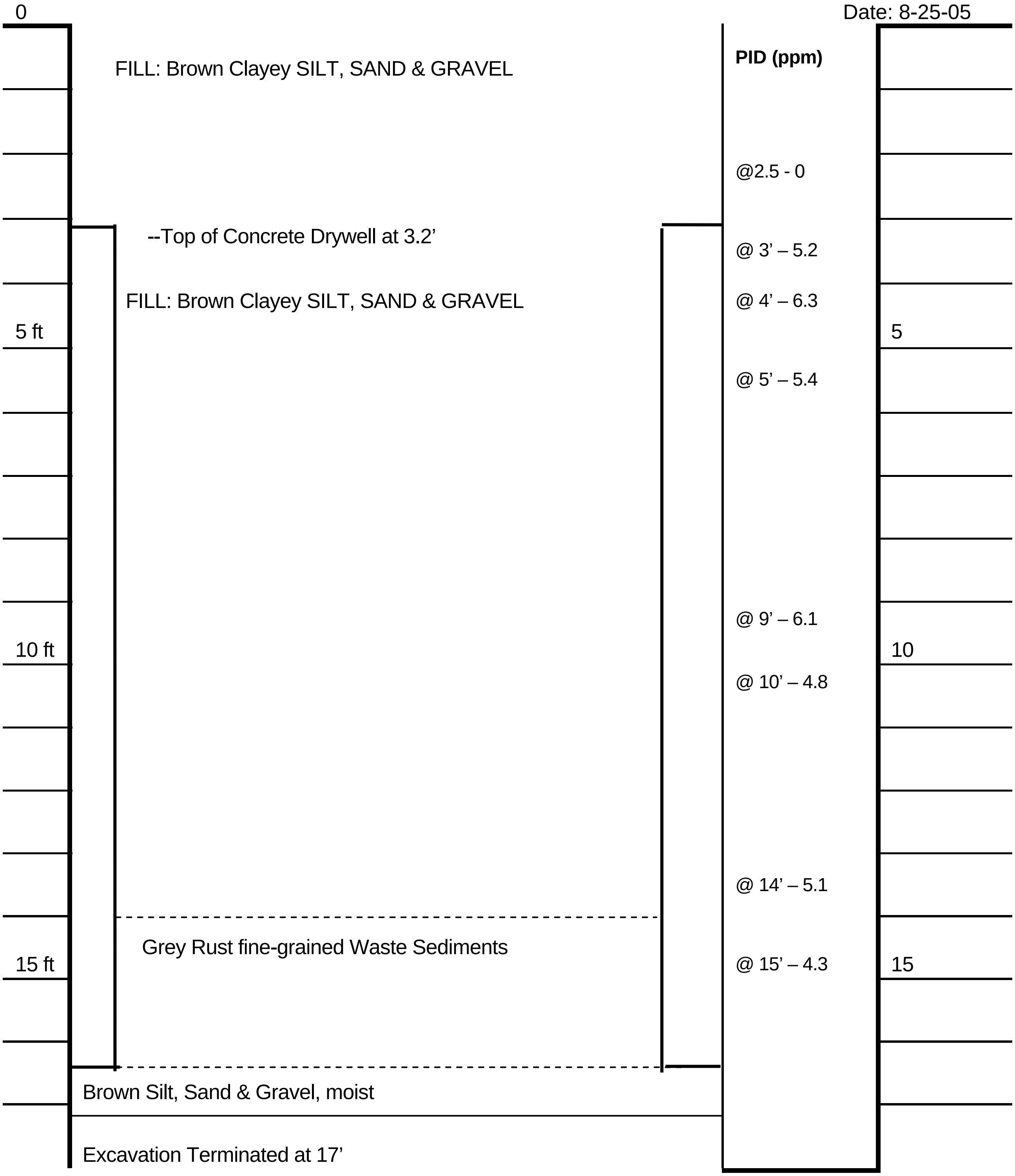
EXCAVATION LOG
Outfall 002 - Drywell A

Remedial Investigation
Triple Cities Metal Finishing Corporation
Binghamton, New York

Date: 8-25-05



FILL: Brown Clayey SILT, SAND & GRAVEL

--Top of Concrete Drywell at 3.2'

FILL: Brown Clayey SILT, SAND & GRAVEL

Grey Rust fine-grained Waste Sediments

Brown Silt, Sand & Gravel, moist

Excavation Terminated at 17'

PID (ppm)

@2.5 - 0

@ 3' – 5.2

@ 4' – 6.3

@ 5' – 5.4

@ 9' – 6.1

@ 10' – 4.8

@ 14' – 5.1

@ 15' – 4.3

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SUBSURFACE LOG

(Page 1 of 1)

Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : Outfall 002 - Drywell B
Project No.: : 99011A
Date Started: : 10/07/05
Date Completed: : 10/07/05

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
0				Concrete Slab 4"	
1				FILL: Gray coarse-fine SAND and GRAVEL, Some Silt, damp	
2	1	3.1	8.4		
3					
4				Rust Gray Green fine-grained waste sediments, damp	
5					
6	2	4.0	3.5		
7					
8					
9					
10	3	3.7	8.2 /19.6		
11				Brown coarse-fine SAND and GRAVEL, little silt with 8" layer of fine sand, moist	Macrocore refusal at 12.0'. No free water observed.
12				END OF BOREHOLE	
13					
14					
15					
16					
17					
18					
19					
20					

Visually Classified by: S. Cummins

File: 99011A/technical/Outfall 002 - Drywell B

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SUBSURFACE LOG

(Page 1 of 2)

Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : GP-07-1
Project No.: : 99011A
Date Started: : 10/01/07
Date Completed: : 10/01/07
Elevation: : 889.4

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
0				Asphalt at surface	
1				Gray Brown coarse-fine SAND and GRAVEL, Some Silt, cobbles, damp	Adjacent to MW-2
2	1	1.8	0		
3					
4				similar	
5					
6	2	1.9	0		
7					
8				similar with wet zone	
9					
10	3	2.3	0	Brown coarse-fine SAND, GRAVEL and SILT, moist	
11					
12				Brown coarse-fine SAND and GRAVEL, Some Silt, cobbles, damp	
13					
14	4	3.1	0		
15					
16				similar	
17					
18	5	4.0	0		Hole caving at 19', made two attempts with macorcore, changed to discrete sampling 19' - 22.5'.
19				Nested Cobbles	
20					

Visually Classified by: S. Cummins

File: 99011A/technical/GP-07-1

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(Page 2 of 2)

Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : GP-07-1
Project No.: : 99011A
Date Started: : 10/01/07
Date Completed: : 10/01/07
Elevation: : 889.4

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
20					
21	6	0.2	0	Cobbles	
22				similar	
23				Macrocore Refusal at 22.5' / Solid Point Refusal at 22.5'	
24				Nested Cobbles	
25					
26				Augered to 29'	
27				Nested Cobbles	
28					
29				Brown coarse-fine GRAVEL and SAND, little silt, damp - wet	
30					
31	7	0.7	3.1		
32					
33					
34				Brown SILT, saturated	
35	8	4.0	0.9		
36					Water level at 31'.
37				END OF BOREHOLE	
38					
39					
40					

Visually Classified by: S. Cummins

File: 99011A/technical/GP-07-1

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SUBSURFACE LOG

(Page 1 of 2)

Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : GP-07-2
Project No.: : 99011A
Date Started: : 10/01/07
Date Completed: : 10/01/07
Elevation: : 889.2

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
0				Topsoil at surface	
1				Red Brown SILT and medium-fine SAND, little gravel, moist	Adjacent to MW-1
2	1	3.2	0		
3				Red Brown coarse-fine SAND, GRAVEL and SILT, moist	
4					
5				Brown coarse-fine SAND and GRAVEL, Some Silt, cobbles, damp	
6	2	1.9	0		
7					
8				similar	
9					
10	3	2.4	0		
11					
12				similar with seam medium-fine SAND, little gravel and silt, damp	
13					
14	4	2.1	0		
15					
16				Cobbles	
17					
18	5	4.0	0	similar	
19					
20				similar, Cobbles	
21	6	0.2	0		
22				Refusal at 22' with macocore and slotted rod	
23					

Visually Classified by: S. Cummins

File: 99011A/technical/GP-07-2

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SUBSURFACE LOG

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : GP-07-2
Project No.: : 99011A
Date Started: : 10/01/07
Date Completed: : 10/01/07
Elevation: : 889.2

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
23					
24				Augered to 28'	
25				Nested Cobbles	
26					
27					
28				Brown coarse-fine GRAVEL and SAND, Some to little silt, moist - saturated	
29					
30	7	2.9	10.7		
31					
32				Cobbles	
33				seam medium-fine SAND, saturated	
34				Brown SILT, saturated	
35					
36	8	4.0	9.2		
37					
38					
39				similar	
40					
41	9	3.6	8.4		
42					Water level at 30.4'.
43				END OF BOREHOLE	
44					
45					
46					

Visually Classified by: S. Cummins

File: 99011A/technical/GP-07-2

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SUBSURFACE LOG

(Page 1 of 2)

Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : GP-07-3
Project No.: : 99011A
Date Started: : 10/01/07
Date Completed: : 10/01/07
Elevation: : 889.4

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
0				Brown SILT, coarse-fine SAND and GRAVEL, damp	
1				Dark Brown SILT, Some Sand, trace gravel, moist	Adjacent to MW-5
2	1	3.4	0	Red Brown SILT, moist	
3					
4					
5				Brown fine SAND, little silt, damp Brown SILT, coarse-fine SAND and GRAVEL, damp - moist	
6	2	2.6	0		
7					
8				similar	
9					
10	3	2.3	0	Brown coarse-fine SAND and GRAVEL, Some Silt, cobbles, damp	
11					
12				grades with little silt	
13					
14	4	3.1	0		
15				medium fine SAND zone	
16				similar	
17					
18	5	3.4	0		
19					
20				similar	
21	6	4.0	0		
22				Macrocore Refusal at 22.2'	
23					

Visually Classified by: S. Cummins

File: 99011A/technical/GP-07-3

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : GP-07-3
Project No.: : 99011A
Date Started: : 10/01/07
Date Completed: : 10/01/07
Elevation: : 889.4

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
23					
24				Augered to 29'	
25					
26				Nested Cobbles	
27					
28					
29				Brown coarse-fine GRAVEL and SAND, little silt, saturated	
30	7	1.9	1.3		
31					
32				similar	
33					
34	8	1.1	3.4	Hole collapsing - medium-fine Sand layer	
35				Coarse-fine GRAVEL and SAND	
36				Brown SILT, saturated	
37					
38	9	2.5	9.2		
39					Water level at 30.5'.
40				END OF BOREHOLE	
41					
42					
43					
44					
45					
46					

Visually Classified by: S. Cummins

File: 99011A/technical/GP-07-3

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SUBSURFACE LOG

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : GP-07-4
Project No.: : 99011A
Date Started: : 10/04/07
Date Completed: : 10/04/07
Elevation: : 895.4

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
0				Asphalt at surface	
1				Brown coarse-fine SAND and GRAVEL, Some Silt, cobbles, damp	Along Beckwith Avenue.
2	1	2.4	0		
3					
4				similar	
5					
6	2	1.1	0		
7					
8				similar	
9					
10	3	0.9	0		
11					
12				Macrocore Refusal at 12'	
13					
14				Augered to 24'	
15					
16				Cobbles	
17					
18					
19					
20					
21					
22					
23					

Visually Classified by: S. Cummins

File: 99011A/technical/GP-07-4

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SUBSURFACE LOG

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : GP-07-4
Project No.: : 99011A
Date Started: : 10/04/07
Date Completed: : 10/04/07
Elevation: : 895.4

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
23					
24				Brown coarse-fine GRAVEL and SAND, little silt, damp - saturated	
25					
26	4	1.9	0	Set slotted rod to 28', collected water sample	
27					
28					
29					
30					
31				Hole collapsing Discrete sample 31' - 35', 33' - 37', 33.5' - 37.5' coarse gravel blocked sampler at each attempt	
32				Rollerbit to 33', set augers to 33'	Augers broke at 17', left 15' of augers in hole - abandoned boring.
33	5	0.4	1.1		Used drill rig with split spoon sampler from 33' - 43'.
34					
35				Brown coarse-fine SAND and GRAVEL, little silt, saturated	Resampled from 33' - 35'.
36	6	1.1	0		
37					
38					
39					
40				Gray SILT, saturated	
41	7	1.8	0		
42					Water level at 26.5'.
43				END OF BOREHOLE	
44					
45					
46					

Visually Classified by: S. Cummins

File: 99011A/technical/GP-07-4

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SUBSURFACE LOG

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : B-07-5
Project No.: : 99011A
Date Started: : 10/18/07
Date Completed: : 10/18/07
Elevation: : 895.7

Depth (ft)	Sample No.	Blow Count	N-Value	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
0					0	Augered to 25', No Sampling	East side of TCMF building. Attempted boring with Geoprobe - solid point refusal at 21'. Used Drill Rig with split spoon sampler to complete boring.
5					0	Brown coarse-fine SAND and GRAVEL, Some Silt, damp	
10					0		
15					0	Cobbles	
20							

Sampling Method: ASTM D-1586, unless otherwise noted.
Notes: 3 1/4" ID Hollow Stem Augers
Visually Classified by: S. Cummins
File: 99011A/technical/B-07-5

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : B-07-5
Project No.: : 99011A
Date Started: : 10/18/07
Date Completed: : 10/18/07
Elevation: : 895.7

Depth (ft)	Sample No.	Blow Count	N-Value	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
20						Nested Cobbles	
25	1	1 3 2 3	5	1.6	0	Brown coarse-fine SAND and GRAVEL, little silt, saturated	
28							Change in auger action at 28'.
30	2	3 6 6 10	12	2.0	0	Brown SILT, little fine sand, saturated	
32						END OF BOREHOLE	Water level at 25'.

Sampling Method: ASTM D-1586, unless otherwise noted.
Notes: 3 1/4" ID Hollow Stem Augers
Visually Classified by: S. Cummins
File: 99011A/technical/B-07-5

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : B-07-6
Project No.: : 99011A
Date Started: : 10/19/07
Date Completed: : 10/19/07
Elevation: : 895.0

Depth (ft)	Sample No.	Blow Count	N-Value	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
0					0	Augered to 25', No Sampling	East side of TCMF building. Drill Rig used to advance augers with Plug (Roller bit with rods) to 27'.
5					0	Brown coarse-fine SAND and GRAVEL, Some Silt, damp	
10					0		
15					0	Cobbles	
20							

Sampling Method: ASTM D-1586, unless otherwise noted.
Notes: 3 1/4" ID Hollow Stem Augers
Visually Classified by: S. Cummins
File: 99011A/technical/B-07-6

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : B-07-6
Project No.: : 99011A
Date Started: : 10/19/07
Date Completed: : 10/19/07
Elevation: : 895.0

Depth (ft)	Sample No.	Blow Count	N-Value	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
20						Nested Cobbles	
23						Brown coarse-fine SAND and GRAVEL, Some Silt, moist	
25							Augered to 25' - no water. Augered to 26' - no water.
26							No free water in Sand and Gravel unit.
27	1	2 4 4 7	8	2.0	0	Brown SILT, little fine sand, saturated	Water level at 27'.
29							
35	2	12 13 17 19	30	2.0	0	Brown Gray Clayey SILT, saturated	
37						END OF BOREHOLE	
40							

Sampling Method: ASTM D-1586, unless otherwise noted.
Notes: 3 1/4" ID Hollow Stem Augers
Visually Classified by: S. Cummins
File: 99011A/technical/B-07-6

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : B-07-7
Project No.: : 99011A
Date Started: : 10/19/07
Date Completed: : 10/19/07
Elevation: : 895.5

Depth (ft)	Sample No.	Blow Count	N-Value	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
0						Augered to 25', No Sampling	East side of TCMF building. Drill Rig used to advance augers with Plug (Roller bit with rods) to 22'.
1							
2					0		
3							
4							
5						Brown coarse-fine SAND and GRAVEL, Some Silt, damp	
6							
7					0		
8							
9							
10							
11							
12					0		
13							
14							
15						Cobbles	
16							
17					0		
18							
19							
20							

Sampling Method: ASTM D-1586, unless otherwise noted.
Notes: 3 1/4" ID Hollow Stem Augers
Visually Classified by: S. Cummins
File: 99011A/technical/B-07-7

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : B-07-7
Project No.: : 99011A
Date Started: : 10/19/07
Date Completed: : 10/19/07
Elevation: : 895.5

Depth (ft)	Sample No.	Blow Count	N-Value	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
20							
21							
22	1	19 28 17 16	45	0.6	0	Brown coarse-fine SAND and GRAVEL, Some Silt, moist	Augered to 25' - no water. No free water in Sand and Gravel unit.
23							
24							
25	2	22 4 3 4	7	2.0	0	Brown SILT, little fine sand, saturated	
26							
27							
28							
29							
30	3	14 7 5 6	12	2.0	0	similar	Water level at 26.5'.
31							
32						END OF BOREHOLE	
33							
34							
35							
36							
37							
38							
39							
40							

Sampling Method: ASTM D-1586, unless otherwise noted.
Notes: 3 1/4" ID Hollow Stem Augers
Visually Classified by: S. Cummins
File: 99011A/technical/B-07-7

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : B-07-8
Project No.: : 99011A
Date Started: : 12/13/07
Date Completed: : 12/13/07
Elevation: : 894.2

Depth (ft)	Sample No.	Blow Count	N-Value	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
0						Asphalt at surface	Drill Rig used to advance augers with Plug (Roller bit with rods) to 23'.
1						Augered to 23', No Sampling	
2					0	Brown coarse-fine SAND and GRAVEL, Some Silt, damp	
3							
4							
5							
6							
7					0		
8							
9							
10						Cobbles	
11							
12					0		
13							
14							
15						Cobbles	
16							
17					0		
18							
19							
20							Water level at 21.0'.
21							

Sampling Method: ASTM D-1586, unless otherwise noted.
Notes: 3 1/4" ID Hollow Stem Augers
Visually Classified by: S. Cummins
File: 99011A/technical/B-07-8

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Hillcrest, New York

Boring No: : B-07-9
Project No.: : 99011A
Date Started: : 12/14/07
Date Completed: : 12/14/07
Elevation: : 894.5

Depth (ft)	Sample No.	Blow Count	N-Value	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
0						Asphalt at surface	Drill Rig used to advance augers with Plug (Roller bit with rods) to 25'.
1						Augered to 25', No Sampling	
2					0	Brown coarse-fine SAND and GRAVEL, Some Silt, damp	
3							
4							
5							
6							
7					0		
8							
9							
10							
11							
12					0		
13							
14							
15						similar, Cobbles	
16							
17					0		
18							
19							
20							

Sampling Method: ASTM D-1586, unless otherwise noted.
Notes: 3 1/4" ID Hollow Stem Augers
Visually Classified by: S. Cummins
File: 99011A/technical/B-07-9

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : B-07-9
Project No.: : 99011A
Date Started: : 12/14/07
Date Completed: : 12/14/07
Elevation: : 894.5

Depth (ft)	Sample No.	Blow Count	N-Value	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
20							
21						Cobbles	
22							
23							
24						medium-fine SAND zone	
25						Brown coarse-fine SAND and GRAVEL, little silt, saturated	
26	1	15 10 9 9	19	1.1	0		
27							
28							
29						Nested Cobbles	
30							
31							
32							
33						Brown SILT, little fine sand, saturated	
34	2	4 6 5 6	11	2.0	0	Brown SILT	
35							
36							Water level at 21'.
37						END OF BOREHOLE	
38							
39							
40							

Sampling Method: ASTM D-1586, unless otherwise noted.
Notes: 3 1/4" ID Hollow Stem Augers
Visually Classified by: S. Cummins
File: 99011A/technical/B-07-9

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : B-07-10
Project No.: : 99011A
Date Started: : 12/18/07
Date Completed: : 12/18/07
Elevation: : 895.0

Depth (ft)	Sample No.	Blow Count	N-Value	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
0						Asphalt at surface	Drill Rig used to advance augers with Plug (Roller bit with rods) to 20'.
1						Augered to 20', No Sampling	
2					0	Brown coarse-fine SAND and GRAVEL, Some Silt, cobbles, damp	
3							
4							
5							
6							
7					0		
8							
9							
10							
11							
12					0		
13						Cobbles	
14							
15							
16							
17					0		
18							
19							
20						No Recovery	Water level at 20'.
21	1	26 22 10 5	32	0	0		
22							

Sampling Method: ASTM D-1586, unless otherwise noted.
Notes: 3 1/4" ID Hollow Stem Augers
Visually Classified by: S. Cummins
File: 99011A/technical/B-07-10

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Hillcrest, New York

Boring No: : B-07-10
Project No.: : 99011A
Date Started: : 12/18/07
Date Completed: : 12/18/07
Elevation: : 895.0

Depth (ft)	Sample No.	Blow Count	N-Value	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
22							
23	2	13 12 15 9	27	1.2	0	Brown coarse-fine SAND and GRAVEL, little silt, saturated	
25							
28	3	14 9 5 5	14	1.1	0	similar	
30							
32						Brown SILT, little fine sand, saturated	
33	4	10 8 9 4	17	2.0	0	Brown SILT, saturated	
35							
38	5	WR 2 2 3	4	2.0	0	Brown to Gray Clayey SILT, saturated	WR - Weight of Rods.
40						END OF BOREHOLE	
41							
42							
43							
44							

Sampling Method: ASTM D-1586, unless otherwise noted.
Notes: 3 1/4" ID Hollow Stem Augers
Visually Classified by: S. Cummins
File: 99011A/technical/B-07-10

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Hillcrest, New York

Boring No: : B-07-11
Project No.: : 99011A
Date Started: : 12/18/07
Date Completed: : 12/18/07
Elevation: : 896.2

Depth (ft)	Sample No.	Blow Count	N-Value	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
0						Asphalt at surface	Drill Rig used to advance augers with Plug (Roller bit with rods) to 25'.
1						Augered to 25', No Sampling	
2					0	Brown coarse-fine SAND and GRAVEL, Some Silt, cobbles, damp	
3							
4							
5							
6							
7					0	Cobbles	
8							
9							
10						Cobbles	
11							
12					0		
13							
14							
15							
16							
17					0		
18							
19							
20							

Sampling Method: ASTM D-1586, unless otherwise noted.
Notes: 3 1/4" ID Hollow Stem Augers
Visually Classified by: S. Cummins
File: 99011A/technical/B-07-11

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : B-07-11
Project No.: : 99011A
Date Started: : 12/18/07
Date Completed: : 12/18/07
Elevation: : 896.2

Depth (ft)	Sample No.	Blow Count	N-Value	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
20							
21						Cobbles	
22							Water level at 22'.
23							
24							
25						Brown coarse-fine SAND and GRAVEL, little silt, saturated	
26	1	24 18 19 16	37	1.5	0		
27							
28							
29							
30						Brown SILT and fine SAND, saturated	
31	2	3 3 5 6	8	2.0	0	Brown SILT, little fine sand, saturated	
32							
33							
34						END OF BOREHOLE	
35							
36							
37							
38							
39							
40							

Sampling Method: ASTM D-1586, unless otherwise noted.
Notes: 3 1/4" ID Hollow Stem Augers
Visually Classified by: S. Cummins
File: 99011A/technical/B-07-11

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : B-08-12
Project No.: : 99011A
Date Started: : 01/16/08
Date Completed: : 01/17/08
Elevation: : 901.2

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
0				Augered to 30', no sampling	Corner of Chenango Street and Nowlan Road.
1					
2			0	Brown Clayey SILT, coarse-fine SAND and GRAVEL, damp	Drove slotted rods, refusal at 19'.
3					Drove macrocore with plug to refusal at 17'.
4					
5					
6					
7			0		
8					
9					
10					
11					
12			0		
13					
14					
15					
16					
17			0		
18					
19					
20					
21				Nested Cobbles	Rods broke off in hole at 21', retrieved tools.
22					
23					

Visually Classified by: S. Cummins

File: 99011A/technical/B-08-12

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : B-08-12
Project No.: : 99011A
Date Started: : 01/16/08
Date Completed: : 01/17/08
Elevation: : 901.2

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
23				Nested Cobbles	Drove solid point to 21', then advanced macorcore.
24					
25				Gray Clayey SILT and coarse-fine SAND, little gravel, wet	
26					
27	1	2.3	0		
28				Cobbles	
29					
30					
31				Brown SILT, little fine sand, saturated	
32	2	3.1	0		
33					
34					
35					
36					
37					
38					
39					
40				Gray SILT, saturated	
41					
42	3	2.8	0		
43					Water level at 32'.
44				END OF BOREHOLE	
45					
46					

Visually Classified by: S. Cummins

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : B-08-13
Project No.: : 99011A
Date Started: : 01/14/08
Date Completed: : 01/16/08
Elevation: : 900.7

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
0				Augered to 25', no sampling	West side of Chenango Street. While augering, petroleum-like odor noted from 0' - 15'. PID readings with augers, 1460 PPM - immediately dissipated.
1					
2					
3				Red Brown Clayey SILT, SAND and GRAVEL, damp - wet	
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15				Cobbles	
16					
17				Macrocore refusal at 17', drove solid point to 25'	
18					
19				Nested Cobbles	
20					
21					
22					
23				Nested Cobbles	
24					
25					

Visually Classified by: S. Cummins

File: 99011A/technical/B-08-13

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : B-08-13
Project No.: : 99011A
Date Started: : 01/14/08
Date Completed: : 01/16/08
Elevation: : 900.7

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
25				Brown coarse-fine SAND and GRAVEL, little silt, cobbles, moist	
26					
27	1	2.3	0		
28					
29				Brown SAND, little silt, saturated	
30					
31					
32	2	1.2	0		
33					
34				Brown SILT, saturated	
35	3	3.3	0		
36					
37				similar	
38	4	1.7	0		
39					
40				similar	
41					
42	5	2.8	0		
43					
44				similar	
45					
46	6	2.3	0		
47					Water level at 32.4'.
48				END OF BOREHOLE	
49					
50					

Visually Classified by: S. Cummins

File: 99011A/technical/B-08-13

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : GP-08-14
Project No.: : 99011A
Date Started: : 01/21/08
Date Completed: : 01/21/08
Elevation: : 899.0

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
0				Topsoil	Corner of Chenango and Hastings Streets.
1				Brown Gray coarse-fine SAND, GRAVEL and SILT, moist	
2	1	0.5	0		
3					
4				similar	
5					
6	2	1.2	0		
7					
8				similar, damp	
9					
10	3	3.2	0		
11					
12				similar	
13					
14	4	4.0	0		
15					
16				similar	
17	5	4.0	0		
18					
19				similar	
20					
21	6	4.0	0		
22					
23					

Visually Classified by: S. Cummins

File: 99011A/technical/GP-08-14

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : GP-08-14
Project No.: : 99011A
Date Started: : 01/21/08
Date Completed: : 01/21/08
Elevation: : 899.0

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
23	7	4.0	0	similar, Cobbles	Overdrove macrocore 23' - 28'. No free water within sand and gravel unit.
24					
25				Brown coarse-fine SAND, GRAVEL and SILT, damp	
26					
27				silt in tip of sampler	
28					
29					
30	8	2.3	0	pushed gravel in silt unit - made 2 attempts to collect silt sample	
31				Restarted boring, augered to 30'	
32				Resampled 30' - 34'	
33				Brown medium-fine SAND, saturated	
34				Brown SILT, saturated	
35					
36					
37					
38					
39					
40	9	2.9	0	Brown SILT, occasional Red Clay partings, saturated	
41					
42					
43					Water level at 29.5'.
44				END OF BOREHOLE	
45					
46					

Visually Classified by: S. Cummins

File: 99011A/technical/GP-08-14

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : GP-08-15
Project No.: : 99011A
Date Started: : 01/17/08
Date Completed: : 01/17/08
Elevation: : 902.0

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
0				Concrete	Inside TCMF building.
1				FILL: Brown Gray coarse-fine SAND, GRAVEL and SILT, damp	Drove solid points through Cobbles.
2	1	2.7	0		
3					
4				similar with wet Clayey zone at 8'	
5					
6	2	2.9	0		
7					
8				similar with discolored zone of Blue and Gray	
9					
10	3	0.9	0		
11					
12				similar	
13					
14	4	0.8	0	----------	
15					
16				Gray to Brown coarse-fine SAND and GRAVEL, Some Silt, moist	
17					
18	5	3.1	0		
19					
20				coarse gravel	
21	6	0.3	0	Nested Cobbles	
22					Drove solid point to 24'.
23					

Visually Classified by: S. Cummins

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Triple Cities Metal Finishing

Hillcrest, New York

Boring No: : GP-08-15
Project No.: : 99011A
Date Started: : 01/17/08
Date Completed: : 01/17/08
Elevation: : 902.0

Depth (ft)	Sample No.	Recovery (ft)	PID Reading (ppm)	DESCRIPTION	REMARKS
23				Nested Cobbles	
24					
25				Gray SILT, coarse-fine SAND and GRAVEL, damp	
26	7	4.0	0		
27					
28					
29				Brown SILT, little fine sand, saturated	Easy probing at 29'.
30	8	4.0	0		
31					
32					
33					
34					
35					
36				No Recovery	Drove discrete macrocore sample from 36' - 40' and 40' - 44'.
37					
38	9	0	-		
39					
40				Brown SILT, saturated	
41					
42	10	1.7	0		
43					Water level at 31.9'.
44				END OF BOREHOLE	
45					
46					

Visually Classified by: S. Cummins

File: 99011A/technical/GP-08-15

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