February 2006

South Troy Industrial Park

Remedial Investigation / Alternatives Analysis Report

Environmental Restoration Project
Clean Water / Clean Air Bond Act of 1996

East Industrial Park Road
City of Troy
Rensselaer County, New York

Prepared for:

RENSSELAER COUNTY
INDUSTRIAL DEVELOPMENT AGENCY
1600 7TH Avenue
P.O. Box 5105
Troy, New York 12180

Prepared by:

C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive
P.O. Box 727
Latham, New York 12110
518.786.7400
FAX 518.786.7299
C.T. Male Project No.: 04.9138

ENVIRONMENTAL RESTORATION PROJECT
REMEDIAL INVESTIGATION/ALTERNATIVES ANALYSIS REPORT
SOUTH TROY INDUSTRIAL PARK
CITY OF TROY
RENSSELAER COUNTY, NEW YORK

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1.0 INTRODUCTION

The Rensselaer County Industrial Development Agency (RCIDA) submitted an application to the New York State Department of Environmental Conservation (DEC) for participation in the NYS Environmental Restoration Program (ERP) for lands owned by the RCIDA within the South Troy Industrial Park (STIP) located in the vicinity of Main Street and East Industrial Parkway in the City of Troy, Rensselaer County, New York (herein "the Site"). A Site Location Map is presented as Figure 1. NYSDEC subsequently notified the RCIDA of its eligibility to participate in the ERP and the RCIDA executed a State Assistance Contract (SAC) which required the submission, review, approval and implementation of investigative work plans under the ERP. The Draft Site Investigation Work Plan was submitted to NYSDEC and NYSDOH for review and comment in June 2004. Regulatory comments to the Work Plan were satisfactorily addressed and the Work Plan was approved in August 2004. See Exhibit 1 for NYSDEC Comment and Approval letters.

Prior to the development of the Remedial Investigation/Alternatives Analysis Work Plan for the Site, a review of available data and information pertaining to the Site's history and environmental quality was completed by C.T. Male Associates, P.C. (C.T. Male) and summarized in the document entitled Historical Overview dated April 29, 2004, which is available for review within the document repositories.

The ERP investigation generally involved the collection and analysis of surface soil samples; conducting exploratory test trenches, test pits and soil borings; collection and analysis of subsurface samples from the test trenches, pits and borings; installation of groundwater monitoring wells; collection and analysis of groundwater samples from the newly installed monitoring wells and select existing monitoring wells; and completion of a Fish and Wildlife Impact Analysis. Additional tasks undertaken during the investigation included an Interim Remedial Measure (IRM) to remediate buried drums and a storage tank on the northeastern portion of Parcel 1; and the additional advancement of soil borings and subsequent installation of monitoring wells to further investigate the IRM area and to aid in the determination of a source area for petroleum impacted soils and groundwater discovered on Parcel 2 during the course of the ERP investigation.

1.1 Purpose

The purpose of the Remedial Investigation/Alternatives Analysis Report (RI/AAR) is to describe the investigations conducted at the site for defining the nature and extent of contamination in surface soil, subsurface soil and groundwater. From this data decisions regarding the need for remedial actions are made and remedial options are evaluated based in part on the intended use of the Site. The investigation defines the site characteristics in terms of its history use, geology, hydrogeology, known or suspected contaminants and contemplated future use. The target goals of this ERP investigation were to identify contaminants of concern, define the horizontal and vertical extent of such contamination, and to produce data of sufficient quantity and quality to support the development and analyses of remedial alternatives to aid in the development of an acceptable Remedial Action Work Plan (RAWP).

1.2 Site Background

The following sections provide an overview of the Site and include a Site description, Site history and a summary of previous environmental investigations conducted on the Site by C.T. Male and others.

1.2.1 Site Description

The Site, which is the subject of this ERP investigation, is located within the South Troy Industrial Park (Figure 1). The Site consists of three separate parcels of previously developed land located within an approximate 800-foot radius of one another. The parcels are accessed from East Industrial Parkway and Main Street. The Site is currently owned by the RCIDA.

The Site consists of three separate parcels of land denoted as Parcels 1 through 3 on the attached Site Boundary Survey and Sampling Locations Map included as Figure 2. Parcel 1 is approximately 16.955 acres in size and is located along East Industrial Boulevard. The Parcel is currently undeveloped and littered at its surface by disposed mounds of concrete, asphalt and slag materials. Much of the slag materials on the northern portion of Parcel 1 (north of New Penn) originated from past excavation of a retention pond at the New Penn trucking facility. The northwest corner of the Parcel consists of “Slag Mountain”, portions of which have been mined over the years for use in part as a sub base material for roads and sidewalks throughout the City of Troy. Approximately half of Slag Mountain extends onto the adjoining property to the north. Land usage adjoining Parcel 1 includes the New Penn trucking facility, the Rensselaer County Jail; Capital Launderers, Troy Slag Products, City of Troy Public School #12, residential dwellings, the New York Central Railroad tracks, and the Hudson River.

Parcel 2 is approximately 3.326 acres in size and is located along the south side of Main Street. An extension of East Industrial Parkway bisects the Parcel from north to south. The Parcel is currently undeveloped. Land usage adjoining Parcel-2 includes the Rensselaer County Jail, Callanan Industries, King Service (the "Alamo") which is currently being utilized in part as a transfer station, and the City of Troy Department of Public Works.

Parcel-3 is approximately 0.199 acres in size and consists of a narrow strip of land accessed along the north side of Main Street. Land usage surrounding Parcel-3 includes the historic Burden Iron Works office building, the City of Troy Department of Public Works, a transfer station formerly owned by King Service (the Alamo), and residential housing.

1.2.2 Site History

This section provides an overview of the Site's history. A more detailed narrative of the Site's history and environmental quality was completed by C.T. Male and summarized in the "Historical Overview" dated April 29, 2004, which is available for review in the document repositories and is also incorporated as an Exhibit to the Site Investigation Work Plan, prepared by C.T. Male and dated August 31, 2004.

The Site was reportedly utilized as farmland until 1862, with western portions of the property lying at low elevations, thus constituting a flood plain to the Hudson River. In 1862, the tract of land was purchased by Henry Burden and over the following few decades converted into what was referred to as the Lower Works of the Burden Iron Works. Main manufacturing activities of the Iron Works took place within structures located south of the subject site. The Site was used in part for the disposal of manufacturing by-products such as slag, cinder and ash. Additionally, building rubble from structure fires and demolition activities were historically disposed of on the Site by the City of Troy. These materials were disposed in low lying areas of the Site to raise the Site's elevation above the Hudson. Fill material on the Site ranges in depth from approximately six (6) to 32-feet, with Slag Mountain occupying northwest portions of the Site.

Burden Iron Works manufactured horseshoes, rivets, nails and other iron products up until about 1925, when, due to a decline in the steel industry, the company redirected its efforts to the manufacture of coke, gas and pig iron. This operation was unsuccessful, and Burden Iron Works was liquidated in 1940. During conversion of manufacturing activities in 1925, the Republic Steel Corporation began operation of the Burden Iron Works blast furnaces. The Republic Steel Company eventually acquired the entirety of the Burden Iron Works upon its liquidation in 1940, and maintained a steel manufacturing facility up until 1972. Since 1972, the remaining building structures associated with Republic Steel's operation of the site were demolished, and the Site has remained vacant.

1.2.3 Previous Investigations

The Site has been extensively investigated for environmental concerns by C.T. Male and others since 1986. A detailed narrative of the investigations is presented in C.T. Male's "Historical Overview" document and the Site Investigation Work Plan.

The following summarizes, in chronological order, environmental investigations that have been conducted on the Site.

- In 1986, Empire Soils Investigations, Inc. (ESI) conducted a Hydrogeologic Evaluation of the Site and its surrounding properties. The investigation involved the advancement of 17 test borings for environmental characterization and geotechnical (foundation support) purposes. A total of five monitoring wells and three soil borings were advanced on portions of Parcel 1 and two monitoring wells and two soil borings were advanced on Parcel 2 of the site. Borings and monitoring wells were not advanced on Parcel-3. ESI collected groundwater samples from all monitoring wells for laboratory analysis of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), Pesticides/PCBs, and Heavy Metals (total concentrations). Analytical results did not show VOCs, pesticides and PCBs to exceed NYSDEC groundwater values from all wells sampled. One SVOC (which may have been a laboratory derived contaminant) and several metals were at concentrations exceeding NYSDEC water quality standards values from wells sampled on Parcel 1 and 2.

- In 1990, ESI conducted an Environmental Site Assessment of the Proposed South Troy Commerce Park to furnish additional information to that collected as part of its 1986 investigation. The work included the advancement of test borings and subsequent installation and sampling of permanent monitoring wells; the excavation and subsequent sampling and analysis of select test pits; and the sampling and analysis of surficial foundry slag material. Additionally, ESI conducted sampling and analysis of groundwater from monitoring wells installed as part of its 1986 investigation. Several monitoring wells were sampled and groundwater was analyzed for VOCs, SVOCs, heavy metals and petroleum products. Results of the investigation showed VOCs and SVOCs at concentrations slightly exceeding Maximum Contaminant Levels (MCL's). Priority Pollutant (Dissolved) Heavy Metals and petroleum products in water were either not detected or were detected at concentrations below the MCL. Analytical results of representative samples of slag did not exceed TCLP values that would characterize them as hazardous waste.

- In 1999, Clough, Harbour & Associates LLP (CHA) conducted a Phase I Environmental Site Assessment (ESA) of the proposed New Penn Truck facility. The report stated that the New Penn site had most recently been used as a dumping area for various wastes and piles of soils, concrete, and cement located on east portions of the site were noted as being discolored and having a noticeable petroleum and/or chemical odor. Also, as part of the ESA, select monitoring wells on the proposed New Penn property were sampled and analyzed for VOCs, SVOCs, PCBs and Metals. Results of the sampling showed that groundwater was not impacted by VOCs, SVOCs or PCBs. Laboratory results for Metals in groundwater were still pending and were therefore not incorporated in the report. In its conclusions, CHA recommended that soil borings be advanced in areas of the New Penn site that contained piles of discolored materials having a petroleum/chemical odor, and within the footprint of the proposed New Penn building. CHA also recommended that piles of discarded materials scattered throughout the site be removed and properly disposed of, and that one or two representative soil samples of materials exhibiting petroleum and/or chemical odors be collected and analyzed for waste characterization.

- In late October 1999, CHA conducted additional investigation of the New Penn site to address recommendations made as part of its previous ESA. The investigation consisted of the advancement of six soil borings and the collection of one sample each from two soil piles having a noticeable petroleum and/or chemical odor. Eight representative samples from the installed soil borings, and one sample each of the soil piles, were collected for analysis for VOCs, SVOCs, PCBs and the 8 RCRA Metals by both TCLP and Total Metals. During advancement of the soil borings, a tar material with a creosote odor was discovered in one of the bore holes at a depth of approximately six feet below grade. Results of the sampling indicated that the two piles of soil located on northeast portions of the site were impregnated with petroleum above the NYSDEC Contaminated Soil Guidance Policy; and that benzene and SVOC concentrations exceeded soil cleanup standards in the soil boring having the tar layer within it. Laboratory results for Metals in groundwater completed as part of the original ESA showed concentrations of arsenic at concentrations slightly above groundwater standards in one of the New Penn monitoring wells.

- In early 2000, C.D. Perry & Sons, Inc. (CD Perry) was retained by the RCIDA to address areas of concern identified in the 1999 CHA report of the New Penn Truck facility. Areas of concern included piles of petroleum impregnated soils; piles of virgin asphalt; and the detection of benzene and SVOCs in a soil boring advanced in the proposed New Penn building footprint. CD Perry recommended that the piles of asphalt be disposed of at a permitted facility and that the petroleum impregnated soil piles be excavated to uncontaminated soil and removed. To address contamination within the proposed building footprint soil boring, CD Perry excavated an approximate ten foot deep test pit in this area. Results of the test pitting showed a layer of tar-like material at a depth of six feet. The tar material was sampled and analyzed for VOCs and SVOCs. Results of the sampling showed elevated concentrations of SVOCS. Based on the analytical results, trenches were excavated to delineate the extent of the tar material. According to the report, the tar material was confined to an area of 35 feet by 35 feet with varying thicknesses of 0-12 inches and varying depths of six to 12 feet below grade.

- In 2000 and 2001, C.T. Male collected samples of surface soils, and of soils from within test pits and trenches which were advanced at the proposed New Penn facility. Moreover, C.T. Male excavated the tar-like material identified in the CD Perry report. The surface soil samples were collected from the site and analyzed for SVOCs, PCBs, and for the eight RCRA Metals on a totals basis. Analytical results showed concentrations of SVOCs exceeding NYSDEC TAGM values at several sampling locations while metals exceeded TAGM values at all sampling locations; though the metal detections were qualified due to laboratory quality control issues. The work completed on the New Penn site by C.T. Male was in accordance with the Voluntary Cleanup Program executed between the NYSDEC and the Rensselaer County Industrial Development Agency. The tasks performed by C.T. Male were pre-approved and completed to the satisfaction of the NYSDEC.

  Two test pits were excavated to characterize underlying fill material and to collect representative samples for laboratory analysis. The samples were each analyzed for VOCs, SVOCs, PCBs, and the 8 RCRA Metals. Results of the sampling event showed SVOC concentrations exceeding TAGM values in both test pits. Analytical results for arsenic and mercury metals were qualified due to laboratory quality control issues.

  Three trenches were excavated on northeast portions of the New Penn site to address potential contamination in underlying soils from the former existence of piles of petroleum impregnated soils in this area. The soil piles, identified in the CD Perry report, had been removed from the site by unknown persons. The trenches were excavated to pre-existing grades. Based on subjective olfactory observations and PID readings, one soil sample was collected from one of the trenches and analyzed for VOCs and SVOCs. Results of the sampling did not show contaminants at concentrations above the laboratory method detection limit.

  Excavation was conducted to remove underlying tar material identified in the CD Perry report. Upon completion of the excavation, an area approximately 100 feet long by 50-70 feet wide and 15-20 feet deep had been removed. The excavated tar material and soils were temporarily staged on the east side of Industrial Park Road (Parcel 1), where they were later sampled for waste characterization and ultimately disposed of at Environmental Soils Management of New York, LLC.

- In February/March 2001, C.T. Male conducted a Phase I ESA and Geotechnical Evaluation for a proposed warehouse facility to be located on eastern portions of Parcel 1. The investigation involved the advancement of test borings and test pits for geotechnical and environmental purposes, and review of historical environmental investigations conducted on the Parcel and its surrounding properties. Nine test pits and five soil borings advanced as part of the investigation showed the parcel to be underlain with fill material to depths of approximately eight (8) to 11 feet below grade. The fill consisted primarily of slag, ash, cinder, and sand and gravel, and did not reveal the subjective presence of contamination or existence of coal tar at any test location.

- In April 2001, C.T. Male was retained to observe for the possible presence of coal tar during construction of a retention pond on north portions of the New Penn Truck facility as per the requirements of the VCP. Evaluations for the presence of coal tar were made employing olfactory (sight and smell) observations. Coal tar was not observed. Fill material observed during construction activities consisted of slag, cinder, bricks, concrete, and granular soils. These materials were deposited in mounds atop north portions of Parcel 1.

- In 2002, Earth Tech, Inc. conducted a Phase I ESA on portions of Parcel 1 located between the New Penn Truck facility and the Rensselaer County Jail. The ESA made reference to previous investigations conducted by others and indicated that Parcel 1 appeared to have been used as a dumping area with piles of asphalt, soil, concrete and cement observed atop east portions of the Parcel. The ESA also indicated that the Republic Steel Corporation/Troy Works property, of which the Site is a part, was listed in governmental databases as a CERCLIS site with No Further Action Planned (NFRAP). Earth Tech recommended that the Parcel be further investigated by test pitting to address the potential existence of subsurface coal tar material.

In April 2002, 12 test pits were completed on portions of Parcel 1 located between the New Penn facility and the Rensselaer County Jail. The test pits were advanced by Earth Tech, Inc. to address recommendations set forth in its ESA of the Parcel. Soil samples were collected at regular intervals from each of the test pits and screened with a PID for VOCs. One representative soil/fill sample was analyzed for VOCs, SVOCs, RCRA 8 Metals, and Pesticides/PCBs. Analytical results showed arsenic to have exceeded NYSDEC cleanup guidelines.

In May 2002, Earth Tech conducted additional investigation of Parcel 1 to further characterize the thickness and character of fill material and to collect soil and groundwater samples for analysis of VOCs, SVOCs, PCBs and RCRA 8 Metals. The investigative methodology consisted of the excavation and sampling of soils from approximately 20 test pits, and sampling of groundwater from an existing monitoring well located along the down gradient portion of the site. A soil sample was collected from each test pit for VOC screening and possible subsequent laboratory analysis. Soil samples from one test pit location (TP-2) were collected and submitted to the laboratory for analysis. Analytical results showed select SVOCs and metals at concentrations exceeding cleanup guidelines for SVOCs and metals. It should be noted that analytical results for VOCs in soil and groundwater in the down gradient well were not made available to C.T. Male and are therefore not incorporated in this report.

- In 2003, Erdman Anthony collected samples from “slag mountain”, which is located at the northwest corner of Parcel 1. The samples were collected to determine if portions of “slag mountain” could be removed and re-graded into the site to accommodate a proposed bikeway/walkway along the eastern edge of Parcel 1. Three samples were collected for analysis of the 8 RCRA Metals. The sampling results were attached to a letter report and forwarded to the NYSDEC for comment. The NYSDEC responded that metal contaminant levels in the slag were below current or proposed soil cleanup guidelines and that the slag could be re-graded on north portions of the Parcel if delineated with grading stakes. The NYSDEC further indicated that a fine layer of light-grey material appearing to be ash and/or cinder located atop “slag mountain” needed to be sampled for the 8 RCRA Metals. This material was sampled in

December 2003 and analyzed for the metal constituents suggested by NYSDEC. Results of the sampling showed all analytes at concentrations below TAGM RSCOs with the exception of Selenium, which was detected at a concentration of 2.52 mg/kg versus its cleanup guideline of 2 mg/kg, though the detected concentration fell within the Eastern USA Background range of 0.1 – 3.9 mg/kg.

1.2.4 Contaminants of Concern

The previous discovery of coal tar at the New Penn property of STIP and other properties to the south of STIP indicate that coal tar is a potential contaminant of concern. Coal tar typically contains volatile and semi-volatile organic compound fractions as well as metals. Previous investigations of the slag at the site indicate that it is not a characteristic hazardous waste; however, it does have the potential to possess metals at concentrations greater than regulatory guidance levels. Cinders and ash which co-mingle with the site slag and are present at grade and depth within portions of the site suggest semi-volatile organic compounds and metals are potential contaminants of concern. The existence of a former petroleum above ground storage tank on the off-site parcel referred to as the “Alamo” suggest the potential presence of petroleum products such that volatile and semi-volatile organics are potential contaminants of concern. An abandoned petroleum transfer pipeline crosses a portion of Parcel 2, indicating the potential for petroleum contamination there.

Pesticides, herbicides and polychlorinated biphenyls (PCBs) have no history of use or occurrence at the site such that they are not considered to be contaminants of concern and therefore, were not selected for analyses.

1.3 Report Organization

This RI Report consists of seven sections. Section 1 of the RI Report is an introduction, which presents the purpose of the project and background information such as project work tasks and modifications to the work plan, Site description, Site history and previous investigations of the Site. Section 2 relates to the study area investigation and consists of a description (i.e., dates of completion, number or sampling locations, etc.) of the investigative tasks. Section 3 presents the physical characteristics of the study area as obtained during the site investigation. This section includes site conditions (i.e., soils, groundwater, regional geology, etc.) and surface features such as water bodies and drainage patterns. Section 4 discusses the nature and extent of the contamination in which the analytical results of soil (surface and subsurface) and groundwater samples are compared to applicable regulatory standards and guidance values. Section 5 describes the contaminant fate and transport (routes of migration, and contaminant persistence and migration) for the remaining site contamination. Section 6 presents the exposure assessment to evaluate the potential for human exposure and environmental impact from site related contaminants. Section 7 presents the summary and conclusions of the entire report.

2.0 STUDY AREA INVESTIGATION

2.1 Site Characterization

The investigations were conducted within the property boundaries of the subject site, with the exception of the collection of background surface soil samples which were collected from publicly owned lands located east of the Site. The Site Investigation involved the following specific tasks:

- Site Survey;
- Ground Penetrating Radar Survey;
- Surface Soil Sampling (inclusive of collection of background samples);
- Test Trenching and Test Pitting;
- Test Boring and Monitoring Well Installations;
- Groundwater Sampling;
- Slag Sampling;
- Effect of Tidal Influences on Groundwater Levels;
- Survey of Private and Public Wells;
- Community Dust Monitoring;
- Fish and Wildlife Impact Analysis;
- Review of Historical and Supplementary Investigations of the Site by Others; and
- Data Usability Summary Report (DUSR).

In addition to the investigative steps listed above, the following tasks were performed as a direct result of findings discovered during the course of the RI.

- Interim Remedial Measure (IRM) to address the discovery by others of buried vessels within the northeastern portion of Parcel 1 of the Site.
- Supplemental investigations (soil borings and monitoring wells) to further define impacted areas affected by the IRM and to determine the source of contaminated soils and groundwater discovered on Parcel 2 during the course of the RI.

2.1.1 Summary of Investigative Tasks

Table 2.1.1-1 presents a summary of the investigative tasks that were carried out as part of the RI. The table lists each task that was performed, along with the location where the task was performed, the media that was subject to investigation, sample identification nomenclature (if applicable), and the laboratory analyses performed on specific media that was sampled (if applicable).

TABLE 2.1.1-1: Investigative Tasks Summary

Remedial Investigation Task	Sample ID	Location	Media	Sampling Nomenclature	Laboratory Analysis		
					TCL VOCs	TCL SVOCs	TAL Metals
Site Survey	NA	Site Wide	NA	NA	NA	NA	NA
GPR Survey	NA	Parcel 2	NA	NA	NA	NA	NA
Surface Soil Sampling	Surface Soil #1 to #17 and #19 to #21	Parcel 1, Parcel 2 and Parcel 3	Surface Soils	Surface Soil #1 to #17 and #19 to #21	NA	X	X
Background Surface Soil Sampling	Surface Soil #22 to #24	Off site, East of Parcel 1 & 2	Surface Soils	Surface Soil #22 to #24	NA	X	X
Test Trench Sampling	CTM Trench #1	Parcel 1	Soil/Fill	Trench-1 Upper (2.5')	X	X	X
	CTM Trench #1	Parcel 1	Soil/Fill	Trench-1 Lower (15.5')	X	X	X
	CTM Trench #1	Parcel 1	Soil/Fill	Trench-1 Upper-1 (6')	X	X	X
	CTM Trench #1	Parcel 1	Soil/Fill	Trench-1 Lower-1 (20')	X	X	X
	CTM Trench #1	Parcel 1	Soil/Fill	Trench-1 Upper-2 (6')	X	X	X
	CTM Trench #1	Parcel 1	Soil/Fill	Trench-1 Lower-2 (17')	X	X	X
	CTM Trench #1	Parcel 1	Soil/Fill	Trench-1 Lower-3 (20')	X	X	X
	CTM Trench #2	Parcel 1	Soil/Fill	Trench-2 Upper (1.5')	X	X	X

TABLE 2.1.1-1: Investigative Tasks Summary

Remedial Investigation Task	Sample ID	Location	Media	Sampling Nomenclature	Laboratory Analysis		
					TCL VOCs	TCL SVOCs	TAL Metals
	CTM Trench #2	Parcel 1	Soil/Fill	Trench-2 SS-1 (9.5')	X	X	X
Test Trench Sampling	CTM Trench #2	Parcel 1	Soil/Fill	Trench-2 SS-2 (7')	X	X	X
	CTM Trench #2	Parcel 1	Soil/Fill	Trench-2 SS-3 (8.5')	X	X	X
	CTM Trench #2	Parcel 1	Soil/Fill	Trench-2 Lower-1 (8')	X	X	X
	CTM Trench #2	Parcel 1	Soil/Fill	Trench-2 Upper-1 (4')	X	X	X
	CTM Trench #2	Parcel 1	Soil/Fill	Trench-2 Lower-2 (8')	X	X	X
	CTM Trench #2	Parcel 1	Soil/Fill	Trench-2 Upper-2 (3')	X	X	X
	CTM Trench #3	Parcel 1	Soil/Fill	Trench-3 Lower (13')	X	X	X
	CTM Trench #3	Parcel 1	Soil/Fill	Trench-3 Upper (3')	X	X	X
	CTM Trench #3	Parcel 1	Soil/Fill	Trench-3 Lower-1 (10')	X	X	X
	CTM Trench #3	Parcel 1	Soil/Fill	Trench-3 Upper-3 (4')	X	X	X
	CTM Trench #3	Parcel 1	Soil/Fill	Trench-3 Lower-2 (10')	X	X	X
	CTM Trench #3	Parcel 1	Soil/Fill	Trench-3 Upper-2 (4')	X	X	X
	CTM Trench #4	Parcel 1	Soil/Fill	Trench-4 Lower (18')	X	X	X
	CTM Trench #4	Parcel 1	Soil/Fill	Trench-4 Upper (5')	X	X	X
	CTM Trench #4	Parcel 1	Soil/Fill	Trench-4 Lower-1 (19')	X	X	X
	CTM Trench #4	Parcel 1	Soil/Fill	Trench-4 Upper-1 (6')	X	X	X
	CTM Trench #4	Parcel 1	Soil/Fill	Trench 4 Upper-2 (6')	X	X	X
	CTM Trench #4	Parcel 1	Soil/Fill	Trench-4 Lower-2 (20')	X	X	X
	CTM Trench #5	Parcel 1	Soil/Fill	Trench-5 Lower (9')	X	X	X
	CTM Trench #5	Parcel 1	Soil/Fill	Trench-5 Upper (2')	X	X	X
	CTM Trench #5	Parcel 1	Soil/Fill	Trench-5 Lower-1 (9')	X	X	X
	CTM Trench #5	Parcel 1	Soil/Fill	Trench-5 Upper-1 (2')	X	X	X
	CTM Trench #6	Parcel 1	Soil/Fill	Trench-6 Lower (8')	X	X	X
	CTM Trench #6	Parcel 1	Soil/Fill	Trench-6 Upper (4')	X	X	X
	CTM Trench #6	Parcel 1	Soil/Fill	Trench-6 Lower-1 (7')	X	X	X
	CTM Trench #6	Parcel 1	Soil/Fill	Trench-6 Upper-1 (3')	X	X	X
	CTM Trench #7	Parcel 1	Soil/Fill	Trench-7 Upper (4')	X	X	X
	CTM Trench #7	Parcel 1	Soil/Fill	Trench-7 Lower (12')	X	X	X
	CTM Trench #7	Parcel 1	Soil/Fill	Trench-7 Lower-1 (16')	X	X	X
	CTM Trench #7	Parcel 1	Soil/Fill	Trench-7 Upper-1 (5')	X	X	X
Test Pit Sampling	Test Pit 1	Parcel 2	Soil/Fill	Test Pit-1 Upper (2')	X	X	X
	Test Pit 1	Parcel 2	Soil/Fill	Test Pit-1 Lower (4')	X	X	X

TABLE 2.1.1-1: Investigative Tasks Summary

Remedial Investigation Task	Sample ID	Location	Media	Sampling Nomenclature	Laboratory Analysis		
					TCL VOCs	TCL SVOCs	TAL Metals
	Test Pit 2	Parcel 2	Soil/Fill	Test Pit-2 Upper (4')	X	X	X
Test Pit Sampling	Test Pit 2	Parcel 2	Soil/Fill	Test Pit-2 Lower (20')	X	X	X
	Test Pit 3	Parcel 2	Soil/Fill	Test Pit-3 Upper (2')	X	X	X
	Test Pit 3	Parcel 2	Soil/Fill	Test Pit-3 Lower (5')	X	X	X
	Test Pit 4	Parcel 2	Soil/Fill	Test Pit-4 Upper (7')	X	X	X
	Test Pit 4	Parcel 2	Soil/Fill	Test Pit-4 Lower (19')	X	X	X
Test Borings	Soil Boring 1	Parcel 1	Soil/Fill	CTM-1 (15-17')	X	X	X
	Soil Boring 2	Parcel 1	Soil/Fill	CTM-2 (6-8')	X	X	X
	Soil Boring 3	Parcel 1	Soil/Fill	CTM-3 (2-4')	X	X	X
	Soil Boring 5	Parcel 1	Soil/Fill	CTM-5 (10-12')	X	X	X
	Soil Boring 6	Parcel 1	Soil/Fill	CTM-6 (8-10')	X	X	X
	Soil Boring 7	Parcel 1	Soil/Fill	CTM-7 (2-4')	X	X	X
	Soil Boring 8	Parcel 1	Soil/Fill	CTM-8 (4-6')	X	X	X
	Soil Boring 9	Parcel 1	Soil/Fill	CTM-9 (4-8')	X	X	X
	Soil Boring 10	Parcel 1	Soil/Fill	CTM-10 (2-4')	X	X	X
	Soil Boring 11	Parcel 1	Soil/Fill	CTM-11 (8-10')	X	X	X
	Soil Boring 13	Parcel 1	Soil/Fill	CTM-13 (14-16')	X	X	X
Groundwater Sampling	CTM-1	Parcel 1	GW	CTM-1	X	X	X
	CTM-1S	Parcel 1	GW	CTM-1S	X	X	X
	CTM-2	Parcel 1	GW	CTM-2	X	X	X
	CTM-3	Parcel 1	GW	CTM-3	X	X	X
	CTM-5	Parcel 1	GW	CTM-5	X	X	X
	CTM-6	Parcel 3	GW	CTM-6	X	X	X
	CTM-7	Parcel 2	GW	CTM-7	X	X	X
	CTM-8	Parcel 2	GW	CTM-8	X	X	X
	CTM-9	Parcel 2	GW	CTM-9	X	X	X
	CTM-10	Parcel 1	GW	CTM-10	X	X	X
	CTM-11	Parcel 1	GW	CTM-11	X	X	X
	CTM-13	Parcel 1	GW	CTM-13	X	X	X
	MW-3 (ESI)	Parcel 2	GW	MW-3 (ESI)	X	X	X
	MW-8 (ESI)	Parcel 1	GW	MW-8 (ESI)	X	X	X

2.1.2 Site Survey

Surveys were conducted by C.T. Male to locate all the test pits, trenches, soil borings, monitoring wells and surface soil sampling locations completed as part of the initial RI and supplemental investigations of the IRM and Parcel 2. The survey for the RI was conducted in November 2004. The survey for the supplemental investigations of the IRM and Parcel 2 was conducted in October 2005. Ground surface elevations were also determined at all test boring and monitoring well locations relative to mean sea level, including the top of PVC well casing (monitoring wells). All sampling locations (including the IRM and supplemental investigation of Parcel 2) are shown on the Site Boundary Survey and Sampling Locations Map presented as Figure 2. The updated metes and bounds description of the site is included in Appendix A.

2.1.3 Ground Penetrating Radar (GPR) Survey

C.T. Male subcontracted with Sub-Surface Information Surveys, Inc. to conduct a Ground Penetrating Radar (GPR) survey on Parcel 2 of the site. The GPR survey was completed on September 2, 2004 in general accordance with the approved Work Plan. The GPR survey was limited to the boundaries of Parcel 2 only, since Parcel 1 primarily consisted of mounded and buried slag and other fill materials, and Parcel 3 was limited in size (0.199 acre) and was not seen as having the potential to contain buried structures. The GPR survey report is presented as Exhibit 2 to this report.

The survey consisted of utilizing a Subsurface Interface Radar (SIR-300) to traverse the surface area of Parcel 2 in an attempt to located buried structures. The SIR-300 was set to detect subsurface anomalies to a depth of 10 feet below the ground surface (bgs). The parcel was traversed with the SIR-300 employing a grid pattern with five to ten foot spacing intervals, which is sufficient to detect all large capacity underground storage tanks (USTs) of 500 gallons or greater.

2.1.4 Surface Soil Sampling

Twenty one (21) surface soil samples denoted as CTM Surface Soil #1 to #17, Surface Soil #19 to #21 and Surface Soil #SS-21 were collected for analysis and are depicted on the RI Site Sampling Locations Map presented in Figure 3. Due to the presence of boulder-sized slag and the existence of Slag Mountain in the north and northwest portions of Parcel 1, surface soil samples were not collected from this section of the site.

Each surface soil sample was collected from either 0 to 2-inches below the ground surface or from the vegetative root zone employing proper sampling protocols. The samples were forwarded to the laboratory of record for analysis for TCL SVOCs and TAL metals.

One set of Quality Assurance/Quality Control (QA/QC) samples (i.e., duplicate samples, equipment blanks, and MS/MSDs) were collected during the surface soil sampling event, as follows:

- The equipment blank was collected at the conclusion of surface soil sampling, after Surface Soil Sample 21.
- The duplicate sample was collected from Surface Soil Sample 14.
- The MS/MSD was performed on Surface Soil Sample 17.

Three background surface soil samples were collected on January 7, 2005 from publicly owned (City of Troy) off site locations east of the Site to develop an understanding of the ambient surface soil conditions in the vicinity of the site for reference purposes only. The background soil samples are depicted as SS-22, SS-23 and SS-24 on the Background Surface Soil Sampling Locations Map in Figure 4.

Each background surface soil sample was collected from 0 to 2-inches below the vegetative root zone employing proper sampling protocols and forwarded to the laboratory of record for analysis for TCL SVOCs and TAL metals.

One set of QA/QC samples were collected during the background surface soil sampling event, as follows.

- The equipment blank was collected at the conclusion of background surface soil sampling.
- The duplicate sample was collected from Background Surface Soil Sample SS-22.
- The MS/MSD was performed on Background Surface Soil Sample SS-23.

2.1.5 Test Trenching/Test Pitting

Exploratory test trenches and test pits were completed in September and October of 2004 on Parcels 1 and 2 of the site utilizing a Kobelco SK 200 LC track mounted excavator with a vertical reach of 18 to 20 feet below ground level. The test trenches were confined to Parcel 1 while test pits were confined to Parcel 2 as shown on Figure 3. Due to the small acreage of Parcel 3, neither test trenches nor test pits were performed there. Rather, a test boring converted to a monitoring well was completed within Parcel 3 and is discussed in the following section. The trenches were completed in Parcel 1 as a means to assess the buried slag materials for evidence of coal tar and to further define the vertical extent of the slag across the parcel. Test pits were completed in Parcel 2 as there was significantly less acreage to be assessed.

Excavated materials (slag, fill, soil, etc.) were visually classified and logged vertically and horizontally by a C.T. Male representative and are presented in the Test Pit and Test Trench Logs in Appendix B. Representative samples of the excavated materials were screened for volatile organic vapors with a Photo Ionization Detector (PID). Results of the PID screening are presented in the Test Pit and Test Trench Organic Vapor Headspace Analysis Logs in Appendix C. Select samples were collected from the pits and trenches for laboratory analysis. The samples were collected employing standard sampling protocols and forwarded to the laboratory of record for analyses for TCL VOCs and SVOCs and TAL metals.

QA/QC samples were collected during the test trench and test pit sampling event, as follows.

- Two equipment blanks of the excavator bucket were collected prior to the sampling of Trench-3 Lower and Test Pit 1 Upper. Two equipment blanks of the sampling tools (stainless steel spoon and bowl) were collected prior to the sampling of Trench-3 Lower and Trench-1 Lower-2.

- Duplicate samples were collected from samples Trench-5 Lower-1 and Trench-1 Lower-1.

- The MS/MSD was performed on samples collected from Trench-5 Upper-1 and Trench-1 Upper-1.

Forty-seven (47) samples were collected for laboratory analyses from the test pits and test trenches. Table 2.1.5-1 provides both the nomenclature and locations for samples collected and also describes the media that was sampled.

TABLE 2.1.5-1: Test Pit and Test Trench Sampling Locations Summary

Sample ID	Media Sampled	Trench Orientation (Start to End)	Distance from Trench Start	Sample Depth
Trench-1 Upper	Brown SILT and fine GRAVEL	South to North	8 feet	2.5 feet
Trench-1 Lower	M-F Brown SAND, trace silt	South to North	8 feet	15.5 feet
Trench-1 Upper-1	Black CINDER and brown SILT	South to North	90 feet	6 feet
Trench-1 Lower-1	Med. SAND, Some Gravel	South to North	90 feet	20 feet
Trench-1 Upper-2	Gray ASH, Some Cinder	South to North	235 feet	6 feet
Trench-1 Lower-2	Black CINDER and gray ASH	South to North	228 feet	17 feet
Trench-1 Lower-3	Gray med. SAND and GRAVEL	South to North	260 feet	20 feet
Trench-2 Upper	Black CINDER and ASH	South to North	44 feet	1.5 feet
Trench-2 SS-1	SILT, Stained with fuel odor	South to North	28 feet	9.5 feet
Trench-2 SS-2	White SLAG	South to North	90 feet	7 feet
Trench-2 SS-3	Brown SILT	South to North	90 feet	8.5 feet
Trench-2 Lower-1	Brown SILT	South to North	160 feet	8 feet
Trench-2 Upper-1	Black CINDER and ASH	South to North	160 feet	8 feet
Trench-2 Lower-2	Brown SAND, Some Silt	South to North	308 feet	8 feet
Trench-2 Upper-2	White ASH	South to North	312 feet	3 feet
Trench-3 Lower	Brown SILT	South to North	25 feet	13 feet
Trench-3 Upper	Black SILT and CINDER	South to North	25 feet	3 feet
Trench-3 Lower-1	Brown SILT	South to North	150 feet	10 feet
Trench-3 Upper-1	Black SILT and CINDER	South to North	150 feet	4 feet
Trench-3 Lower-2	Brown SILT	South to North	300 feet	10 feet
Trench-3 Upper-2	Black SILT and CINDER	South to North	300 feet	4 feet
Trench-4 Lower	Gray SILT	North to South	42 feet	18 feet
Trench-4 Upper	White pulverized rock	North to South	42 feet	5 feet
Trench-4 Lower-1	Black SLAG	North to South	125 feet	19 feet
Trench-4 Upper-1	White ASH	North to South	125 feet	6 feet
Trench 4 Upper-2	Brown CLAY and GRAVEL	North to South	258 feet	6 feet
Trench-4 Lower-2	Coarse SLAG	North to South	260 feet	20 feet
Trench-5 Lower	Brown SILT	East to West	20 feet	9 feet
Trench-5 Upper	Red SILT	East to West	20 feet	2 feet
Trench-5 Lower-1	Brown SILT	East to West	75 feet	9 feet
Trench-5 Upper-1	White ASH	East to West	90 feet	2 feet
Trench-6 Lower	Brown SILT	East to West	18 feet	8 feet
Trench-6 Upper	Coarse SLAG	East to West	18 feet	4 feet

TABLE 2.1.5-1: Test Pit and Test Trench Sampling Locations Summary

Sample ID	Media Sampled	Trench Orientation (Start to End)	Distance from Trench Start	Sample Depth
Trench-6 Lower-1	Brown SILT	East to West	85 feet	7 feet
Trench-6 Upper-1	Black CINDER	East to West	85 feet	3 feet
Trench-7 Upper	BACKFILL	East to West	35 feet	4 feet
Trench-7 Lower	Brown SILT and SAND	East to West	35 feet	12 feet
Trench-7 Lower-1	Brown fine SAND	East to West	114 feet	16 feet
Trench-7 Upper-1	SLAG and ASH	East to West	114 feet	5 feet
Test Pit-1 Upper (2')	Black CINDER and SILT	NA	NA	2 feet
Test Pit-1 Lower (4')	SAND and GRAVEL	NA	NA	4 feet
Test Pit-2 Upper (4')	SAND, GRAVEL and FILL	NA	NA	4 feet
Test Pit-2 Lower (20')	SAND and GRAVEL	NA	NA	20 feet
Test Pit-3 Upper (2')	Gray ASH	NA	NA	2 feet
Test Pit-3 Lower (5')	Brown SILT and CLAY	NA	NA	5 feet
Test Pit-4 Upper (7')	Black CINDER	NA	NA	7 feet
Test Pit-4 Lower (19')	Gray SILT and CLAY	NA	NA	19 feet

2.1.6 Test Borings and Monitoring Well Installations

Twelve (12) exploratory test borings were completed on the Site at the locations identified on Figure 3. Test boring CTM-11 was moved from its proposed location identified in the Work Plan (north end of CTM Test Trench #2) to the south end of Test Trench #2 to further characterize stained soils with a fuel type odor discovered during trenching activities in this area. Test borings CTM-1 and CTM-1S were relocated to northeastern portions of Parcel 1 to monitor soil and groundwater quality in the backfilled excavation of the IRM. Soil borings CTM-4 and CTM-12 were not completed as part of the investigation. CTM-4 was proposed for southwestern portions of Parcel 1 adjacent east to East Industrial Parkway and CTM-12 was proposed on easternmost portions of Parcel 1 on a strip of land separating the banks of the Hudson River and the New Penn facility. CTM-4 was not performed because an existing well (MW-8 (ESI)) installed by others was located in the vicinity of CTM-4, and test trenches completed as part of this RI were located nearby. CTM-12 was not completed because a soil boring/monitoring well (CTM-2) completed as part of this investigation was located nearby.

The test borings were advanced with hollow stem auger casing. Subsurface soil/fill was collected at continuous 2 foot intervals with split spoon sampling barrels. All recovered soil/fill samples were screened for the presence of volatile organic compounds with a PID. The PID readings and subsurface soil profiles are recorded on the Subsurface Exploration Logs presented in Appendix D.

The test borings were advanced to depths that ranged from 17 feet bgs at boring CTM-1S to 40 feet bgs at boring CTM-2. A total of 11 soil samples were collected employing proper sampling protocols and forwarded to the laboratory of record for analyses for TCL VOCs and SVOCs and TAL metals.

QA/QC samples were collected during the soil boring sampling event, as follows.

- Two sets of equipment blanks were collected. One equipment blank was collected of the stainless steel spoon and bowl prior to collection of the soil sample at soil boring CTM-7. The second equipment blank was collected of the split spoon sampling barrel prior to the collection of the soil sample at soil boring CTM-7.

- The duplicate sample was collected from soil boring CTM-9.

- The MS/MSD was performed on the soil sample collected from soil boring CTM-1.

All of the test borings were converted to 2-inch permanent monitoring wells. Each monitoring well with the exception of monitoring well CTM-9 (flush mounted curb box) was protected with a metal guard pipe with locking hasp. Monitoring well construction details are provided in Appendix E.

Table 2.1.6-1 provides a summary of the boring and monitoring well identification numbers, boring depths, depths at which the monitoring wells were set, monitoring well screened interval depths, and soil sample collection depths.

TABLE 2.1.6-1: RI Soil Boring and Monitoring Well Summary

Boring/MW ID #	Boring Depth	MW Depth	MW Screened Interval	Soil Sample Depth
CTM-1	29’ bgs	29’ bgs	24 to 29’ bgs	15-17’ bgs
CTM-1S	17’ bgs	17’ bgs	12 to 17’ bgs	NA
CTM-2	40’ bgs	38’ bgs	23 to 38’ bgs	6-8’ bgs
CTM-3	28’ bgs	25’ bgs	15 to 25’ bgs	2-4’ bgs
CTM-5	30’ bgs	28’ bgs	18 to 28’ bgs	10-12’ bgs
CTM-6	30’ bgs	28’ bgs	18 to 28’ bgs	8-10’ bgs
CTM-7	30’ bgs	30’ bgs	15 to 30’ bgs	2-4’ bgs
CTM-8	30’ bgs	30’ bgs	20 to 30’ bgs	4-6’ bgs
CTM-9	18’ bgs	18’ bgs	8 to 18’ bgs	4-8’ bgs
CTM-10	32’ bgs	30’ bgs	10 to 30’ bgs	2-4’ bgs
CTM-11	26’ bgs	24’ bgs	9 to 24’ bgs	8-10’ bgs
CTM-13	32’ bgs	30’ bgs	20 to 30’ bgs	14-16’ bgs

Notes: bgs denotes below ground surface

2.1.7 Groundwater Sampling

Groundwater samples were collected from each of the newly installed monitoring wells and from two existing monitoring wells installed by others as part of historical investigations of the Site. The existing monitoring wells are denoted as MW-3 (ESI) and MW-8 (ESI), and are identified in Figure 3 along with the newly installed wells.

Prior to the collection of groundwater samples from the newly installed and existing monitoring wells, each well was developed utilizing a surge block, bailer and small diameter submersible pump (Grunfos Redi-Flow II) to restore the hydraulic connection between the wells and aquifer materials.

Following the development of all of the monitoring wells, each well was purged prior to sampling. The 12 newly installed wells and two (2) existing wells were then sampled employing proper sampling techniques and the samples forwarded to the laboratory of record for analyses for TCL VOCs and SVOCs and TAL metals.

QA/QC samples were collected during the groundwater sampling event, as follows.

- The equipment blank of the peristaltic pump tubing was collected prior to collection of a groundwater sample from monitoring well CTM-3.
- The QA/QC duplicate sample was collected with the groundwater sample at monitoring well CTM-10.
- The MS/MSD was performed on groundwater collected from monitoring well CTM-1.

2.1.8 Slag Sampling

Three (3) samples of slag material and two (2) samples of a fine light-grey material have been collected from “slag mountain” for analysis for the 8 RCRA Metals. The samples were collected on two occasions by Erdman Anthony on behalf of the City of Troy. The samples of slag material were collected in September 2003 while the fine light-grey material was collected in December 2003. The samples were collected to determine if the components of slag mountain could be used as suitable cover material for both the project site and a proposed bike path along the Hudson River. Sampling results were compared to TAGM guidelines and are presented in Exhibit 8. As depicted, all analytes were detected at concentrations below guidelines with the exception of Selenium at sampling location S-4, which constitutes the fine light-grey material. Selenium was detected at this sampling location at a concentration of 2.52 mg/kg, which is above its guidelines of 2 mg/kg but below the Eastern USA Background range of 0.1-3.9 mg/kg.

2.1.9 Effect of Tidal Influences on Groundwater Levels

Water levels in select monitoring wells were gauged to determine the effects of tidal influences associated with the adjacent Hudson River. The wells chosen for the study included monitoring wells CTM-2, CTM-10, CTM-13 and MW-8 (ESI) which are located on western portions of Parcel 1 nearest the Hudson River and monitoring wells CTM-5 and CTM-11, which are located on southern and eastern portions of Parcel 1 at greater distances from the Hudson River than the aforementioned wells. The monitoring well locations are depicted on Figure 3.

Mini Troll Pro Transducers provided by In-Situ, Inc. were utilized to measure the water levels in each of the monitoring wells. Water levels in monitoring wells CTM-2 and CTM-13 were measured during an approximate 24-hour period on January 26 and 27, 2005 while water levels in monitoring wells CTM-10 and MW-8 (ESI) were measured during an approximate 24-hour period on January 27 and 28, 2005. Water levels in monitoring wells CTM-5 and CTM-11 were measured for an approximate 72-hour period from January 28 – 31, 2005.

Graphs representing water levels relative to tidal fluctuations are presented in Exhibit 3. The graphs show a direct correlation between water levels and tidal fluctuations from groundwater in monitoring wells CTM-2, CTM-13, CTM-10 and MW-8 (ESI), which are located on portions of the site nearest the Hudson River. Monitoring wells CTM-5 and CTM-11, located on southern and eastern portions of Parcel 1 further away from the Hudson River also show water level fluctuations associated with tidal fluctuations, but to a lesser degree than the monitoring wells surveyed along the River. Water levels in CTM-5 and CTM-11 are shown on the graph as gradually declining over time, which may be attributed to the general decline in stage of the Hudson River during that same time period.

2.1.10 Survey of Private and Public Wells

According to a representative of the Rensselaer County Department of Health, private potable water wells are not located in the vicinity of the site; including Public School No. 12, which is located in the vicinity (upgradient) of northeastern portions of Parcel 1. According to the representative, the City of Troy provides potable water to the site and its surrounding areas.

2.1.11 Community Dust Monitoring

Community Dust Monitoring was conducted in accordance with the Community Air Monitoring Program and included the measurement of airborne particulates and organic vapors during the test pit and test trench excavation portion of the RI. Results of the dust monitoring program are not included within this report but are retained in C.T. Male's file for review on request.

2.1.12 Fish and Wildlife Impact Analysis (FWIA)

C.T. Male completed a Fish and Wildlife Impact Analysis (FWIA) (dated August 10, 2004) pursuant to the October 1994 NYSDEC FWIA for Inactive Hazardous Waste Sites (see Exhibit 4). The purpose of the Step 1 FWIA is to identify fish and wildlife resources that presently exist and that existed before contaminant introduction, or to document their absence. This step includes a site description and map reviews, description of fish and wildlife resources, description of fish and wildlife resource value, and identification of applicable fish and wildlife regulatory criteria. Information for the site and the vicinity of the site was collected during a field visit and during off-site literature and mapping reviews.

The FWIA report concluded that no further steps need to be taken in the Fish and Wildlife Impact Analysis. The FWIA is presented as Exhibit 4.

2.1.13 Review of Additional Investigations of the Site by Others

At the time that the Site Work Plan was developed, two investigations were proposed to be conducted on the site by others. The first investigation involved the City of Troy's (under the auspices of an USEPA Brownfield's Demonstration Pilot) intent to further investigate portions of Parcel 1 situated between the County Jail and the New Penn Facility. The City of Troy had hired an independent consultant to perform the investigation. Pursuant to discussions with the City of Troy, the RCIDA and the NYSDEC, it was determined that C.T. Male would be charged with investigating this portion of the site as part of its RI/AAR investigation for the RCIDA.

The second investigation consisted of the advancement of two subsurface soil borings by Erdman Anthony on the northern portions of Parcel 1 for preliminary design of the

South Troy Industrial Park Road. Results of this investigation are further discussed in Section 2.1.15.

In addition to the aforementioned site investigations, two additional investigations were conducted by others on lands adjoining the Site. The investigations were conducted on the Former Sperry Warehouse Site (adjoins Parcel 2 to the east and south) and the Alamo (adjoins Parcel 2 to the north and Parcel 3 to the west). Copies of limited data from these investigations were made available to C.T. Male for review and are presented as Exhibit 5. The following provides the titles of the investigations along with brief investigative summaries.

1) Subsurface Investigation Report – Former Sperry Warehouse Site, prepared by North American Environmental Services, dated May, 1999. The investigation involved the advancement of seven (7) soil borings (five of which were converted to monitoring wells) and the collection of soil and groundwater samples to evaluate subsurface conditions and environmental quality of the site. Results of the investigation revealed the following:

- Groundwater flow direction is in an assumed south and west direction towards the Hudson River.
- The site is underlain to varying depths with fill material consisting of cinders, iron ore, cobbles, slag, wood, foundry sand, brick, ashes and silt. Native soils consisting of brown or gray clay were encountered for the most part at depths ranging from 14 to 17 feet bgs, with the exception of monitoring well MW-1, where it was encountered at 10 feet bgs. Native soils were not encountered at monitoring well MW-4 at the depths explored.
- Several petroleum related compounds were detected above NYSDEC STARS Memo #1 guidance values in soils sampled from soil borings B-1, B-3 and B-7.
- Possible elevated levels of arsenic and chromium were reported in the majority of analyzed soil samples. Cadmium was also reported at slightly elevated levels (2 ppm) from soils analyzed from soil boring SB-4.
- Several petroleum compounds were detected at concentrations exceeding ambient water quality standards in groundwater sampled from monitoring well

MW-7. Monitoring well MW-7 is depicted on Figure 3 as MW-7 (North American) and is located east of southern portions of Parcel 2.

- A heavy creosote odor was detected in fill materials within MW-7 and a fuel oil type odor was detected at MW-1.

2) Partial Report of results of surface and subsurface soil and groundwater sampling conducted at the Former Kings Fuels North (The Alamo), conducted by Sterling Environmental Engineering, P.C., dated January 14, 2005. The investigation by Sterling included the collection and laboratory analyses of select soil and groundwater samples in the vicinity of a former aboveground storage tank (AST) located in this area. Tabulated analytical results revealed the following:

- Several metals were detected at concentrations exceeding NYSDEC water quality standards from groundwater sampled from a permanent monitoring well identified as A-W-1 (Sterling) (see Figure 3). VOC and SVOC concentrations were below the laboratory detection limit at this well.

- Several metals were detected at concentrations exceeding NYSDEC cleanup guidelines at surface soil sampling locations SW-1, SW-2 and SW-3.

- Several metals were detected at concentrations exceeding NYSDEC cleanup guidelines at various depths below the ground surface from soil borings A-B-1, A-B-2 and A-W-1.

- Several SVOCs were detected at concentrations exceeding NYSDEC cleanup guidelines from shallow depths (0 to 0.5 feet bgs) at A-B-1 and from all of the sampled depths at A-B-2. Benzo(a)pyrene was the only SVOC detected at a concentration exceeding its NYSDEC guideline at boring location A-W-1.

2.1.14 Data Usability Summary Report

A Data Usability Summary Report (DUSR) was completed of the analytical data developed during this investigation to confirm the data is of adequate quality for subsequent decision making purposes. The DUSR for the RI was completed by Data Validation Services. The DUSR for the supplemental investigations of the IRM and Parcel 2 was completed by a C.T. Male data validator who was approved by the

NYSDEC Project Manager to conduct data validation on analytical data generated as part of this investigation. The DUSR reports are presented as Exhibit 6.

2.1.15 Interim Remedial Measure

An Interim Remedial Measure (IRM) was requested by the NYSDEC to address the discovery of a buried tank and drums on northeastern portions of Parcel 1. The drums and tank were discovered during the course of a geotechnical subsurface investigation conducted by Erdman Anthony (see Section 2.1.13) for the proposed alignment of South Troy Industrial Park Road.

The IRM involved the excavation and disposal of two drums and an approximate 1,000 gallon tank along with any associated liquids within them. Subsurface soils around the vessels were then investigated employing subjective methods of PID headspace analysis and organoleptic perception to determine the severity of impacts. Based on the severity and extent of subsurface contamination, the excavation was backfilled and two monitoring wells depicted as CTM-1 (deep well) and CTM-1S (shallow well) on Figure 3 were installed in the backfilled excavation to monitor groundwater quality and to evaluate remediation alternatives. A detailed summary of the investigation is presented in C.T. Male's February 16, 2005 letter report entitled "Summary of IRM Activities", which is presented as Exhibit 7 to this report.

2.1.16 Supplemental Investigations

Two supplemental investigations were conducted on the site to address the aforementioned IRM and to further investigate subsurface soil and groundwater contaminants discovered on Parcel 2 during the course of the RI. The investigations consisted of the advancement of soil borings and installation of groundwater monitoring wells to aid in the collection of soil and groundwater samples for subjective and laboratory analyses.

IRM Supplemental Investigation

Eight (8) soil borings, six (6) of which were converted to monitoring wells, were advanced in the vicinity of the IRM to determine the nature and extent of contamination in underlying soils and groundwater. The borings and monitoring wells were completed from August 15 to 19, 2005 and are depicted as test borings SB-102 and

SB-103 and monitoring wells CTM-100, CTM-101, CTM-101S, CTM-104, CTM-105 and CTM-105S. The soil boring and monitoring well locations are depicted on the IRM Supplemental Investigation Sampling Locations Map in Figure 5.

The test borings were advanced with hollow stem auger casing. Subsurface soil/fill was collected at continuous 2 foot intervals with split spoon sampling barrels. All recovered soil/fill samples were screened for the presence of volatile organic compounds with a PID. The PID readings are presented on the Organic Vapor Headspace Analysis Logs in Appendix F. Subsurface soil profiles are recorded on the Subsurface Exploration Logs presented in Appendix G.

The test borings were advanced to depths that ranged from 15 feet bgs at boring CTM-104 to 32 feet bgs at borings CTM-100 and CTM-101. One soil sample above the water table was collected from each new boring location with the exception of the following:

- Soil samples were not submitted for laboratory analyses from soil borings CTM-101 and CTM-104 as additional borings/monitoring wells were installed adjacent to these locations. Boring/monitoring well CTM-101S was installed alongside CTM-101 and acted as a shallow monitoring well. A soil sample was collected at the soil/groundwater interface from this location for laboratory analyses. Soil boring SB-103 was advanced adjacent of CTM-104. Two soil samples were collected for laboratory analyses from this location.

A total of six (6) soil samples were collected from the borings employing standard sampling protocols and forwarded to the laboratory of record for analyses for TCL VOCs and SVOCs.

Six (6) of the eight borings were converted to permanent monitoring wells and are identified as monitoring wells CTM-100, CTM-101, CTM-101S, CTM-104, CTM-105 and CTM-105S on Figure 5. Monitoring well construction details are provided in Appendix H.

Groundwater samples were collected from the monitoring wells employing proper sampling protocols and were submitted to the laboratory of record for analyses for TCL VOCs and SVOCs. Monitoring wells CTM-101S, CTM-104 and CTM-105S did not contain groundwater within them (dry) during the sampling event and were therefore not sampled.

Parcel 2 Supplemental Investigation

A total of 19 soil borings (10 of which were converted to monitoring wells) were advanced on Parcel 2 for the collection of soil and groundwater samples to aid in the delineation of known contaminants beneath the Parcel and to determine a contaminant source area.

Fourteen (14) of the borings (SB-200 to SB-211 (2)) were completed from August 22 – 24, 2005 employing a truck mounted Geoprobe unit and are depicted on Figure 6 as soil borings SB-201, SB-202, SB-204, SB-206, SB-207, SB-209, SB-211, SB-211(1) and SB-211(2) and as monitoring wells CTM-200, CTM-203, CTM-205, CTM-208 and CTM-210. Soil boring SB-211 is identified three times because the boring was advanced at three locations due to shallow refusal. Soil samples were collected at 4-foot intervals employing a Geoprobe advanced MacroCore sampler with acetate liner. All recovered soil/fill samples were screened for the presence of volatile organic compounds with a PID. The PID readings are presented on the Organic Vapor Headspace Analysis Logs in Appendix I. Subsurface soil profiles are recorded on the Subsurface Exploration Logs presented in Appendix J.

The remaining five (5) borings (SB-212 to SB-216) were completed from September 29 to October 3, 2005 employing hollow stem auger drilling. The borings were all converted to monitoring wells and are depicted on Figure 6 as CTM-212 through CTM-216. Subsurface soil/fill was collected at continuous 2 foot intervals from the borings with split spoon sampling barrels. All recovered soil/fill samples were screened for the presence of volatile organic compounds with a PID. The PID readings are presented on the Organic Vapor Headspace Analysis Logs in Appendix I. Subsurface soil profiles are recorded on the Subsurface Exploration Logs presented in Appendix J.

As a note, monitoring well CTM-215 was installed to replace monitoring well CTM-200, which had an obstruction within it at approximately 14 feet bgs and was subsequently abandoned. Also, monitoring well CTM-213 was completed to replace existing monitoring well MW-3 (ESI) which was abandoned because it was originally installed at a depth that straddled both the upper and lower water bearing zones and was not representative of shallow groundwater quality on Parcel 2.

The test borings were advanced to depths that ranged from 4.5 feet bgs at boring SB-211 (refusal) to 32 feet bgs at boring CTM-203. One soil sample above the water table was collected from each new boring location with the exception of the following locations:

- Soil samples were not collected for laboratory analysis from soil borings SB-204 and SB-211, SB-211(1) and SB-211(2) as shallow refusal was encountered at these boring locations.
- A soil sample was not collected for laboratory analysis from soil boring SB-207 as there was no evidence of contamination at this location employing subjective methods of PID headspace analysis and organoleptic perception.
- A soil sample was not collected for laboratory analysis from soil boring CTM-213 as this boring was completed for installation of a monitoring well to replace existing monitoring well MW-3 (ESI), for which subsurface data is available.

A total of 13 soil samples were collected from the borings for laboratory analysis. The samples were collected from the acetate liner and/or sampling barrel employing standard sampling protocols and forwarded to the laboratory of record for analyses for TCL VOCs and SVOCs.

Ten (10) of the soil borings were converted to permanent monitoring wells to aid in the collection of groundwater samples. Monitoring well construction details are provided in Appendix K. Groundwater samples were collected employing proper sampling protocols from newly installed monitoring wells CTM-203, CTM-208 and CTM-212 through CTM-216. The samples were submitted to the laboratory of record for analyses for TCL VOCs by EPA Method 8260 and TCL SVOCs by EPA Method 8270. In addition, groundwater in previously installed monitoring wells CTM-8 and CTM-9 was sampled to aid in the supplemental investigations of Parcel 2. Monitoring wells CTM-205 and CTM-210 were not sampled as the screen intervals within these wells were at depths beneath the confining clay and silt layer and were not viewed as being representative of shallow groundwater on Parcel 2. QA/QC samples collected during the soil and groundwater sampling event included the following:

- One equipment blank each (two total) was collected prior to the collection of a soil sample at soil boring SB-205 and prior to groundwater sampling at monitoring well CTM-1S.

- Duplicate samples were collected from soil borings CTM-205 and CTM-215 and groundwater samples collected from monitoring wells CTM-100 and CTM-214.

- MS/MSD analysis was conducted on soil samples submitted from soil borings SB-206 and CTM-215 and from a groundwater sample collected at CTM-215.

Table 2.1.16-1 provides a summary of the boring and monitoring well identification numbers, boring depths, depths at which the monitoring wells were set, monitoring well screened interval depths, soil sample collection depths and soil and groundwater laboratory analyses information.

TABLE 2.1.16-1: Soil Boring and Monitoring Well Summary

Boring/ MW ID #	Boring Depth	MW Depth	MW Screened Interval	Soil Sample Depth	Laboratory Analysis			
					TCL VOCs		TCL SVOCs	
					Soil	GW	Soil	GW
Borings and Wells Installed as Part of Supplemental Investigation of the IRM								
CTM-100	32'	27'	17' to 27'	14' to 16'	X	X	X	X
CTM-101	32'	32'	22' to 32'	NA	NA	X	NA	X
CTM-101S	17'	17'	12' to 17'	15' to 17'	X	Dry	X	Dry
SB-102	30'	30'	NA	16' to 18'	X	NA	X	NA
SB-103	26'	26'	NA	14-16' & 22-24'	X	NA	X	NA
CTM-104	15'	15'	10' to 15'	NA	NA	Dry	NA	Dry
CTM-105	30'	30'	20' to 30'	26' to 28'	X	X	X	X
CTM-105S	19'	17'	7' to 17'	17' to 19'	X	Dry	X	Dry
Borings and Wells Installed as Part of Supplemental Investigation of Parcel 2								
CTM-200	28'	25'	10' to 15'	20' to 24'	X	NA(1)	X	NA
SB-201	28'	NA	NA	26' to 28'	X	NA	X	NA
SB-202	28'	NA	NA	20' to 22'	X	NA	X	NA
CTM-203	32'	20'	10' to 20'	16' to 18'	X	X	X	X
SB-204	10'	NA	NA	NA(2)	NA	NA	NA	NA
CTM-205	30'	30'	25' to 30'	26' to 28'	X	NA	X	NA
SB-206	28'	NA	NA	10' to 12'	X	NA	X	NA
Borings and Wells Installed as Part of Supplemental Investigation of Parcel 2								
SB-207	28'	NA	NA	NA	NA	NA	NA	NA

TABLE 2.1.16-1: Soil Boring and Monitoring Well Summary

Boring/ MW ID #	Boring Depth	MW Depth	MW Screened Interval	Soil Sample Depth	Laboratory Analysis			
					TCL VOCs		TCL SVOCs	
					Soil	GW	Soil	GW
CTM-208	16'	15'	10' to 15'	6' to 8'	X	X	X	X
SB-209	16'	NA	NA	6' to 8'	X	NA	X	NA
CTM-210	28'	28'	23' to 28'	22' to 24'	X	NA	X	NA
SB-211	4.5'	NA	NA	NA(2)	NA	NA	NA	NA
SB-211 (1)	8'	NA	NA	NA(2)	NA	NA	NA	NA
SB-211 (2)	6.3'	NA	NA	NA(2)	NA	NA	NA	NA
CTM-212	22'	20'	10' to 20'	10' to 12'	X	X	X	X
CTM-213	22'	20'	10' to 20'	NA	NA	X	NA	X
CTM-214	20'	18'	8' to 18'	2' to 4'	X	X	X	X
CTM-215	27'	25'	7' to 22'	20' to 22'	X	X	X	X
CTM-216	22'	22'	7' to 20'	18' to 20'	X	X	X	X

(1) Well could not be sampled due to obstruction at approximately 14' bgs. Well later abandoned and replaced with monitoring well CTM-215.

(2) Refusal encountered at this boring location. No soil and groundwater samples collected.

All depths given are feet below ground surface

3.0 PHYSICAL CHARACTERISTICS OF THE STUDY AREA

3.1 Results of Study Area Investigation

A number of investigative tasks were completed by C.T. Male to characterize the project site. The results of the investigative tasks are supplemented with published literature including soil, bedrock, and aquifer mapping to further assess the physical characteristics of the project site. The physical characteristics of the site are discussed in the following sections.

3.1.1 Surface Features

The site presently consists of vacant land that has been subdivided into three Parcels. There are currently no structures on the site. Surface features on Parcel 1 consist of various mounds of debris on its northern portions consisting primarily of slag excavated during construction of the New Penn facility, and various piles of concrete, asphalt, stone and gravel that were illegally dumped along East Industrial Parkway. An abandoned tractor trailer is located on eastern portions of Parcel 1. The remainder of the Parcel is relatively flat with slight undulations and is overgrown with long grasses, thickets and is interspersed with trees. “Slag mountain” occupies the northwestern corner of Parcel 1. Slag is the predominant surface material on Parcel 1.

Parcel 2 surface features include grasses, thickets and limited tree growth on its eastern portions, and an asphalt paved road, gravel turnaround area and grasses, thickets and trees on its western portions. A concrete sub-ground pipe pit is present on northernmost portions of the Parcel. The Parcel is predominantly flat.

Parcel 3 surface features consist of grasses, thickets and trees and is bordered to its east by railroad tracks and to its west by the Alamo. The Parcel is predominantly flat.

3.1.2 Surface Water Bodies

Surface water bodies are not located on the site. The Hudson River adjoins the western portion of Parcel 1.

3.1.3 Surface Drainage Patterns

Storm water generated during the course of precipitation events either directly infiltrates the ground surface or sheet flows with the lay of the land, with the exception of pooled water in isolated low lying areas of the gravel turnaround on Parcel 2. The site's surface is predominantly flat and interspersed with mounds of fill material. There are no storm water catch basins located on the site, although several catch basins were observed along East Industrial Parkway and Main Street, which adjoin the project site.

3.1.4 Regional Geology

Based on a review of the Surficial Geologic Map of New York, Hudson-Mohawk Sheet, the surficial geology in the vicinity of the site is mapped as recent alluvium deposits which consists of fine sand to gravel and is generally confined to floodplains within a valley. In larger valleys, the sand and gravel may be overlain by silt. Based on the findings of the RI, native soils beneath overlying fill materials consist for the most part of silts with varying percentages of sand and clay over sand and gravel.

According to the Geologic Map of New York, Hudson-Mohawk Sheet, bedrock in the vicinity of the site is mapped in the category of the Trenton Group, which consists of shale and minor mudstone and sandstone. Bedrock was not encountered during subsurface investigations conducted of the site as part of this RI. Bedrock, composed of shale, was encountered during previous investigations of the site at depths that ranged from 35 feet bgs at MW-8 (ESI) to 58.5 feet bgs at MW-3 (ESI) (See Figure 2).

3.1.5 Site Soils

The site soils and fill were explored through the advancement of soil borings, test trenches and test pits completed for this RI and through subsurface investigations of the site conducted by others. Subsurface soil boring, test trench and test pit logs are included in the Appendices to this report. The logs summarize and present the classifications of the subsurface soil and fill, moisture content and other pertinent visual observations of the soil stratum for the site. The site is covered with fill materials to varying depths as depicted on the Site Wide Thickness of Fill Contour Map presented in Figure 7. The project site (particularly Parcel 1) was historically used for the disposal of past manufacturing by-products such as slag, cinder and ash. Additionally, building rubble from structure fires and demolition activities were disposed of on the site by the City of Troy. These materials were disposed of on low lying areas of the site to raise that portion of the site's elevation above the Hudson. The following discusses the soil profiles for each of the site parcels.

- Parcel 1: Portions of Parcel 1 west of East Industrial Parkway consist of fill materials that extend to a maximum depth of at least 32 feet bgs (Figure 7) nearest the Hudson River, where weathered shale was encountered. The fill material consists primarily of slag, ash, cinders, brick and other construction related debris. Native soils were encountered beneath the fill materials at depths ranging from eight (8) feet bgs on eastern portions of the Parcel to 32 feet bgs on western portions of the Parcel. These soils are composed primarily of brown and gray silts. Groundwater was encountered during the investigation at the fill/native soil interface. Overall, the surface topography of native soils underlying the fill slopes westerly towards the Hudson River.

  Portions of Parcel 1 east of East Industrial Parkway consists of fill material that ranges in depth from eight (8) to 14 feet bgs (Figure 7). The fill material is for the most part consistent with fill material described beneath western portion of Parcel 1. The fill is underlain by native soils consisting of silts with varying percentages of sands and clay. Groundwater was observed to lie atop the silt layer. A sand and gravel water bearing unit was encountered beneath the silt layer at select locations during advancement of the soil borings. Groundwater encountered atop the silt layer is referred to as shallow groundwater while groundwater encountered within the underlying sand and gravel layer is referred to as deep groundwater.

- Parcel 2: The subsurface profile at Parcel 2 consists of fill material that extends in depth from four (4) to 16 feet bgs (see Figure 7). The fill material consists primarily of ash, cinder, sand, gravel and to a lesser degree slag; with the slag being located beneath portions of Parcel 2 nearest the Hudson River. Native soils underlying the fill material are comprised predominantly of silts with varying percentages of clay overlying sand and gravel deposits. Shallow groundwater was encountered atop the silt layer while deep groundwater was encountered within a sand and gravel layer beneath the silt layer. As depicted on Figure 7, the thickness of fill increases in depth beneath the central portions of

Parcel 2 and forms a trough type feature within the silt layer. Subsurface foundations were observed during the subsurface investigation of the Parcel.

- Parcel 3: The subsurface profile consists of fill material (silt, sand, cinder and slag) that ranges in depth from approximately six (6) to eight (8) feet bgs. The underlying native soils consist of silts with small percentages of clay.

3.1.6 Groundwater Characteristics

According to the map entitled "Unconsolidated Aquifers in Update New York, Hudson-Mohawk Sheet" (Edward F. Bugliosi and Ruth A. Trudell, 1988`), the subject site is located atop an unconfined aquifer yielding more than 100 gallons per minute.

Groundwater conditions were assessed through the advancement of test borings; test pits and test trenches; the installation of permanent monitoring wells; and investigation of groundwater within existing site wells. Static groundwater levels were collected from the site wells on several occasions during the course of the RI.

Based on the collected water level data, the water table across the site ranges in depth from approximately four (4) to 19 feet below existing site grades within the shallow, unconfined aquifer located atop the silt unit, and from approximately 20 to 33 feet below existing site grades for the deep, semi-confined aquifer located within the sand and gravel unit below the silt unit.

Water level measurements obtained on November 14 and 21, 2005 were used in conjunction with the survey of the site to generate a site wide groundwater contour map (Figure 8), groundwater contour maps of the shallow and deep aquifers on Parcel 2 (Figures 9, 10 and 11), and the shallow aquifer in the vicinity of the IRM on Parcel 1(Figure 12). The site-wide contour map shows groundwater to flow generally in a westerly direction towards the Hudson River with isolated groundwater flows directed towards the southwest and northwest on portions of the project site located north of Parcel 2. The shallow groundwater flow pattern on Parcel 2 (Figures 9 and 11) follows the topography of the silt layer and converges in a narrow trough area on central portions of Parcel 2. Extrapolating the localized groundwater flow on Parcel 2 to the site wide groundwater flow direction (Figure 8) indicates that the groundwater convergence ultimately flows in a northwesterly to westerly direction towards the

Hudson River. Deep groundwater flow direction on Parcel 2 (Figure 10) is towards the northwest, where it eventually changes direction and proceeds in a westerly direction towards the Hudson River, as depicted on the site wide groundwater contour map in Figure 8. Shallow groundwater flow in the vicinity of the IRM on Parcel 1 is depicted on Figure 12 as flowing towards the southwest.

Field observations and parameters (pH, conductivity, and temperature) were recorded during the groundwater sampling events completed in November and December 2004, and September and October 2005. Field observations and parameters were recorded on Groundwater Services Field Logs. The pH values for the collected groundwater samples were relatively neutral with values ranging from 5.95 to 7.68 standard units. The groundwater temperature upon sample collection ranged from 9.1 to 18.3 degrees Celsius. The conductivity for the groundwater samples ranged from 401 µS to 4.99 ms. Turbidity values for the groundwater sampling event were monitored prior to collecting the analytical samples. Turbidity values ranged from 3.5 to 124.5 NTUs. Table 3.1.6 lists the field parameter values for each well prior to sample collection.

TABLE 3.1.6: Summary of Field Observations (11/04, 12/04, 9/05 & 10/05)

Well ID	**Turbidity** (1)	**pH & Temp.**	**Specific Conductance**	**Well ID**	**Turbidity**	**pH & Temp.**	**Specific Conductance**
CTM-1	4.74 NTU	7.54 @ 10.2°C	655 µs	CTM-1S	12.02 NTU	7.45 @ 12.3°C	791µs
CTM-2	8.82 NTU	7.49 @ 13.2°C	408 µs	CTM-3	15.66 NTU	5.95 @ 13.0°C	662 µs
CTM-5	10.92 NTU	7.47 @ 10.7°C	633 µs	CTM-6	57.6 NTU	6.88 @ 10.5°C	721 µs
CTM-7	45.5 NTU	6.78 @ 11.8°C	761 µs	CTM-8	4.43 NTU	6.50 @ 11.7°C	741 µs
CTM-9	3.50 NTU	6.74 @ 13.3°C	954 µs	CTM-10	2.58 NTU	7.32 @ 12.6°C	542 µs
CTM-11	34.6 NTU	6.84 @ 12.2°C	592 µs	CTM-13	2.48 NTU	7.37 @ 11.7°C	768 µs
MW-3 (ESI)	12.55 NTU	6.98 @ 13.0°C	597 µs	MW-8 (ESI)	16.50 NTU	7.68 @ 9.1°C	167.9 µs

TABLE 3.1.6: Summary of Field Observations (11/04, 12/04, 9/05 & 10/05)							
Well ID	**Turbidity** (1)	**pH & Temp.**	**Specific Conductance**	**Well ID**	**Turbidity**	**pH & Temp.**	**Specific Conductance**
CTM-100	Low (2)	6.82 @ 17.4 °C	606 µs	CTM-101	High(2)	6.57 @ 17.2°C	560 µs
CTM-105	High(2)	7.26 @ 15.5 °C	531 µs	CTM-203	100.3 NTU	6.17 @ 15.9°C	1,697 µs
CTM-208	75.8 NTU	6.90 @ 16.8 °C	401 µs	CTM-212	124.5 NTU	7.61 @ 14.9°C	2.36 ms
CTM-213	92.5 NTU	7.24 @ 15.9 °C	760 µs	CTM-214	36.0 NTU	7.01 @ 18.3°C	4.99 ms
CTM-215	40.3 NTU	7.26 @ 17.25 °C	1,082 µs	CTM-216	106.1 NTU	7.15 @ 17.8°C	808 µs

(1) – A LaMotte Model 2008 Turbidity Meter was used. Turbidity readings were collected after purging, but before collecting laboratory samples.

(2) – The turbidimeter was not functioning when parameters were collected for the sampled groundwater. Rather, a visual determination was made of the groundwater turbidity.

As depicted in the Table heading, groundwater samples were collected on four separate occasions. Groundwater samples collected as part of the RI were collected from monitoring wells CTM-1 through MW-8 (ESI) in November and December, 2004 while groundwater samples from the supplemental investigations of the IRM area and Parcel 2 were collected from monitoring wells CTM-100 through CTM-216 in September and October, 2005. The collection of the groundwater samples during different seasonal time periods accounts for the groundwater temperature range of 9.1 to 19.3 degrees Celsius.

Although every attempt was made to obtain turbidity levels of less than 50 NTU's prior to the collection of groundwater samples, samples collected from monitoring wells CTM-6, CTM-101, CTM-105, CTM-203, CTM-208, CTM-212, CTM-213 and CTM-216 had turbidity levels that were subjectively assessed as "high" or quantitatively measured above 50 NTU's. A review of the subsurface logs and monitoring well construction logs for the referenced wells shows that the screened interval for each well straddled subsurface soils that each had a silt component, indicating that the silt may have passed through the well screen during sampling despite best efforts at monitoring well development and purging.

3.1.7 Effect of Tidal Influences on Groundwater Levels

Water levels in select monitoring wells were gauged to determine the effects of tidal influences associated with the Site's west adjoining Hudson River. The wells chosen for the study included monitoring wells CTM-2, CTM-10, CTM-13 and MW-8 (ESI) which are located on western portions of Parcel 1 nearest the Hudson River and monitoring wells CTM-5 and CTM-11, which are located on southern and eastern portions of Parcel 1 at greater distances from the Hudson River than the aforementioned wells (see Figure 3).

Graphs representing water levels relative to tidal fluctuations are presented in Exhibit 3. The graphs show a direct correlation between water levels and tidal fluctuations from groundwater in monitoring wells CTM-2, CTM-13, CTM-10 and MW-8 (ESI), which are located on portions of the site nearest the Hudson River. Monitoring wells CTM-5 and CTM-11, located on southern and eastern portions of Parcel 1 further away from the Hudson River also show water level fluctuations conducive to tidal fluctuations, but to a lesser degree than the monitoring wells surveyed along the River. Water levels within CTM-5 and CTM-11 are shown on the graph as gradually declining over time, which may be attributed to the general decline in stage of the Hudson River during that same time period.

4.0 NATURE AND EXTENT OF CONTAMINATION

4.1 Sources

The previous discovery of coal tar beneath the New Penn property of STIP and other properties to the south of STIP indicate that coal tar is a potential contaminant of concern. Coal tar typically contains volatile and semi-volatile organic compound fractions as well as metals. Previous investigations of the slag beneath the site indicate that it is not a characteristic hazardous waste; however, it does have the potential to possess metals at concentrations greater than regulatory guidance levels. Cinders and ash which co-mingle with the site slag and are present at grade and depth within portions of the site suggest semi-volatile organic compounds and metals are potential contaminants of concern. The existence of a former petroleum above ground storage tank on the off-site parcel referred to as the “Alamo” suggests the potential presence of petroleum products such that volatile and semi-volatile organics are potential contaminants of concern. Known petroleum contaminants in soil and groundwater at the former Sperry Warehouse Site (adjacent of Parcel 2) suggests the potential presence of volatile and semi-volatile organic compounds on the site.

4.2 Determination of Project Standards, Criteria and Guidance (SCGs)

Project SCGs were established for evaluation of analytical results for the three media types that were sampled. The media types included surface soil/fill, subsurface soil/fill and groundwater.

Laboratory analysis for surface soil/fill included TCL SVOCs and TAL metals. Analytical results for TCL SVOCs and TAL Metals were compared to NYSDEC TAGM 4046 Recommended Soil Cleanup Objectives (RSCOs).

Laboratory analysis for subsurface soil/fill collected as part of the RI included TCL volatile and semi-volatile organics and TAL metals. Laboratory analyses for subsurface soil/fill collected as part of supplemental investigations of the IRM and Parcel 2 included TCL volatile and semi-volatile organics. Analytical results for TCL volatile and semi-volatile organics and TAL Metals were compared to NYSDEC TAGM 4046 Recommended Soil Cleanup Objectives (RSCOs).

Laboratory analysis for groundwater included TCL volatile and semi-volatile organics and TAL metals for the RI and TCL volatile and semi-volatile organics for the supplemental investigations of the IRM and Parcel 2. Analytical results were compared to NYSDEC Groundwater Standards and Guidance Values promulgated in the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS).

4.3 Background Soils

Three background surface soil samples were collected at off-site locations (see Figure 4) generally east of the project Site. The samples were collected from 0 to 2 inches below the vegetative root zone and analyzed for TCL semi-volatile organics and TAL metals. The samples were originally collected to establish local background levels for SVOCs and metals in surface soils for reference in evaluation of the analytical data from surface soils collected within the project site. However, pursuant to the NYSDEC project manager, the background analytical results will not be utilized for comparison to analytical data from site sampling. Analytical results for the background sampling event are presented for reference purposes only in Table 4.3-1 in the Tables section of the report.

4.4 Surface Soils

4.4.1 General

Twenty-one (21) surface soil samples (Surface Soil #1 through Surface Soil #17, Surface Soil #19 through Surface Soil #21 and Surface Soil #SS-21) were collected from across the site on November 18 and 19, 2004 and January 7, 2005 and analyzed for TCL semi-volatile organics and TAL metals. Analytical results were compared to NYSDEC guidelines. Analytical results showing compounds at concentrations exceeding guidelines are presented in Table 4.4. Summary analytical results are presented in Table 4.4-1 in the Tables section of the report.

4.4.2 Semi-Volatile Organic Compounds in Surface Soil/Fill

Six (6) SVOCs were detected above SCGs and included Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene and Dibenz(a,h)anthracene.

TABLE 4.4: Surface Soil Analytical Results Above SCGs
SVOCs and Metals
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	NYSDEC TAGM 4046 RSCO's (mg/kg)****	Eastern USA Background (mg/kg)	SURFACE SOIL#1 mg/kg		SURFACE SOIL#2 mg/kg		SURFACE SOIL#3 mg/kg		SURFACE SOIL#4 mg/kg		SURFACE SOIL#5 mg/kg		SURFACE SOIL#6 mg/kg		SURFACE SOIL#7 mg/Kg		SURFACE SOIL#8 mg/Kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
SVOC's																		
Benzo(a)anthracene	0.224 or MDL	Not Applicable	**3.00**	J	0.0059	UJ	**0.59**	J	0.04	J	**1.5**	J	**2.3**	J	0.0059	UJ	0.0057	UJ
Chrysene	0.4	Not Applicable	**3.20**	J	0.012	U	**0.66**		0.045	J	**1.2**		**3.4**	J	0.075	J	0.012	U
Benzo(b)fluoranthene	1.1	Not Applicable	**2.90**	J	0.021	U	0.97	J	0.067	J	**1.8**	J	**4.7**	J	0.021	U	0.02	U
Benzo(k)fluoranthene	1.1	Not Applicable	**2.60**	J	0.013	U	0.45	J	0.013	U	**1.3**	J	**2.8**	J	0.071	J	0.013	U
Benzo(a)pyrene	0.061 or MDL	Not Applicable	**2.50**	J	0.0067	U	**0.64**		0.0064	U	**1.3**	J	**2.8**	J	0.0067	U	0.0065	U
Dibenz(a,h)anthracene	0.014 or MDL	Not Applicable	**0.023**	UJ	0.011	U	**0.11**	J	0.011	U	**0.079**	J	**0.12**	UJ	0.011	UJ	0.011	UJ
Metals																		
Arsenic	7.5 or SB	3-12	**17.1**		**37.5**		**19.5**		6.240		**32.8**		**24.8**		4.420		6.300	
Barium	300 or SB	15-600	235		121		**341**		97.7		110		**696**		73.9		148	
Beryllium	0.16 or SB	0-1.75	**0.851**		**1.720**		**2.740**		**0.584**		**0.833**		**0.264**	J	**0.446**	J	**0.736**	
Cadmium	10 or SB*	0.1-1	7.220		4.350		2.880		0.703		4.860		**17.2**		2.27		0.872	
Calcium	SB	130-35,000	**71400**	J	**48700**	J	**53500**	J	14700	J	32400	J	**37300**	J	31100	J	3590	J
Chromium	50 or SB**	1.5-40	**89.9**	J	16.1	J	25.4	J	12.8	J	18.6	J	**309**	J	19.1	J	17.2	J
Copper	25 or SB	1-50	**405**		**25.7**		**48.1**		**28.2**		**54.1**		**1020**		18.5		**25.6**	
Iron	2,000 or SB	2,000-550,000	**80000**	J	**144000**	J	**77500**	J	**26100**	J	**132000**	J	**135000**	J	**57100**	J	**27000**	J
Magnesium	SB	100-5,000	**5500**	J	2450	J	**5700**	J	**6140**	J	4250	J	**7030**	J	**5980**	J	5000	J
Mercury	0.1	0.001-0.2	0.084		0.007	U	0.007	U	0.059		0.084		**3.6**		0.035		0.046	
Manganese	SB	50-5,000	4450		1950		2800		956		3480		**8260**		4320		946	
Nickel	13 or SB	0.5-25	**107**		7.660		**29.8**		**20.7**		**29.5**		**124**		13		**22.7**	
Selenium	2 or SB	0.1-3.9	**3.020**		**2.220**		**2.420**		1.010	J	**5.660**		**6.110**		**2.8**		0.998	
Silver	SB	N/A	6.710		0.123	U	0.127	U	0.118	U	4.010		6.140		5.460		1.370	
Vanadium	150 or SB	1-300	30.9		54.8		61.0		16.3		108		189		101		18.8	
Zinc	20 or SB	9-50	**804**		**157**		**192**		**125**		**143**		**5290**		**732**		**78.3**	

COMPOUND	NYSDEC TAGM 4046 RSCO's (mg/kg)****	Eastern USA Background (mg/Kg)	SURFACE SOIL#9 mg/Kg		SURFACE SOIL#10 mg/Kg		SURFACE SOIL#11 mg/Kg		SURFACE SOIL#12 mg/Kg		SURFACE SOIL#13 mg/Kg		SURFACE SOIL#14 mg/Kg		SURFACE SOIL #14 DUP mg/Kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
SVOC's																
Benzo(a)anthracene	0.224 or MDL	Not Applicable	0.0059	UJ	0.0056	UJ	0.14	J	0.085	J	**0.39**	J	**0.44**	J	**0.67**	J
Chrysene	0.4	Not Applicable	0.071	J	0.012	U	0.14	J	0.085	J	**0.45**		**0.42**		**0.62**	J
Benzo(a)pyrene	0.061 or MDL	Not Applicable	0.0068	U	0.0064	U	**0.14**	J	**0.086**	J	**0.45**		**0.45**		**0.65**	J
Dibenz(a,h)anthracene	0.014 or MDL	Not Applicable	0.012	UJ	0.011	U	0.011	U	0.011	U	0.011	U	**0.086**	J	**0.1**	J
Metals																
Arsenic	7.5 or SB	3-12	**8.900**		**15.8**		**13.9**		**8.640**		**21.2**		**16.5**		**18.4**	
Barium	300 or SB	15-600	73.5		191		**601**		153		157		230		253	
Beryllium	0.16 or SB	0-1.75	**0.718**		**3.400**		**3.890**		**1.500**		**1.990**		**2.410**		**2.870**	
Calcium	SB	130-35,000	**39500**	J	**91900**	J	**95200**	J	33000	J	34500	J	**55800**	J	**55900**	J
Copper	25 or SB	1-50	**39.6**		17.7		20.2		**31.3**		**60.0**		**31.0**		**31.0**	
Iron	2,000 or SB	2,000-550,000	**71700**	J	**36000**	J	**88500**	J	**34300**	J	**74900**	J	**39100**	J	**69400**	J
Magnesium	SB	100-5,000	**5410**	J	**5210**	J	**8930**	J	**5360**	J	3690	J	**5420**	J	**5720**	J
Mercury	0.1	0.001-0.2	**0.103**		0.006	U	0.006		0.007	U	**0.214**	U	0.007	U	0.007	U
Nickel	13 or SB	0.5-25	**14.4**		7.480		7.200		**13.1**		**19.9**		12.4		**13.1**	
Selenium	2 or SB	0.1-3.9	**3.240**		**2.300**		**2.220**		1.600		**3.090**		**2.010**		**2.780**	
Zinc	20 or SB	9-50	**1200**		**199**		**168**		**292**		**280**		**321**		**208**	

TABLE 4.4: Surface Soil Analytical Results Above SCGs
SVOCs and Metals
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	NYSDEC TAGM 4046 RSCO's (mg/kg)****	Eastern USA Background (mg/kg)	SURFACE SOIL#15 mg/kg		SURFACE SOIL#16 mg/kg		SURFACE SOIL#17 mg/kg		SURFACE SOIL#19 mg/kg		SURFACE SOIL#20 mg/kg		SURFACE SOIL#21 mg/kg		SURFACE SOIL #SS-21 mg/kg		EQUIP.BLANK mg/l	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
SVOC's																		
Benzo(a)anthracene	0.224 or MDL	Not Applicable	0.048	J	**0.74**	J	**12**	J	**1.3**	J	**2.6**	J	0.13	J	**0.96**		0.00023	U
Chrysene	0.4	Not Applicable	0.013	U	**0.78**		**11**	J	**1.6**	J	**2.5**	J	0.13	J	**0.76**		0.00039	U
Benzo(b)fluoranthene	1.1	Not Applicable	0.06	J	**1.4**	J	**15**	J	1.1	J	**2.5**	J	0.19	J	1.1	J	0.00023	U
Benzo(k)fluoranthene	1.1	Not Applicable	0.014	U	0.47	J	**7.6**	J	**1.5**	J	**1.4**	J	0.058	J	0.54	J	0.00039	U
Benzo(a)pyrene	0.061 or MDL	Not Applicable	0.007	U	**0.83**		**9.3**	J	**1**	J	**1.5**	J	**0.11**	J	**0.85**	J	0.00045	U
Dibenz(a,h)anthracene	0.014 or MDL	Not Applicable	0.012	U	0.011	U	**0.7**	J	**0.1**	UJ	0.013	UJ	0.011	U	**0.084**	J	0.00029	U
Metals																		
Arsenic	7.5 or SB	3-12	4.810		**14.6**		**16.6**		**8.270**		**11.8**		**15.8**		**7.970**		0.00484	U
Barium	300 or SB	15-600	**893**		119		43.2		130		160		191		257	J	0.011	U
Beryllium	0.16 (HEAST) or SB	0-1.75	**5.490**		**0.683**		**0.361**	J	**0.789**		**0.669**		**3.400**		**1.570**		0.00106	U
Calcium	SB	130-35,000	**160000**	J	13900	J	2020	J	27300	J	11500	J	**91900**	J	34,400	J	1.74	U
Copper	25 or SB	1-50	7.780		**44.4**		23.8		24.8		**25.1**		17.7		**34.5**		0.00508	J
Iron	2,000 or SB	2,000-550,000	**22400**	J	**59900**	J	**11300**	J	**26700**	J	**27400**	J	**36000**	J	**32,300**	J	0.0384	J
Magnesium	SB	100-5,000	**12700**	J	4870	J	546	J	**15100**	J	1260	J	**5210**	J	4140	J	0.361	J
Mercury	0.1	0.001-0.2	0.007	U	**0.14**		**0.113**		0.006	U	**0.222**		0.006	U	0.036		0.00003	U
Nickel	13 or SB	0.5-25	5.170		**23.5**		12.7		**20.9**		**24.6**		7.480		**13.5**		0.00555	U
Selenium	2 or SB	0.1-3.9	**2.310**		1.910		0.934	J	0.945	J	**2.160**		**2.300**		0.373	U	0.00367	U
Zinc	20 or SB	9-50	**43.2**		**265**		**40.2**		**77.8**		**162**		**199**		**251**	J	0.0199	J

Qualifiers

U - The compound was not detected at the indicated concentration

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero. The concentration given is an approximate value

E - indicates compounds whose concentrations exceed the calibration range of the instrument for the specific analysis

MDL indicates the laboratory's minimum detection limit

mg/kg (milligram per kilogram) indicates parts per million or ppm. mg/l (milligram per liter) indicates parts per million or ppm

NA - Not Applicable

Background range consists of the low and high concentration values obtained from background surface soil samples 22 through 24 collected at a vacant grassy lot west of Mr. Sub (22), northwest corner of the intersection of VanBuren and First Street (23) and southwest corner of Tyler and First Street (24). All background samples were collected within the City of Troy Right-of-Way.

* TAGM 4046 lists 1 ppm as the Standard, Criteria and Guidance (SCG) for Cadmium. However, recent DEC Records of Decision (ROD) specify 10 ppm as the SCG.

** TAGM 4046 lists 10 ppm as the Standard, Criteria and Guidance (SCG) for Chromium. However, recent DEC Records of Decision (ROD) specify 50 ppm as the SCG.

*** Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4-61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200-500 ppm

**** New York State Department of Environmental Conservation Technical and Administrative Guidance Memorandum (TAGM) #4046 - Recommended Soil Cleanup Objectives (RSCOs)

Bolded numbers indicate values that have exceeded SCGs

Benzo(a)anthracene was detected above its SCG of 0.224 mg/kg at 11 of 21 sampling locations. These were Surface Soil #1 (3.0 mg/kg), Surface Soil #3 (0.59 mg/kg), Surface Soil #5 (1.5 mg/kg), Surface Soil #6 (2.3 mg/kg), Surface Soil #13 (0.39 mg/kg), Surface Soil #14 (0.44 mg/kg), Surface Soil #16 (0.74 mg/kg), Surface Soil #17 (12.0 mg/kg), Surface Soil #19 (1.3 mg/kg), Surface Soil #20 (2.6 mg/kg) and Surface Soil #SS-21 (0.96 mg/kg).

Chrysene was detected above its SCG of 0.4 mg/kg at 11 of 21 sampling locations. These were Surface Soil #1 (3.20 mg/kg), Surface Soil #3 (0.66 mg/kg), Surface Soil #5 (1.2 mg/kg), Surface Soil #6 (3.4 mg/kg), Surface Soil #13 (0.45 mg/kg), Surface Soil #14 (0.42 mg/kg), Surface Soil #16 (0.78 mg/kg), Surface Soil #17 (11.0 mg/kg), Surface Soil #19 (1.6 mg/kg), Surface Soil #20 (2.5 mg/kg) and Surface Soil #SS-21 (0.76 mg/kg).

Benzo(b)fluoranthene was detected above its SCG of 1.1 mg/kg at 6 of 21 sampling locations. These were Surface Soil #1 (2.9 mg/kg), Surface Soil #5 (1.8 mg/kg), Surface Soil #6 (4.7 mg/kg), Surface Soil #16 (1.4 mg/kg), Surface Soil #17 (15.0 mg/kg) and Surface Soil #20 (3.5 mg/kg).

Benzo(k)fluoranthene was detected above its SCG of 1.1 mg/kg at 6 of 21 sampling locations. These were Surface Soil #1 (2.60 mg/kg), Surface Soil #5 (1.3 mg/kg), Surface Soil #6 (2.8 mg/kg), Surface Soil #17 (7.6 mg/kg), Surface Soil #19 (1.5 mg/kg) and Surface Soil #20 (1.4 mg/kg).

Benzo(a)pyrene was detected above its SCG of 0.061 mg/kg at 14 of 21 sampling locations. These were Surface Soil #1 (2.50 mg/kg), Surface Soil #3 (0.64 mg/kg), Surface Soil #5 (1.3 mg/kg), Surface Soil #6 (2.8 mg/kg), Surface Soil #11 (0.14 mg/kg), Surface Soil #12 (0.086 mg/kg), Surface Soil #13 (0.45 mg/kg), Surface Soil #14 (0.45 mg/kg), Surface Soil #16 (0.83 mg/kg), Surface Soil #17 (9.3 mg/kg), Surface Soil #19 (1.0 mg/kg), Surface Soil #20 (1.5 mg/kg), Surface Soil #21 (0.11 mg/kg) and Surface Soil #SS-21 (0.85 mg/kg).

Dibenz(a,h)anthracene was detected above its SCG of 0.014 mg/kg or MDL at 8 of 21 sampling locations. These were Surface Soil #1 (0.023 mg/kg), Surface Soil #3 (0.11 mg/kg), Surface Soil #5 (0.079 mg/kg), Surface Soil #6 (0.12 mg/kg), Surface Soil #14

(0.086 mg/kg), Surface Soil #17 (0.7 mg/kg), Surface Soil #19 (0.1 mg/kg) and Surface Soil #SS-21 (0.084 mg/kg).

In summary, six (6) of six (6) SVOCs were detected above SCGs at Surface Soil sampling locations 1, 5, 6 and 17. Five (5) of six (6) SVOCs were detected above SCGs at Surface Soil sampling locations 19 and 20; four (4) of six (6) SVOCs were detected above SCGs at Surface Soil sampling locations 3, 14 16 and SS-21; and three (3) of six (6) SVOCs were detected above SCGs at Surface Soil sampling location 13. Surface soil sampling locations 1, 3, 5, 6, 13 and 14 are located on Parcel 1 of the project site. Surface soil sampling location 16 is located on Parcel 3 while surface soil sampling locations 17, 19, 20 and SS-21 are located on Parcel 2.

4.4.3 Metals in Surface Soils

Several metals were detected at concentrations above the laboratory detection limit from all analyzed surface soil samples (see Tables 4.4 and 4.4-1), with 14 metals being detected above SCGs.

Arsenic was detected at concentrations exceeding its SCG of 7.5 mg/kg at 17 of 21 sampling locations. These were Surface Soil #1 (17.1 mg/kg), Surface Soil #2 (37.5 mg/kg), Surface Soil #3 (19.5 mg/kg), Surface Soil #5 (32.8 mg/kg), Surface Soil #6 (24.8 mg/kg), Surface Soil #9 (8.9 mg/kg), Surface Soil #10 (15.8 mg/kg), Surface Soil #11 (13.9 mg/kg), Surface Soil #12 (8.64 mg/kg), Surface Soil #13 (21.2 mg/kg), Surface Soil #14 (16.5 mg/kg), Surface Soil #16 (14.6 mg/kg), Surface Soil #17 (16.6 mg/kg), Surface Soil #19 (8.27 mg/kg), Surface Soil #20 (11.8 mg/kg), Surface Soil #21 (15.8 mg/kg) and Surface Soil #SS-21 (7.97 mg/kg).

Barium was detected at concentrations exceeding its SCG of 300 mg/kg at 4 of 21 sampling locations. These were Surface Soil #3 (341 mg/kg), Surface Soil #6 (696 mg/kg), Surface Soil #11 (601 mg/kg) and Surface Soil #15 (893 mg/kg).

Beryllium was detected at concentrations exceeding its SCG of 0.16 mg/kg at all sampling locations with concentrations that ranged between 0.264 mg/kg at Surface Soil #6 to 5.49 mg/kg at Surface Soil #15.

Cadmium (17.2 mg/kg) was detected at concentrations exceeding its SCG of 10 mg/kg at Surface Soil #6 only.

Calcium was detected at concentrations exceeding its SCG range of 130 to 35,000 mg/kg at 10 of 20 sampling locations. These were Surface Soil #1 (71,400 mg/kg), Surface Soil #2 (48,700 mg/kg), Surface Soil #3 (53,500 mg/kg), Surface Soil #6 (37,300 mg/kg), Surface Soil #9 (39,500 mg/kg), Surface Soil #10 (91,900 mg/kg), Surface Soil #11 (95,200 mg/kg), Surface Soil #14 (55,800 mg/kg), Surface Soil #15 (160,000 mg/kg) and Surface Soil #21 (91,900 mg/kg).

Chromium was detected at concentrations exceeding its SCGs of 50 mg/kg at 2 of 21 sampling locations. These were Surface Soil #1 (89.9 mg/kg) and Surface Soil #6 (309 mg/kg).

Copper was detected at concentrations exceeding its SCG of 25 mg/kg at 14 of 21 sampling locations. These were Surface Soil #1 (405 mg/kg), Surface Soil #2 (25.7 mg/kg), Surface Soil #3 (48.1 mg/kg), Surface Soil #4 (28.2 mg/kg), Surface Soil #5 (54.1 mg/kg), Surface Soil #6 (1,020 mg/kg), Surface Soil #8 (25.6 mg/kg), Surface Soil #9 (39.6 mg/kg), Surface Soil #12 (31.3 mg/kg), Surface Soil #13 (60.0 mg/kg), Surface Soil #14 (31.0 mg/kg), Surface Soil #16 (44.4 mg/kg), Surface Soil #20 (25.1 mg/kg) and Surface Soil #SS-21(34.5 mg/kg).

Iron was detected at concentrations exceeding its SCG 2,000 mg/kg at all sampling locations with a range of concentrations between 11,300 mg/kg (Surface Soil #17) to 144,000 mg/kg (Surface Soil #2).

Magnesium was detected at concentrations exceeding its SCG range of 100 to 5,000 mg/kg at 13 of 21 sampling locations. These were Surface Soil #1 (5,500 mg/kg), Surface Soil #3 (5,700 mg/kg), Surface Soil #4 (6,140 mg/kg), Surface Soil #6 (7,030 mg/kg), Surface Soil #7 (5,980 mg/kg), Surface Soil #9 (5,410 mg/kg), Surface Soil #10 (5,210 mg/kg), Surface Soil #11 (8,930 mg/kg), Surface Soil #12 (5,360 mg/kg), Surface Soil #14 (5,420 mg/kg), Surface Soil #15 (12,700 mg/kg), Surface Soil #19 (15,100 mg/kg) and Surface Soil #21 (5,210 mg/kg).

Mercury was detected at concentrations exceeding its SCG of 0.1 mg/kg at 6 of 21 sampling locations. These were Surface Soil #6 (3.6 mg/kg), Surface Soil #9 (0.103 mg/kg), Surface Soil #13 (0.214 mg/kg), Surface Soil #16(0.14 mg/kg), Surface Soil #17 (0.113 mg/kg) and Surface Soil #20 (0.222 mg/kg)

Manganese (8,260 mg/kg) was detected at concentrations exceeding its SCG range of 100 to 5,000 mg/kg at Surface Soil #6 only.

Nickel was detected at concentrations exceeding its SCG of 13 mg/kg at 14 of 21 sampling locations. These were Surface Soil #1 (107 mg/kg), Surface Soil #3 (29.8 mg/kg), Surface Soil #4 (20.7 mg/kg), Surface Soil #5 (29.5 mg/kg), Surface Soil #6 (124 mg/kg), Surface Soil #8 (22.7 mg/kg), Surface Soil #9 (14.4 mg/kg), Surface Soil #12 (13.1 mg/kg), Surface Soil #13 (19.9 mg/kg), the duplicate of Surface Soil #14 (13.1 mg/kg), Surface Soil #16 (23.5 mg/kg), Surface Soil #19 (20.9 mg/kg), Surface Soil #20 (24.6 mg/kg) and Surface Soil #SS-21 (13.5 mg/kg).

Selenium was detected at concentrations exceeding its SCG of 2 mg/kg at 14 of 21 sampling locations. These were Surface Soil #1 (3.02 mg/kg), Surface Soil #2 (2.22 mg/kg), Surface Soil #3 (2.42 mg/kg), Surface Soil #5 (5.66 mg/kg), Surface Soil #6 (6.11 mg/kg), Surface Soil #7 (2.8 mg/kg), Surface Soil #9 (3.24 mg/kg), Surface Soil #10 (2.3 mg/kg), Surface Soil #11 (2.22 mg/kg), Surface Soil #13 (3.09 mg/kg), Surface Soil #14 (2.01 mg/kg), Surface Soil #15 (2.31 mg/kg), Surface Soil #20 (2.16 mg/kg) and Surface Soil #21 (2.3 mg/kg).

Zinc was detected at concentrations exceeding its SCGs of 20 mg/kg at all sampling locations with concentrations that ranged from 40.2 mg/kg at Surface Soil #17 to 5,290 mg/kg at Surface Soil #6.

In summary, arsenic, beryllium, calcium, copper, iron, magnesium, nickel, selenium and zinc were the most prevalent metals in surface soils, having been detected at 10 or more sampling locations. Surface Soil #6 contained the most metals (14 of 16) detected above SCGs. Surface Soil #'s 1, 3 and 9 each had 10 metals detected, while eight (8) metals each were detected at Surface Soil #'s 11, 14 and 20.

4.5 Subsurface Soils - Test Trenches and Test Pits

4.5.1 General

Forty-seven (47) samples were collected at various locations from the seven (7) test trenches (39 samples) and four test pits (8 samples) advanced on Parcels 1 and 2 of the project site. The samples were analyzed for TCL volatile and semi-volatile organics and TAL Metals and the results were compared to SCGs. Analytical results showing compound and analyte detections at concentrations exceeding SCGs are presented in Table 4.5. The analytical summary results are presented in Table 4.5-1 in the Tables section of the report. The sampling locations, media type sampled (soils or fill), and frequency of parameters which were detected above SCGs are presented on Table 4.5-2.

4.5.2 Volatile Organic Compounds in Subsurface Soils (Test Trenches & Pits)

Acetone was the only VOC detected at concentrations exceeding the laboratory detection limit and was detected at concentrations exceeding its SCG of 0.2 mg/kg at one sampling location only. Acetone was detected at a concentration of 0.34 mg/kg from the sample submitted from Trench-2 SS-1, which is located on Parcel 1. Although acetone is a common laboratory contaminant, it was not detected above its SCG in the QA/QC equipment blanks and this result was not qualified during the data validation process.

4.5.3 Semi-Volatile Organic Compounds in Subsurface Soils (Test Trenches & Pits)

Five SVOCs were detected at concentrations exceeding SCGs. These included Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(a)pyrene and Dibenz(a,h)anthracene.

Benzo(a)anthracene was detected at concentrations exceeding its SCG of 0.224 mg/kg or MDL at 14 of 47 sampling locations, as follows.

- Test Trench #1 at four (4) sampling locations denoted as Trench-1 Upper (0.35 mg/kg), Trench-1 Lower (0.39 mg/kg), Trench-1 Upper-1 (0.35 mg/kg) and Trench-1 Lower-3 (1.4 mg/kg).
- Test Trench #2 at one (1) location denoted as Trench-2 Lower-2 (1.2 mg/kg).
- Test Trench #3 at three (3) locations denoted as Trench-3 Upper-1 (0.3 mg/kg), Trench-3 Lower-2 (0.39 mg/kg) and Trench-3 Upper-2 (0.54 mg/kg).
- Test Trench #4 at two (2) locations denoted as Trench-4 Upper-2 (0.52 mg/kg) and Trench-4 Lower-2 (0.43 mg/kg).
- Test Trench #6 at one (1) location denoted as Trench-6 Upper-1 (0.35 mg/kg)

TABLE 4.5: Trench and Test Pit Analytical Results Above SCGs
VOCs, SVOCs and Metal
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	NYSDEC TAGM 4046 RSCO's (mg/kg)****	NYSDEC TAGM 4046 Eastern USA Background (mg/kg)	TRENCH-1 UPPER (2.5') mg/kg		TRENCH-1 LOWER (15.5') mg/kg		TRENCH-1 UPPER-1 (6') mg/kg		TRENCH-1 LOWER-1 (20') mg/kg		DUP 2 (Trench-1 Lower-1) mg/kg		TRENCH-1 LOWER-2 (17') mg/kg		TRENCH-1 UPPER-2 (6') mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
SVOC's																
Benzo(a)anthracene	0.224 or MDL	NA	**0.35**	J	**0.39**		**0.35**	J	0.0053	U	0.0052	U	0.0057	U	0.0071	U
Chrysene	0.4	NA	0.29	J	0.28	J	**0.44**		0.011	U	0.011	U	0.012	U	0.015	U
Benzo(a)pyrene	0.061 or MDL	NA	**0.34**	J	**0.28**	J	**0.39**		0.0061	U	0.0059	U	0.0065	U	0.0081	U
Dibenz(a,h)anthracene	0.014 or MDL	NA	0.011	U	0.011	U	**0.043**	J	0.01	U	0.01	U	0.011	U	0.014	U
Metals																
Arsenic	7.5 or SB	3-12	**25.6**		2.580		**17.6**		6.240		5.970		**25.9**		**8.290**	
Beryllium	0.16 (HEAST) or SB	0-1.75	**1.510**		**0.201**	J	**0.846**		**0.428**	J	**0.449**	J	**3.120**		**0.731**	
Calcium	SB	130-35,000	**35100**		1810		16900		1970		1740		**85800**		11300	
Copper	25 or SB	1-50	**31.4**	J	8.920	J	**71.7**	J	18.5	J	22.1	J	18.6	J	20.2	J
Iron	2,000 or SB	2,000-550,000	**41800**		**11100**		**79500**		**22400**		**21400**		**61400**		**47300**	
Mercury	0.1	0.001-0.2	0.068		**0.366**		**0.165**		0.025		0.027		0.036		0.008	U
Nickel	13 or SB	0.5-25	**23.5**	J	9.780	J	**16.4**	J	**18.9**	J	**19.5**	J	10.3	J	8.710	J
Selenium	2 or SB	0.1-3.9	**2.440**		0.350	U	**4.330**		0.744	J	0.973	J	**2.990**		1.920	
Zinc	20 or SB	9-50	**114**	J	**34.1**	J	**185**	J	**49.8**	J	**48.6**	J	**50.8**	J	**57.9**	J

COMPOUND	NYSDEC TAGM 4046 RSCO's (mg/kg)****	NYSDEC TAGM 4046 Eastern USA Background (mg/kg)	TRENCH-1 LOWER-3 (20') mg/kg		TRENCH-2 UPPER (1.5') mg/kg		TRENCH-2 SS-1 (9.5') mg/kg		TRENCH-2 SS-2 (7') mg/kg		TRENCH-2 SS-3 (8.5') mg/kg		TRENCH-2 LOWER-1 (8') mg/kg		TRENCH-2 LOWER-2 (8') mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's																
Acetone	0.2	NA	0.046		0.0088	U	**0.34**		0.0085	U	0.0091	U	0.018	J	0.0088	U
SVOC's																
Benzo(a)anthracene	0.224 or MDL	NA	**1.4**		0.082	J	0.0064	U	0.0056	U	0.006	U	0.044	J	**1.2**	
Chrysene	0.4	NA	**1.1**		0.084	J	0.014	U	0.012	U	0.013	U	0.047	J	**1.2**	
Benzo(b)fluoranthene	1.1	NA	**1.2**	J	0.076	J	0.023	U	0.02	U	0.021	U	0.022	U	1.1	J
Benzo(a)pyrene	0.061 or MDL	NA	**1.1**		**0.07**	J	0.0073	U	0.0064	U	0.0069	U	0.007	U	**0.98**	
Dibenz(a,h)anthracene	0.014 or MDL	NA	**0.077**	J	0.011	U	0.012	U	0.011	U	0.012	U	0.012	U	**0.19**	J
Metals																
Arsenic	7.5 or SB	3-12	4.080		**22.5**		3.090		**42.7**		3.880		4.310		4.700	
Barium	300 or SB	15-600	68.6	J	130	J	104	J	**350**	J	83.5	J	85.4	J	58.4	J
Beryllium	0.16 (HEAST) or SB	0-1.75	**0.364**	J	**3.630**		**0.437**	J	**7.640**		**0.391**	J	**0.577**	J	0.080	J
Calcium	SB	130-35,000	3700		**56400**		3080		**181000**		3040		7160		4200	
Iron	2,000 or SB	2,000-550,000	**16500**		**40200**		**16800**		**36700**		**15600**		**15400**		**16700**	
Mercury	0.1	0.001-0.2	**0.213**		0.011	J	0.023		0.009	J	0.045		0.040		**0.124**	
Nickel	13 or SB	0.5-25	**15.5**	J	8.440	J	**15.5**	J	9.960	J	**15.6**	J	**14.5**	J	12.8	J
Selenium	2 or SB	0.1-3.9	0.537	J	**2.180**		0.620	J	**4.830**		1.270		1.160	J	0.954	J
Sodium	SB	6,000-8,000	46.8	U	448	J	48.6	U	**11500**		264	J	733		43.6	U
Zinc	20 or SB	9-50	**54.7**	J	**439**	J	**60.6**	J	**314**	J	**58.0**	J	**58.2**	J	**59.2**	J

TABLE 4.5: Trench and Test Pit Analytical Results Above SCGs
VOCs, SVOCs and Metal
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	NYSDEC TAGM 4046 RSCO's (mg/kg)****	NYSDEC TAGM 4046 Eastern USA Background (mg/kg)	TRENCH-2 UPPER-1 (4') mg/kg		TRENCH-2 UPPER-2 (3') mg/kg		TRENCH-3 LOWER (13') mg/kg		TRENCH-3 UPPER (3') mg/kg		TRENCH-3 LOWER-1 (10') mg/kg		TRENCH-3 UPPER-1 (4') mg/kg		TRENCH-3 LOWER-2 (10') mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
SVOC's																
Benzo(a)anthracene	0.224 or MDL	NA	0.065	J	0.006	U	0.0062	U	0.13	J	0.2	J	**0.3**	J	**0.39**	J
Benzo(a)pyrene	0.061 or MDL	NA	**0.092**	J	0.0068	U	0.0071	U	**0.14**	J	**0.15**	J	**0.25**	J	**0.28**	J
Metals																
Arsenic	7.5 or SB	3-12	**28.6**		6.960		4.340		**36.0**		3.800		**13.8**		4.620	
Beryllium	0.16 (HEAST) or SB	0-1.75	**6.100**		**0.271**	J	**0.401**	J	**2.140**		**0.451**	J	**0.838**		**0.467**	J
Calcium	SB	130-35,000	**142000**		1440		2940		30700		2490		21800		2960	
Copper	25 or SB	1-50	18.5	J	13.5	J	16.9		**85.1**		14.9	J	**63.6**	J	16.2	J
Iron	2,000 or SB	2,000-550,000	**34000**		**6010**		**19300**		**72900**		**16100**		**67500**		**17000**	
Magnesium	SB	100-5,000	**5410**		147	J	3620		3150		3400		2620		3480	
Mercury	0.1	0.001-0.2	0.007	U	0.007	U	0.016		**0.135**		0.063		0.008	J	0.078	
Nickel	13 or SB	0.5-25	12.2	J	5.390	J	**15.3**		**15.3**		**15.1**	J	**21.5**	J	**15.8**	J
Selenium	2 or SB	0.1-3.9	**3.920**		0.378	U	1.230	J	**3.560**		1.290		**4.440**		1.190	J
Sodium	SB	6,000-8,000	**11400**		204	J	49.0	J	607	J	44.5	U	642		46.5	U
Zinc	20 or SB	9-50	**199**	J	9.380	J	**52.5**		**262**		**56.2**	J	**949**	J	**64.7**	J

COMPOUND	NYSDEC TAGM 4046 RSCO's (mg/kg)****	NYSDEC TAGM 4046 Eastern USA Background (mg/kg)	TRENCH-3 UPPER-2 (4') mg/kg		TRENCH-4 LOWER (18') mg/kg		TRENCH-4 UPPER (5') mg/kg		TRENCH-4 LOWER-1 (19') mg/kg		TRENCH-4 UPPER-1 (6') mg/kg		TRENCH-4 UPPER-2 (6') mg/kg		TRENCH-4 LOWER-2 (20') mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
SVOC's																
Benzo(a)anthracene	0.224 or MDL	NA	**0.54**		0.052	J	0.0068	U	0.0059	U	0.0068	U	**0.52**		**0.43**	
Chrysene	0.4	NA	**0.45**		0.06	J	0.014	U	0.012	U	0.014	U	0.36	J	0.36	J
Benzo(a)pyrene	0.061 or MDL	NA	**0.5**		0.057	J	0.0078	U	0.0067	U	0.0077	UJ	**0.3**	J	**0.42**	
Dibenz(a,h)anthracene	0.014 or MDL	NA	**0.044**	J	0.012	U	0.013	U	0.011	U	0.013	UJ	0.014	U	0.012	U
Metals																
Aluminum	SB	33,000	6460		10200		11500		**39500**		9540		19300		21100	
Arsenic	7.5 or SB	3-12	**14.1**		**10.3**		4.930		**21.0**		4.760		**10.0**		**10.9**	
Barium	300 or SB	15-600	64.2		166		144		**348**		109		142		218	
Beryllium	0.16 (HEAST) or SB	0-1.75	**0.818**		**2.160**		**0.647**	J	**5.760**		**0.639**	J	**1.100**		**2.900**	
Calcium	SB	130-35,000	15600		24700		**68700**		**208000**		**65100**		11400		**93400**	
Chromium	50 or SB**	1.5-40	14.1		**106**		20.0		2.320		16.9		28.5		4.800	
Copper	25 or SB	1-50	24.3	J	**149**		18.5		6.470		13.8		**43.2**		19.7	
Iron	2,000 or SB	2,000-550,000	**64700**		**48200**		**15500**		**11800**		**11400**		**61600**		**34700**	
Magnesium	SB	100-5,000	3310		**6940**		**6670**		**23900**		**5260**		**6610**		**9340**	
Mercury	0.1	0.001-0.2	0.014		**0.210**		**0.120**		0.010	U	0.030		0.030		0.010	U
Nickel	13 or SB	0.5-25	11.8	J	**136**		**15.9**		1.440	J	**13.6**		**33.8**		6.070	
Selenium	2 or SB	0.1-3.9	**2.910**		0.809	J	0.539	J	**2.390**		0.423	U	**3.200**		**2.300**	
Zinc	20 or SB	9-50	**561**	J	**321**		**51.3**		**75.5**		**34.1**		**81.2**		**94.7**	

TABLE 4.5: Trench and Test Pit Analytical Results Above SCGs
VOCs, SVOCs and Metal
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	NYSDEC TAGM 4046 RSCO's (mg/kg)****	NYSDEC TAGM 4046 Eastern USA Background (mg/kg)	TRENCH-5 LOWER (9') mg/kg		TRENCH-5 UPPER (2') mg/kg		TRENCH-5 LOWER-1 (9') mg/kg		TRENCH-5 UPPER-1 (2') mg/kg		DUP. (Trench-5 Lower-1) mg/kg		TRENCH-6 LOWER (8') mg/kg		TRENCH-6 UPPER (4') mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
SVOC's																
Benzo(a)pyrene	0.061 or MDL	NA	0.0074	U	0.054	J	**0.078**	J	**0.094**	J	**0.072**	J	0.0075	U	0.0068	U
Metals																
Aluminum	SB	33,000	9580		3830		10500		1920		8920		11600		**41700**	
Arsenic	7.5 or SB	3-12	4.950		**44.5**		7.41		5.83		6.91		5.410		**18.7**	
Beryllium	0.16 (HEAST) or SB	0-1.75	**0.407**	J	**0.334**	J	**0.454**	J	**0.339**	J	**0.371**	J	**0.479**	J	**5.050**	
Calcium	SB	130-35,000	3350		15800		4180		2130		4490		3770		**158000**	
Copper	25 or SB	1-50	**25.8**		19.1		17.3		**34.8**		19.4		**26.5**		9.460	
Iron	2,000 or SB	2,000-550,000	**20100**		**152000**		**25100**		**50600**		**21200**		**20900**		**21400**	
Magnesium	SB	100-5,000	3610		**9540**		4020		298	J	3630		3960		**31400**	
Manganese	SB	50-5,000	363		**6650**		791		137		557		931		**6430**	
Mercury	0.1	0.001-0.2	0.100		0.080		0.100		0.02		**0.12**		**0.160**		0.010	U
Nickel	13 or SB	0.5-25	**14.7**		3.170	J	**17.5**		**14.2**		**16.3**		**15.3**		4.230	J
Selenium	2 or SB	0.1-3.9	0.401	U	**12.0**		**2.28**		**4.32**		**2.23**		0.415	U	**2.670**	
Zinc	20 or SB	9-50	**59.5**		**422**		**119**		**34.7**		**157**		**63.4**		**108**	

COMPOUND	NYSDEC TAGM 4046 RSCO's (mg/kg)****	NYSDEC TAGM 4046 Eastern USA Background (mg/kg)	TRENCH-6 LOWER-1 (7') mg/kg		TRENCH-6 UPPER-1 (3') mg/kg		TRENCH-7 UPPER (4') mg/kg		TRENCH-7 LOWER (12') mg/kg		TRENCH-7 LOWER-1 (16') mg/kg		TRENCH-7 UPPER-1 (5') mg/kg		TEST PIT-1 UPPER (2') mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
SVOC's																
Benzo(a)anthracene	0.224 or MDL	NA	0.0061	U	**0.35**	J	**0.24**	J	**1.3**	J	0.006	U	0.0064	U	**1.0**	
Chrysene	0.4	NA	0.013	U	0.38		**0.41**		**0.94**		0.013	U	0.013	U	**1.2**	
Benzo(b)fluoranthene	1.1	NA	0.022	U	0.62	J	0.36	J	1.1	J	0.021	U	0.022	U	**1.4**	J
Benzo(a)pyrene	0.061 or MDL	NA	0.007	U	**0.37**	J	**0.18**	J	**0.85**		0.0069	U	0.0072	U	**0.86**	
Dibenz(a,h)anthracene	0.014 or MDL	NA	0.012	U	0.011	U	0.01	U	**0.045**	J	0.012	U	0.012	U	**0.048**	J
Metals																
Arsenic	7.5 or SB	3-12	6.040		**13.4**		**13.7**		4.040		3.840		**8.720**		**51**	
Beryllium	0.16 (HEAST) or SB	0-1.75	**0.775**		**1.270**		**0.867**		**0.358**	J	**0.380**	J	**0.689**		**0.214**	J
Calcium	SB	130-35,000	2460		**39600**		6430		3010		1830		4660		1780	
Cobalt	30 or SB	2.5-60	10.7		10.8		5.67		7.29		7.57		6.72		**40.4**	
Copper	25 or SB	1-50	**67.9**		**32.9**		**51.1**		13.1		13.5		20.3		**355**	J
Iron	2,000 or SB	2,000-550,000	**27300**		**60800**		**39600**		**17200**		**15600**		**46500**		**375000**	
Manganese	SB	50-5,000	522		**6740**		1080		426		522		1210		704	
Mercury	0.1	0.001-0.2	**0.130**		0.030		**0.170**		**0.120**		0.030		0.010	U	0.010	J
Nickel	13 or SB	0.5-25	**21.5**		**17.1**		9.850		**13.2**		**14.7**		11.7		**93.5**	
Selenium	2 or SB	0.1-3.9	1.090	J	**5.510**		**2.810**		0.369	U	0.411	J	1.460		**7.1**	
Zinc	20 or SB	9-50	**93.1**		**109**		**159**		**45.4**		**43.9**		**26.5**		**665**	

TABLE 4.5: Trench and Test Pit Analytical Results Above SCGs
VOCs, SVOCs and Metal
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	NYSDEC TAGM 4046 RSCO's (mg/kg)****	NYSDEC TAGM 4046 Eastern USA Background (mg/kg)	TEST PIT-1 LOWER (4') mg/kg		TEST PIT-2 UPPER (4') mg/kg		TEST PIT-2 LOWER (20') mg/kg		TEST PIT-3 UPPER (2') mg/kg		TEST PIT-3 LOWER (5') mg/kg		TEST PIT- 4 UPPER (7') mg/kg		TEST PIT- 4 LOWER (19') mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Metals																
Arsenic	7.5 or SB	3-12	1.810		4.600		2.680		**9.910**		6.770		**24.1**		3.960	
Beryllium	0.16 (HEAST) or SB	0-1.75	**0.292**	J	**0.339**	J	**0.297**	J	**0.439**	J	**0.962**		**0.345**	J	**0.626**	J
Copper	25 or SB	1-50	8.630	J	17.7	J	12.8	J	**25.1**	J	**31.7**	J	**40.9**	J	19.6	J
Iron	2,000 or SB	2,000-550,000	**16500**		**20500**		**16300**		**50300**		**33500**		**90000**		**24000**	
Magnesium	SB	100-5,000	3410		4800		3440		307	J	**8800**		1160		4690	
Nickel	13 or SB	0.5-25	12.7		**17.7**		**15.3**		**17.4**		**30.3**		12.2		**20.4**	
Selenium	2 or SB	0.1-3.9	0.330	U	0.360	J	0.357	U	**2.160**		0.539	J	**4.530**		0.472	J
Zinc	20 or SB	9-50	**40.7**		**58.4**		**91.3**		12.7		**79.2**		**27.3**		**70.9**	

Qualifiers

U - The compound was not detected at the indicated concentration.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

Bolded numbers indicate that the parameter is at a concentration that has exceeded its SCG

NA - Not Applicable

SB - Site Background

HEAST - Health Effects Assessment Summary Tables

MDL indicates the laboratory's minimum detection limit

mg/kg indicates mlligram per kilogram or parts per million (ppm)

mg/l indicates milligram per liter or parts per million (ppm)

(#) indicates number of feet below grade that sample was collected

* TAGM 4046 lists 1 ppm as the Standard, Criteria and Guidance (SCG) for Cadmium.

** TAGM 4046 lists 10 ppm as the Standard, Criteria and Guidance (SCG) for Chromium. However, recent DEC Records of Decision (ROD) specify 50 ppm as the SCG.

*** Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4-61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200-500 ppm

**** New York State Department of Environmental Conservation Technical and Administrative Guidance Memorandum (TAGM) #4046 - Recommended Soil Cleanup Objectives (RSCOs)

TABLE 4.5-2: Trench and Test Pit Parameters Above SCGs

Sample ID	Media Sampled	Trench Orientation (Start to End)	Distance from Trench Start	Sample Depth	Compounds and Analytes Detected Above SCGs
Trench-1 Upper	Brown SILT and fine GRAVEL	South to North	8 feet	2.5 feet	2 SVOCs & 8 Metals
Trench-1 Lower	M-F Brown SAND, trace silt	South to North	8 feet	15.5 feet	2 SVOCs & 4 Metals
Trench-1 Upper-1	Black CINDER and brown SILT	South to North	90 feet	6 feet	4 SVOCs & 8 Metals
Trench-1 Lower-1	Med. SAND, Some Gravel	South to North	90 feet	20 feet	4 Metals
Trench-1 Upper-2	Gray ASH, Some Cinder	South to North	235 feet	6 feet	4 Metals
Trench-1 Lower-2	Black CINDER and gray ASH	South to North	228 feet	17 feet	6 Metals
Trench-1 Lower-3	Gray med. SAND and GRAVEL	South to North	260 feet	20 feet	5 Metals
Trench-2 Upper	Black CINDER and ASH	South to North	44 feet	1.5 feet	1 SVOC & 6 Metals
Trench-2 SS-1	SILT, Stained with fuel odor	South to North	28 feet	9.5 feet	1 VOC & 4 Metals
Trench-2 SS-2	White SLAG	South to North	90 feet	7 feet	8 Metals
Trench-2 SS-3	Brown SILT	South to North	90 feet	8.5 feet	4 Metals
Trench-2 Lower-1	Brown SILT	South to North	160 feet	8 feet	4 Metals
Trench-2 Upper-1	Black CINDER and ASH	South to North	160 feet	4 feet	1 SVOC & 8 Metals
Trench-2 Lower-2	Brown SAND, Some Silt	South to North	308 feet	8 feet	4 SVOCs & 3 Metals
Trench-2 Upper-2	White ASH	South to North	312 feet	3 feet	2 Metals
Trench-3 Lower	Brown SILT	South to North	25 feet	13 feet	4 Metals
Trench-3 Upper	Black SILT and CINDER	South to North	25 feet	3 feet	1 SVOC & 8 Metals
Trench-3 Lower-1	Brown SILT	South to North	150 feet	10 feet	1 SVOC & 4 Metals
Trench-3 Upper-1	Black SILT and CINDER	South to North	150 feet	4 feet	2 SVOCs & 7 Metals
Trench-3 Lower-2	Brown SILT	South to North	300 feet	10 feet	2 SVOCs & 4 Metals
Trench-3 Upper-2	Black SILT and CINDER	South to North	300 feet	4 feet	4 SVOCs & 5 Metals
Trench-4 Lower	Gray SILT	North to South	42 feet	18 feet	9 Metals
Trench-4 Upper	White pulverized rock	North to South	42 feet	5 feet	7 Metals
Trench-4 Lower-1	Black SLAG	North to South	125 feet	19 feet	9 Metals
Trench-4 Upper-1	White ASH	North to South	125 feet	6 feet	6 Metals
Trench 4 Upper-2	Brown CLAY and GRAVEL	North to South	258 feet	6 feet	2 SVOCs & 8 Metals
Trench-4 Lower-2	Coarse SLAG	North to South	260 feet	20 feet	2 SVOCs & 7 Metals
Trench-5 Lower	Brown SILT	East to West	20 feet	9 feet	5 Metals

TABLE 4.5-2: Trench and Test Pit Parameters Above SCGs

Sample ID	Media Sampled	Trench Orientation (Start to End)	Distance from Trench Start	Sample Depth	Compounds and Analytes Detected Above SCGs
Trench-5 Upper	Red SILT	East to West	20 feet	2 feet	7 Metals
Trench-5 Lower-1	Brown SILT	East to West	75 feet	9 feet	1 SVOC & 5 Metals
Trench-5 Upper-1	White ASH	East to West	90 feet	2 feet	1 SVOC & 6 Metals
Trench-6 Lower	Brown SILT	East to West	18 feet	8 feet	6 Metals
Trench-6 Upper	Coarse SLAG	East to West	18 feet	4 feet	9 Metals
Trench-6 Lower-1	Brown SILT	East to West	85 feet	7 feet	6 Metals
Trench-6 Upper-1	Black CINDER	East to West	85 feet	3 feet	2 SVOCs & 9 Metals
Trench-7 Upper	BACKFILL	East to West	35 feet	4 feet	3 SVOCs & 7 Metals
Trench-7 Lower	Brown SILT and SAND	East to West	35 feet	12 feet	4 SVOCs & 5 Metals
Trench-7 Lower-1	Brown fine SAND	East to West	114 feet	16 feet	4 Metals
Trench-7 Upper-1	SLAG and ASH	East to West	114 feet	5 feet	4 Metals
Test Pit-1 Upper (2')	Black CINDER and SILT	NA	NA	2 feet	5 SVOCs & 8 Metals
Test Pit-1 Lower (4')	SAND and GRAVEL	NA	NA	4 feet	3 Metals
Test Pit-2 Upper (4')	SAND, GRAVEL and FILL	NA	NA	4 feet	4 Metals
Test Pit-2 Lower (20')	SAND and GRAVEL	NA	NA	20 feet	4 Metals
Test Pit-3 Upper (2')	Gray ASH	NA	NA	2 feet	6 Metals
Test Pit-3 Lower (5')	Brown SILT and CLAY	NA	NA	5 feet	6 Metals
Test Pit-4 Upper (7')	Black CINDER	NA	NA	7 feet	6 Metals
Test Pit-4 Lower (19')	Gray SILT and CLAY	NA	NA	19 feet	4 Metals

- Test Trench #7 at two (2) locations denoted as Trench-7 Upper (0.24 mg/kg) and Trench-7 Lower (1.3 mg/kg).

- Test Pit #1 at one (1) location denoted as Test Pit-1 Upper (1.0 mg/kg).

Chrysene was detected at concentrations exceeding its SCG of 0.4 mg/kg at seven (7) of 47 sampling locations, as follows.

- Test Trench #1 at two (2) locations denoted as Trench-1 Upper-1 (0.44 mg/kg) and Trench-1 Lower-3 (1.1 mg/kg).

- Test Trench #2 at one (1) location denoted as Trench-1 Lower-2 (1.2 mg/kg).

- Test Trench #3 at one (1) location denoted as Trench-3 Upper-2 (0.45 mg/kg).

- Test Trench #7 at two (2) locations denoted as Trench-7 Upper (0.41 mg/kg) and Trench-7 Lower (0.94 mg/kg).

- Test Pit #1 at one (1) location denoted as Test Pit-1 Upper (1.2 mg/kg).

Benzo(b)fluoranthene was detected at concentrations exceeding its SCG of 1.1 mg/kg at two (2) of 47 sampling locations, as follows.

- Test Trench #1 at one (1) location denoted as Trench-1 Lower-3 (1.2 mg/kg).

- Test Pit #1 at one (1) location denoted as Test Pit-1 Upper (1.4 mg/kg).

Benzo(a)pyrene was detected at concentrations exceeding its SCG of 0.061 mg/kg at 20 of 47 sampling locations, as follows.

- Test Trench #1 at four (4) locations denoted as Trench-1 Upper (0.34 mg/kg), Trench-1 Lower (0.28 mg/kg), Trench-1 Upper-1 (0.39 mg/kg) and Trench-1 Lower-3 (1.1 mg/kg).

- Test Trench #2 at three (3) locations denoted as Trench-2 Upper (0.07 mg/kg), Trench-2 Lower-2 (0.98 mg/kg) and Trench-2 Upper-1 (0.092 mg/kg).

- Test Trench #3 at five (5) locations denoted as Trench-3 Upper (0.14 mg/kg), Trench-3 Lower-1 (0.15 mg/kg), Trench-3 Upper-1 (0.25 mg/kg), Trench-3 Lower-2 (0.28 mg/kg) and Trench-3 Upper-2 (0.5 mg/kg).
- Test Trench #4 at two (2) locations denoted as Trench-4 Upper-2 (0.3 mg/kg) and Trench-4 Lower-2 (0.42 mg/kg).
- Test Trench #5 at two (2) locations denoted as Trench-5 Lower-1 (0.078 mg/kg) and Trench-5 Upper-1 (0.094 mg/kg).
- Test Trench #6 at one (1) location denoted as Trench-6 Upper-1 (0.37 mg/kg).
- Test Trench #7 at two (2) locations denoted as Trench-7 Upper (0.18 mg/kg) and Trench-7 Lower (0.85 mg/kg).
- Test Pit #1 at one (1) location denoted as Test Pit-1 Upper (0.86 mg/kg).

Dibenz(a,h)anthracene was detected at concentrations exceeding its SCG of 0.014 mg/kg or MDL at six (6) of 47 sampling locations, as follows.

- Test Trench #1 at two (2) locations denoted as Trench-1 Upper-1 (0.043 mg/kg) and Trench-1 Lower-3 (0.077 mg/kg).
- Test Trench #2 at one (1) location denoted as Trench-2 Lower-2 (0.19 mg/kg).
- Test Trench #3 at one (1) location denoted as Trench-3 Upper-2 (0.044 mg/kg).
- Test Trench #7 at one (1) location denoted as Trench-7 Lower (0.045 mg/kg)
- Test Pit #1 at one (1) location denoted as Test Pit-1 Upper (0.048 mg/kg).

To summarize, five (5) semi-volatile organics were detected above SCGs at differing frequencies in all test trenches and test pits with the exception of Test Pit #2 through Test Pit #4. As presented in Table 4.5-2, SVOCs were detected in both fill materials (cinder, ash and to a lesser degree slag) and native soils beneath Parcels 1 and 2 of the site.

4.5.4 Metals in Subsurface Soils (Test Trenches & Pits)

Fifteen (15) metals were detected at concentrations above their respective SCGs. These included Aluminum, Arsenic, Barium, Beryllium, Calcium, Chromium, Copper, Magnesium, Manganese Mercury, Nickel, Selenium, Sodium and Zinc.

Aluminum was detected above its SCG of 33,000 mg/kg (SB) at 2 of 47 sampling locations, as follows.

- Test Trench #4 at one (1) location denoted as Trench-4 Lower-1 (39,500 mg/kg)
- Test Trench #6 at one (1) location denoted as Trench-6 Upper (41,700 mg/kg).

Arsenic was detected above its SCG of 7.5 mg/kg at 22 of 47 sampling locations, as follows.

- Test Trench #1 at four (4) locations denoted as Trench-1 Upper (25.6 mg/kg), Trench-1 Upper-1 (17.6 mg/kg), Trench-1 Lower-2 (25.9 mg/kg) Trench-1 Upper-2 (8.29 mg/kg)..
- Test Trench #2 at three (3) locations denoted as Trench-2 Upper (22.5 mg/kg), Trench-2 SS-2 (42.7 mg/kg) and Trench-2 Upper-1 (28.6 mg/kg).
- Test Trench #3 at three (3) locations denoted as Trench-3 Upper (36.0 mg/kg), Trench-3 Upper-1 (13.8 mg/kg) and Trench-3 Upper-2 (14.1 mg/kg).
- Test Trench #4 at four (4) locations denoted as Trench-4 Lower (10.3 mg/kg), Trench-4 Lower-1 (21.0 mg/kg), Trench-4 Upper-2 (10.0 mg/kg) and Trench-4 Lower-2 (10.9 mg/kg).
- Test Trench #5 at one (1) location denoted as Trench-5 Upper (44.5 mg/kg).
- Test Trench #6 at two (2) locations denoted as Trench-6 Upper (18.7 mg/kg) and Trench-6 Upper-1 (13.4 mg/kg).
- Test Trench #7 at two (2) locations denoted as Trench-7 Upper (13.7 mg/kg) and Trench-7 Upper-1 (8.72 mg/kg).
- Test Pit #1 at one (1) location denoted as Test Pit-1 Upper (51 mg/kg).

- Test Pit #3 at one (1) location denoted as Test Pit-3 Upper (9.91 mg/kg).

- Test Pit #4 at one (1) location denoted as Test Pit-4 Upper (24.1 mg/kg).

Barium was detected above its SCG of 300 mg/kg at 2 of 47 sampling locations, as follows.

- Test Trench #2 at one (1) location denoted as Trench-2 SS-2 (350 mg/kg).

- Test Trench #4 at one (1) location denoted as Trench-4 Lower-1 (348 mg/kg).

Beryllium was detected above its SCG of 0.16 mg/kg at 46 of 47 sampling locations and ranged in concentration from 0.201 mg/kg at sampling location Trench-1 Lower to 7.64 mg/kg at sampling location Trench-2 SS-2.

Calcium was detected above its SCG range of 130-35,000 mg/kg at 11 of 47 sampling locations, as follows.

- Test Trench #1 at two (2) locations denoted as Trench-1 Upper (35,100 mg/kg) and Trench-1 Lower-2 (85,800 mg/kg).

- Test Trench #2 at three (3) locations denoted as Trench-2 Upper (56,400 mg/kg), Trench-2 SS-2 (181,000 mg/kg) and Trench-2 Upper-1 (142,000 mg/kg).

- Test Trench #4 at four (4) locations denoted as Trench-4 Upper (68,700 mg/kg), Trench-4 Lower-1 (208,000 mg/kg), Trench-4 Upper-1 (65,100 mg/kg) and Trench-4 Lower-2 (93,400 mg/kg).

- Test Trench #6 at two (2) locations denoted as Trench-6 Upper (158,000 mg/kg) and Trench-6 Upper-1 (39,600 mg/kg)

Chromium was detected above its SCG of 50 mg/kg at one (1) of 47 sampling locations, as follows.

- Test Trench #4 at one (1) location denoted as Trench-4 Lower (106 mg/kg).

Copper was detected above its SCG of 25 mg/kg at 16 of 47 sampling locations, as follows.

- Test Trench #1 at two (2) locations denoted as Trench-1 Upper (31.4 mg/kg) and Trench-1 Upper-1 (71.7 mg/kg).
- Test Trench #3 at two (2) locations denoted as Trench-3 Upper (85.1 mg/kg) and Trench-3 Upper-1 (63.6 mg/kg).
- Test Trench #4 at two (2) locations denoted as Trench-4 Lower (149 mg/kg) and Trench-4 Upper-2 (43.2 mg/kg).
- Test Trench #5 at two (2) locations denoted as Trench-5 Lower (25.8 mg/kg) and Trench-5 Upper-1 (34.8 mg/kg).
- Test Trench #6 at three (3) locations denoted as Trench-6 Lower (26.5 mg/kg), Trench-6 Lower-1 (67.9 mg/kg) and Trench-6 Upper-1 (32.9 mg/kg).
- Test Trench #7 at one (1) location denoted as Trench-7 Upper (51.1 mg/kg).
- Test Pit #1 at one (1) location denoted as Test Pit-1 Upper (355 mg/kg).
- Test Pit #3 at two (2) locations denoted as Test Pit-3 Upper (25.1 mg/kg) and Test Pit-3 Lower (31.7 mg/kg).
- Test Pit #4 at one (1) location denoted as Test Pit-4 Upper (40.9 mg/kg).

Iron was detected at concentrations exceeding its SCG of 2,000 mg/kg at all sampling locations.

Magnesium was detected above its SCG range of 100-5,000 mg/kg at 10 of 47 sampling locations, as follows.

- Test Trench #2 at one (1) location denoted as Trench-2 Upper-1 (5,410 mg/kg).
- Test Trench #4 at six (6) locations denoted as Trench-4 Lower (6,940 mg/kg), Trench-4 Upper (6,670 mg/kg), Trench-4 Lower-1 (23,900 mg/kg), Trench-4 Upper-1 (5,260 mg/kg), Trench-4 Upper-2 (6,610 mg/kg) and Trench-4 Lower-2 (9,340 mg/kg).
- Test Trench #5 at one (1) location denoted as Trench-5 Upper (9,540 mg/kg).

- Test Trench #6 at one (1) location denoted as Trench-6 Upper (31,400 mg/kg).
- Test Pit #3 at one (1) location denoted as Test Pit-3 Lower (8,800 mg/kg).

Manganese was detected above its SCG range of 50-5,000 mg-kg at three (3) of 47 sampling locations, as follows.

- Test Trench #5 at one (1) location denoted as Trench-5 Upper (6,650 mg/kg).
- Test Trench #6 at two (2) locations denoted as Trench-6 Upper (6,430 mg/kg) and Trench-6 Upper 1 (6,740 mg/kg).

Mercury was detected above its SCG of 0.1 mg/kg at 11 of 47 sampling locations, as follows.

- Test Trench #1 at three (3) locations denoted as Trench-1 Lower (0.366 mg/kg), Trench-1 Upper-1 (0.165 mg/kg) and Trench-1 Lower-3 (0.213 mg/kg).
- Test Trench #2 at one (1) location denoted as Trench-2 Lower-2 (0.124 mg/kg).
- Test Trench #3 at one (1) location denoted as Trench-3 Upper (0.135 mg/kg).
- Test Trench #4 at two (2) locations denoted as Trench-4 Lower (0.210 mg/kg) and Trench-4 Upper (0.12 mg/kg).
- Test Trench #6 at two (2) locations denoted as Trench-6 Lower (0.16 mg/kg) and Trench-6 Lower-1 (0.13 mg/kg).
- Test Trench #7 at two (2) locations denoted as Trench-7 Upper (0.17 mg/kg) and Trench-7 Lower (0.12 mg/kg).

Nickel was detected above its SCG of 13 mg/kg at 30 of 47 sampling locations, as follows.

- Test Trench #1 at four (4) locations denoted as Trench-1 Upper (23.5 mg/kg), Trench-1 Upper-1 (16.4 mg/kg), Trench-1 Lower-1 (18.9 mg/kg) and Trench-1 Lower-3 (15.5 mg/kg).

- Test Trench #2 at three (3) locations denoted as Trench-2 SS-1 (15.5 mg/kg), Trench-2 SS-3 (15.6 mg/kg) and Trench-2 Lower-2 (14.5 mg/kg).

- Test Trench #3 at five (5) locations denoted as Trench-3 Lower (15.3 mg/kg), Trench-3 Upper (15.3 mg/kg), Trench-3 Lower-1 (15.1 mg/kg), Trench-3 Upper-1 (21.5 mg/kg) and Trench-3 Lower-2 (15.8 mg/kg).

- Test Trench #4 at four (4) locations denoted as Trench-4 Lower (136 mg/kg), Trench-4 Upper (15.9 mg/kg), Trench-4 Upper-1 (13.6 mg/kg) and Trench-4 Upper-2 (33.8 mg/kg).

- Test Trench #5 at three (3) locations denoted as Trench-5 Lower (14.7 mg/kg), Trench-5 Lower-1 (17.5 mg/kg) and Trench-5 Upper-1 (14.2 mg/kg).

- Test Trench #6 at three (3) locations denoted as Trench-6 Lower (15.3 mg/kg), Trench-6 Lower-1 (21.5 mg/kg) and Trench-6 Upper-1 (17.1 mg/kg).

- Test Trench #7 at two (2) locations denoted as Trench-7 Lower (13.2 mg/kg) and Trench-7 Lower-1 (14.7 mg/kg).

- Test Pit #1 at one (1) location denoted as Test Pit-1 Upper (93.5 mg/kg).

- Test Pit #2 at two (2) locations denoted as Test Pit-2 Upper (58.4 mg/kg) and Test Pit-2 Lower (91.3 mg/kg).

- Test Pit #3 at two (2) locations denoted as Test Pit-3 Upper (17.4 mg/kg) and Test Pit-3 Lower (30.3 mg/kg).

- Test Pit #4 at one (1) location denoted as Test Pit-4 Lower (20.4 mg/kg).

Selenium was detected above its SCG range of 2 mg/kg at 21 of 47 sampling locations, as follows.

- Test Trench #1 at three (3) locations denoted as Trench-1 Upper (2.44 mg/kg), Trench-1 Upper-1 (4.33 mg/kg) and Trench-1 Lower-2 (2.99 mg/kg)

- Test Trench #2 at three (3) locations denoted as Trench-2 Upper (2.18 mg/kg), Trench-2 SS-2 (4.830 mg/kg) and Trench-2 Upper-1 (3.920 mg/kg).

- Test Trench #3 at three (3) locations denoted as Trench-3 Upper (3.56 mg/kg), Trench-3 Upper-1 (4.440 mg/kg) and Trench-3 Upper-2 (2.91 mg/kg).
- Test Trench #4 at three (3) locations denoted as Trench-4 Lower-1 (2.39 mg/kg), Trench-4 Upper-2 (3.2 mg/kg) and Trench-4 Lower-2 (2.3 mg/kg).
- Test Trench #5 at three (3) locations denoted as Trench-5 Upper (12.0 mg/kg), Trench-5 Lower-1 (2.28 mg/kg) and Trench-5 Upper-1 (4.32 mg/kg).
- Test Trench #6 at two (2) locations denoted as Trench-6 Upper (2.67 mg/kg) and Trench-6 Upper-1 (5.510 mg/kg).
- Test Trench #7 at one (1) location denoted as Trench-7 Upper (2.81 mg/kg).
- Test Pit #1 at one (1) location denotes as Test Pit-1 Upper (7.1 mg/kg).
- Test Pit #3 at one (1) location denoted as Test Pit-3 Upper (2.16 mg/kg).
- Test Pit #4 at one (1) location denoted as Test Pit-4 Upper (4.53 mg/kg).

Sodium was detected above its SCG range of 6,000-8,000 mg/kg at two (2) of 47 sampling locations, as follows.

- Test Trench #2 at two (2) locations denoted as Trench-2 SS-2 (11,500 mg/kg) and Trench-2 Upper-1 (11,400 mg/kg).

Zinc was detected above its SCG of 20 mg/kg at 45 of 47 sampling locations. Zinc was detected in each of the test trenches and test pits and ranged in concentration from 26.5 mg/kg at Test Trench #7 to 949 mg/kg at Test Trench #3.

To summarize, metals were detected at concentrations exceeding SCGs in all of the test trenches and test pits with Arsenic (22 of 47), Beryllium (46 of 47), Iron (47 of 47), Nickel (30 of 47), Selenium (21 of 47) and Zinc (45 of 47) being detected at the highest frequencies. The frequency of metals detections above SCGs in the sampled trenches and pits is presented on Table 4.5-2. The table depicts that metals were detected in fill materials and native soils in all of the test trenches and test pits located on Parcels 1 and 2.

4.5.5 Subjective Observations and Analyses

The following pertinent subjective observations were made in the field during the course of the test trench and test pit investigations.

- **Test Trench No.1:** Slag exhibiting a sweet chemical type odor with noticeable staining was encountered at approximately one foot above native soils (± 16' bgs) at 74 to 80 feet north of the trench start with the odor becoming more noticeable as the trench was advanced nearer to the 80 foot mark. The impacted fill could no longer be observed beyond the 80 foot mark due to a rise in the surface topography, which precluded the excavator from attaining the necessary depth bgs required for observation of the impacted media. A sample of the impacted fill was not collected for laboratory analyses, but field instrumentation showed a PID reading of 17.4 ppm.

  The sweet petroleum odor was again encountered at 17' bgs at 220 to 254 feet north of the trench starting point.

  Groundwater with a slight sheen at its surface was encountered at 20 feet bgs, approximately 305 feet north of the trench starting point. The groundwater was encountered at the interface between native soils (silt and sand) and the overlying fill material (slag). A groundwater sample was collected from monitoring well CTM-10, which was installed down gradient of the trench as part of the RI. The sample was forwarded to the laboratory of record for analyses for TCL volatile and semi-volatile organics and TAL Metals. Analytical results show one (1) metal (sodium) at a concentration exceeding its SCG.

- **Test Trench No. 2:** Heavily stained native soils emitting a strong fuel oil type odor were encountered from 28 to 40 feet north of the trench start at approximately 9.5' bgs. A sample of the impacted media (identified as sample Trench-2 SS-1 on Tables 4.5 and 4.5.2) was collected for laboratory analyses for TCL volatile and semi-volatile organics and TAL Metals. Analytical results show one (1) VOC (acetone) and four (4) metals (beryllium, iron, nickel and zinc) at concentrations exceeding SCGs.

  Slag, and to a lesser degree native soils emitting a sweet chemical type odor were observed at 4 to 8 feet bgs approximately 90 to 105 feet north of the trench start. A sample of the impacted native soils underlying the slag (identified as sample Trench-2 SS-3 on Tables 4.5 and 4.5.2) was collected for laboratory analyses for TCL volatile and semi-volatile organics and TAL Metals. Analytical results show four (4) metals (beryllium, iron, nickel and zinc) at concentrations exceeding SCGs.

- **Test Trench No. 4:** Several sporadic and isolated pockets of coal tar, each approximately 8 to 10 inches in diameter, were encountered at 14 to 15’ bgs approximately 145’ south of the trench start. Headspace analysis conducted on the coal tar showed PID readings that ranged from 10 to 12 ppm. Samples of the coal tar were not collected for laboratory analyses. Sections of coal tar were not encountered within any remaining portions of the trench.
- **Test Pit No. 1:** Fuel oil contaminated silt and clay were encountered at approximately 10.5’ bgs. Groundwater and petroleum free product were observed entering the pit at approximately 12’ bgs.
- **Test Pit No. 3:** An old brick foundation was encountered at approximately 2’ bgs.

4.6 Subsurface Soils (Soil Borings)

4.6.1 General

A total of twelve (12) soil borings were advanced as part of the RI. Subsurface soil samples were collected from 11 of the 12 borings and submitted for laboratory analyses. The borings where soil samples were collected are depicted on Figure 2 as CTM-1, CTM-2, CTM-3, CTM-5 through CTM-11 and CTM-13. Soil samples were not collected from boring CTM-1S, as this boring was solely advanced for the installation of a monitoring well.

The samples were analyzed for TCL volatile and semi-volatile organics and TAL metals. Analytical results were compared to site specific SCGs. Analytical results for compounds and analytes detected at concentrations exceeding SCGs are presented in Table 4.6. A summary of analytical results is presented in Table 4.6-1 in the Tables section of the report. Sampling depth intervals, type of material sampled and parameters which exceeded SCGs are presented in Table 4.6-2, which also includes

TABLE 4.6: Soil Boring Analytical Results Above SCGs
VOCs, SVOCs and Metals
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	NYSDEC TAGM 4046 RSCO's (mg/kg)****	NYSDEC TAGM 4046 Eastern USA Background (mg/kg)	CTM-1 (15-17') mg/kg		CTM-2 (6-8') mg/kg		CTM-3 (2-4') mg/kg		CTM-5 (10-12') mg/kg		CTM-6 (8-10') mg/kg		CTM-7 (2-4') mg/kg		CTM-8 (4-6') mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
SVOC's																
Benzo(a)anthracene	0.224 or MDL	NA	0.0064	U	0.0054	U	0.13	J	0.0062	U	0.0059	U	**0.55**		0.0066	U
Chrysene	0.4	NA	0.013	U	0.011	U	0.15	J	0.013	U	0.012	U	**0.56**		0.014	U
Benzo(a)pyrene	0.061 or MDL	NA	0.0072	U	0.0061	U	**0.13**	J	0.007	U	0.0067	U	**0.41**		0.0075	U
Metals																
Arsenic	7.5 or SB	3-12	3.060		6.550		**23.4**		5.690		**8.840**		**14.4**		**16.9**	
Beryllium	0.16 (HEAST) or SB	0-1.75	**0.439**	J	**0.938**		**1.410**		**0.642**		**1.070**		**0.329**	J	**2.890**	
Calcium	SB	130-35,000	2690		5560		**46,800**		5370		10900		3030		**114,000**	
Copper	25 or SB	1-50	15.9	J	**25.9**	J	**81.4**	J	14.2	J	**32.1**	J	**37.0**	J	11.8	J
Iron	2,000 or SB	2,000-550,000	**16400**		**34300**		**169000**		**32300**		**31200**		**65600**		**97900**	
Magnesium	SB	100-5,000	3370		**5560**		**6110**		3580		4430		2320		4870	
Nickel	13 or SB	0.5-25	**14.9**		**29.8**		**15.3**		**15.6**		**21.7**		**16.6**		6.440	
Selenium	2 or SB	0.1-3.9	0.399	U	0.337	U	**4.250**		0.556	J	**2.260**		0.337	U	0.420	U
Zinc	20 or SB	9-50	**48.9**		**77.0**		**245**		**58.6**		**81.6**		**36.4**		14.5	

COMPOUND	NYSDEC TAGM 4046 RSCO's (mg/kg)****	NYSDEC TAGM 4046 Eastern USA Background (mg/kg)	CTM-9 (4-8') mg/kg		CTM-10 (2-4') mg/kg		CTM-11 (8-10') mg/kg		CTM-13 (14-16') mg/kg		DUP #3 mg/kg		EQUIPBLANK#5 mg/l		EQUIPBLANK#6 mg/l	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Metals																
Beryllium	0.16 (HEAST) or SB	0-1.75	**0.246**	J	**2.130**		**0.510**	J	**1.120**		**0.300**	J	1.060	U	1.060	U
Calcium	SB	130-35,000	2010		**117,000**		3700		**35,900**		4580		1740	u	1740	u
Copper	25 or SB	1-50	11.2	J	**27.7**	J	14.2	J	2.960	J	12.6		0.739	U	0.739	U
Iron	2,000 or SB	2,000-550,000	**23700**		**48400**		**17600**		**25800**		**27300**		29.0	U	29.0	U
Magnesium	SB	100-5,000	2680		**8950**		3320		2910		3810		254	U	254	U
Nickel	13 or SB	0.5-25	**14.0**		10.8		**15.3**		1.900	J	**17.3**		5.550	U	5.550	U
Selenium	2 or SB	0.1-3.9	0.328	U	**3.420**		0.830	J	0.366	U	0.338	U	**6.540**	J	**5.730**	J
Zinc	20 or SB	9-50	**50.7**		**74.6**		**55.0**		**24.3**		**36.1**		8.110	U	8.110	U

Qualifiers

U - The compound was not detected at the indicated concentration.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

NA - Not Applicable

mg/kg indicates mlligram per kilogram or parts per million (ppm) and mg/l indicates milligram per liter or parts per million (ppm)

HEAST - Health Effects Assessment Summary Tables

MDL indicates the laboratory's minimum detection limit

* TAGM 4046 lists 1 ppm as the Standard, Criteria and Guidance (SCG) for Cadmium. However, recent DEC Records of Decision (ROD) specify 10 ppm as the SCG.

** TAGM 4046 lists 10 ppm as the Standard, Criteria and Guidance (SCG) for Chromium. However, recent DEC Records of Decision (ROD) specify 50 ppm as the SCG.

*** Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4-61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200-500 ppm

**** New York State Department of Environmental Conservation Technical and Administrative Guidance Memorandum (TAGM) #4046 - Recommended Soil Cleanup Objectives (RSCOs)

SB- Site Background

information for borings advanced as part of the supplemental investigations of the IRM and Parcel 2.

4.6.2 Volatile Organic Compounds in Subsurface Soils (Soil Borings)

Several volatile organic compounds were detected at concentrations exceeding the laboratory detection limit but below SCGs. The detected compounds were Acetone, Carbon Disulfide, Methyl tert-butyl Ether (MTBE), Methylene Chloride, 2-Butanone (MEK), Methylcyclohexane, Toluene and Isopropylbenzene.

4.6.3 Semi-volatile Organic Compounds in Subsurface Soils (Soil Borings)

Three (3) SVOCs were detected above SCGs in the sampled soils. The SVOCs were detected in soil borings CTM-3 and CTM-7 and included Benzo(a)anthracene, Chrysene and benzo(a)pyrene.

Benzo(a)anthracene (0.55 mg/kg), Chrysene (0.56 mg/kg) and Benzo(a) pyrene (0.41 mg/kg)were detected above their respective SCGs from soils sampled from 2 to 4 feet bgs at soil boring CTM-7 (Parcel 2). Benzo(a)pyrene (0.13 mg/kg) was also detected above its SCG from soil sampled from 2 to 4 feet bgs at soil boring CTM-3 (Parcel 1). The SCGs for the detected compounds are 0.224 mg/kg or MDL for Benzo(a)anthracene, 0.4 mg/kg for Chrysene and 0.061 mg/kg or MDL for Benzo(a)pyrene.

4.6.4 Metals in Subsurface Soils (Soil Borings)

Several metals were detected in the soil samples above the method and/or instrument detection limits. Of the metals detected, nine (9) were detected at concentrations exceeding their SCGs.

Arsenic was detected above its SCG of 7.5 mg/kg at 4 of 11 sampling locations. These were CTM-3 (23.4 mg/kg), CTM-6 (8.84 mg/kg), CTM-7 (14.4 mg/kg) and CTM-8 (16.9 mg/kg). CTM-3 is located on Parcel 1, CTM-7 and CTM-8 are located on Parcel 2 and CTM-6 is located on Parcel 3.

Beryllium was detected above its SCG of 0.16 mg/kg at all sampling locations with concentrations that ranged between 0.246 mg/kg at CTM-9 to 2.89 mg/kg at CTM-8.

TABLE 4.6-2: Soil Boring Sampling Depths, Media Sampled and Parameters Above SCGs

Boring/ MW ID #	Boring Depth	Soil Sample Depth	Material Sampled	Compounds and Analytes Detected Above SCGs
Borings Installed as Part of the RI (Analyzed for VOCs, SVOCs and Metals)				
CTM-1	29'	15 to 17'	Gray Silt, Some Sand	4 Metals
CTM-1S	17'	NS	NA	NA
CTM-2	40'	6 to 8'	Cinder and Slag	6 Metals
CTM-3	28'	2 to 4'	Cinder and Slag (fuel type odor)	1 SVOC & 9 Metals
CTM-5	30'	10 to 12'	Brown Silt, trace sand	4 Metals
CTM-6	30'	8 to 10'	Silt and sand	7 Metals
CTM-7	30'	2 to 4'	Brown Sand and gravel	3 SVOCs & 6 Metals
CTM-8	30'	4 to 6'	Slag becoming silt and clay (wet)	4 Metals
CTM-9	18'	4 to 8'	Brown sand and gravel (brick noted)	4 Metals
CTM-10	32'	2 to 4'	Slag and ash	7 Metals
CTM-11	26'	8 to 10'	Brown silt (stained & fuel type odor)	4 Metals
CTM-13	32'	14 to 16'	Bluish green slag	4 Metals
Borings Installed as Part of Supplemental Investigation of the IRM (Analyzed for VOCs and SVOCs)				
SB-100	32'	14' to 16'	Silt, trace clay and gravel	None
SB-101	32'	NS	NA	NA
SB-101S	17'	15' to 17'	Sand, gravel, slag, silt and clay	1 SVOC
SB-102	30'	16' to 18'	Silt, little sand and clay	1 SVOC
SB-103	26'	14-16' & 22-24'	Silt and sand/Sand and gravel	None
SB-104	15'	NS	NA	NA
SB-105	30'	26' to 28'	Sand and gravel, trace silt	None
SB-105S	19'	17' to 19'	Silt, little sand and clay, trace gravel	None
Borings Installed as Part of Supplemental Investigation of Parcel 2 (Analyzed for VOCs and SVOCs)				
SB-200	28'	20' to 24'	Sand and gravel, some silt	None
SB-201	28'	26' to 28'	Silt, sand and gravel	None
SB-202	28'	20' to 22'	Sand, gravel, silt and clay (petro odor)	None
CTM-203	32'	16' to 18'	Sand and gravel (petro odor)	None
SB-204	10'	NS	NA	NA
CTM-205	30'	26' to 28'	Sand, little silt	None
SB-206	28'	10' to 12'	Silt, some clay, trace gravel	None
SB-207	28'	NS	NA	NA
CTM-208	16'	6' to 8'	Silt, sand and gravel	None
SB-209	16'	6' to 8'	Silt and clay	None
CTM-210	28'	22' to 24'	Silt and sand	None
SB-211	4.5'	NS	NA	NA
SB-211 (1)	8'	NS	NA	NA
SB-211 (2)	6.3'	NS	NA	NA
CTM-212	22'	10' to 12'	Sand, trace gravel and red brick	None
CTM-213	22'	NS	NA	NA
CTM-214	20'	2' to 4'	Cinders and slag	None
CTM-215	27'	20' to 22'	Silt and clay	None
CTM-216	22'	18' to 20'	Silt and clay	None

NS denotes that a soil sample was not collected for laboratory analyses

NA denotes Not Applicable

Calcium was detected above its SCG range of 130-35,000 mg/kg at 4 of 11 sampling locations. These were CTM-3 (46,800 mg/kg), CTM-8 (114,000 mg/kg), CTM-10 (117,000 mg/kg) and CTM-13 (35,900 mg/kg). CTM-3, CTM-10 and CTM-13 are located on Parcel 1. CTM-8 is located on Parcel 2.

Copper was detected above its SCG of 25 mg/kg at 5 of 11 sampling locations. These were CTM-2 (25.9 mg/kg), CTM-3 (81.4 mg/kg), CTM-6 (32.1 mg/kg), CTM-7 (37.0 mg/kg) and CTM-10 (27.7 mg/kg). CTM-2, CTM-3 and CTM-10 are located on Parcel 1. CTM-7 is located on Parcel 2. CTM-6 is located on Parcel 3.

Iron was detected above its SCG of 2,000 mg/kg at all sampling locations with concentrations that ranged between 16,400 mg/kg at CTM-1 to 169,000 mg/kg at CTM-3.

Magnesium was detected above its SCG range of 100-5,000 mg/kg at 3 of 11 sampling locations. These were CTM-2 (5,560 mg/kg), CTM-3 (6,110 mg/kg) and CTM-10 (8,950 mg/kg). CTM-2, CTM-3 and CTM-10 are all located on Parcel 1.

Nickel was detected above its SCG of 13 mg/kg at 8 of 11 sampling locations. These were CTM-1 (14.9 mg/kg), CTM-2 (29.8 mg/kg), CTM-3 (15.3 mg/kg), CTM-5 (15.6 mg/kg), CTM-6 (21.7 mg/kg), CTM-7 (16.6 mg/kg), CTM-9 (14.0 mg/kg) and CTM-11 (15.3 mg/kg. CTM-1, CTM-2, CTM-3, CTM-5 and CTM-11 are located on Parcel 1. CTM-7 and CTM-9 are located on Parcel 2. CTM-6 is located on Parcel 3.

Selenium was detected above its SCG of 2 mg/kg at 3 of 11 sampling locations. These were CTM-3 (4.25 mg/kg), CTM-6 (2.26 mg/kg) and CTM-10 (3.42 mg/kg). Selenium was also detected above its SCG in both QA/QC Equipment Blanks (see Table 4.6). CTM-3 and CTM-10 are located on Parcel 1. CTM-6 is located on Parcel 3.

Zinc was detected above its SCG of 20 mg/kg at 10 of 11 sampling locations. These were CTM-1 (48.9 mg/kg), CTM-2 (77.0 mg/kg), CTM-3 (245 mg/kg), CTM-5 (58.6 mg/kg), CTM-6 (81.6 mg/kg), CTM-7 (36.4 mg/kg), CTM-9 (50.7 mg/kg), CTM-10 (74.6 mg/kg), CTM-11 (55.0 mg/kg) and CTM-13 (24.3 mg/kg). CTM-1, CTM-2, CTM-3, CTM-5, CTM-10, CTM-11 and CTM-13 are located on Parcel 1. CTM-7 and CTM-9 are located on Parcel 2. CTM-6 is located on Parcel 3.

4.6.5 Subjective Observations and Analyses

The following pertinent subjective observations and analyses were made during the course of the advancement of the soil borings.

- **Soil Boring CTM-1:** PID readings ranging from 24 to 144 ppm were obtained from soils collected from 15’ to 22’ bgs within the IRM backfilled excavation. The soils emitted a paint type odor and saturated soils exhibited sheens. A soil sample from 15’ to 17’ bgs in this boring was submitted to the laboratory of record for analyses of TCL volatile and semi-volatile organics and TAL Metals. Analytical results showed 4 metals at concentrations exceeding SCGs (see Tables 4.6 and 4.6-2).

- **Soil Boring CTM-1S:** PID readings ranging from 2.4 to 380 ppm were obtained from soils collected from 10 to 17’ bgs within the IRM backfilled excavation. The soils emitted a paint type odor. Soil samples were not collected for analysis from this boring as the purpose of the boring was to install a groundwater monitoring well. See section 4.7 for analytical results of sampled groundwater from this well.

- **Soil Boring CTM-3:** A PID reading of 11.2 ppm was obtained from fill (cinder and slag) emitting a sulfur and fuel oil type odor at 2’ to 4’ bgs. The impacted fill was sampled and analyzed for TCL volatile and semi-volatile organics and TAL Metals. Analytical results depict one (1) SVOC and 9 metals at concentrations exceeding SCGs (see Tables 4.6 and 4.6-2).

- **Soil Boring CTM-9:** A PID reading of 2.2 ppm was obtained from wet soils that emitted a slight fuel odor at the 14 to 16’ bgs sampling interval. Due to the low PID readings, a sample was not submitted to the laboratory of record for analyses. Groundwater sampled from this well (see Section 4.7) showed the metals Iron, Manganese and Sodium at concentrations exceeding their respective SCGs.

- **Soil Boring CTM-11:** Heavily stained soils emitting a fuel type odor were observed in soils sampled from 8 to 26’ bgs. The soils displayed PID readings that ranged from 14.5 to 102 ppm. A representative soil sample from 8’ to 10’ bgs was submitted to the laboratory for analyses for TCL volatile and semi-volatile organics and TAL Metals. Analytical results depict four (4) metals at concentrations exceeding SCGs (see Tables 4.6 and 4.6-2).

- **Soil Boring CTM-13:** Soil samples collected from 14 to 26’ bgs were heavily stained and emitted fuel oil type odors. PID readings ranged from 14.5 to 102 ppm. A representative sample from 14’ to 16’ bgs was submitted to the laboratory of record for analyses for TCL volatile and semi-volatile organics and TAL Metals. Analytical results depict four (4) metals at concentrations exceeding SCGs (see Tables 4.6 and 4.6-2).

4.7 Groundwater

4.7.1 General

Twelve (12) groundwater monitoring wells (denoted as CTM-1, CTM-1S, CTM-2, CTM-3, CTM-5 to CTM-11 and CTM-13) were installed as part of the RI. Groundwater samples were collected from each newly installed well and from two existing wells (MW-3 (ESI) and MW-8 (ESI)) installed by others as part of historic investigations of the site. The groundwater samples were analyzed for TCL volatile and semi-volatile organics and TAL metals. Analytical results were compared to site specific SCGs which consist of NYSDEC Groundwater Standards and Guidance Values. Analytical results exceeding SCGs are presented in Table 4.7. Full analytical summary results are presented in Table 4.7-1 in the Tables section of the report.

4.7.2 Volatile Organic Compounds in Groundwater

A total of nine (9) VOCs were detected in groundwater and were confined to groundwater sampled from monitoring wells CTM-1, CTM-1S and MW-3 (ESI). CTM-1 and CTM-1S are located in the IRM backfilled excavation on northeastern portions of Parcel 1. MW-3 (ESI) is located on Parcel 2. It should be noted that one VOC (methylene chloride) was detected above its SCG in the QA/QC Equipment Blank only.

Benzene (17 ug/l), Ethyl Benzene (39 ug/l), o-Xylene (22 ug/l) and Isopropylbenzene (6.9 ug/l) were detected above SCGs in groundwater sampled from monitoring well CTM-1.

TABLE 4.7: Groundwater Analytical Results Above SCGs
VOCs, SVOCs and Metals
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	NYSDEC Groundwater Standard $^{(1)}$ ug/l	CTM-1 ug/l		CTM-1S ug/l		CTM-3 ug/l		CTM-5 ug/l		CTM-6 ug/l		CTM-7 ug/l		CTM-8 ug/l	
		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's															
Acetone	50 (GV)	3.3	U	**66**		3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
Methyl tert-butyl Ether	10	0.36	U	**27**		0.36	U	0.36	U	0.36	U	0.36	U	0.36	U
Benzene	1	**17**	J	**9.9**		0.24	U	0.24	U	0.24	U	0.24	U	0.24	U
Toluene	5	1.6	J	**110**		0.39	U	0.39	U	0.39	U	0.39	U	0.39	U
Ethyl Benzene	5	**39**		**110**		0.41	U	0.41	U	0.41	U	0.41	U	0.41	U
m/p-Xylenes	5	1.9	J	**250**		0.96	U	0.96	U	0.96	U	0.96	U	0.96	U
o-Xylene	5	**22**		**180**		0.37	U	0.37	U	0.37	U	0.37	U	0.37	U
Styrene	5	0.34	U	**22**		0.34	U	0.34	U	0.34	U	0.34	U	0.34	U
Isopropylbenzene	5	**6.9**		**38**		0.33	U	0.33	U	0.33	U	0.33	U	0.33	U
SVOC's															
Naphthalene	10(GV)	6.5	U	**83**		0.270	U	0.270	U	0.270	U	0.270	U	0.270	U
Metals															
Iron	300	**3690**		**412**		**2230**		**477**		**1480**		**461**		86.1	J
Manganese	300	**2990**		**1680**		**303**		**478**		**2560**		**6870**		**6680**	
Selenium	10	5.2	U	5.240	U	**10.8**		5.900	J	5.240	U	5.240	U	5.240	U
Sodium	20,000	16800		14500		10200		**42900**		**21200**		**22400**		**27300**	

COMPOUND	NYSDEC Groundwater Standard $^{(1)}$ ug/l	CTM-9 ug/l		CTM-10 ug/l		CTM-11 ug/l		CTM-13 ug/l		MW-3(ESI) ug/l		MW-8(ESI) ug/l		EQIUP. BLANK ug/l	
		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's															
Methylene Chloride	5	0.62	U	0.62	U	0.62	U	0.62	U	0.62	U	0.62	U	**5.9**	
Benzene	1	0.24	U	0.24	U	0.24	U	0.24	U	**2.0**	J	0.24	U	0.24	U
Isopropylbenzene	5	0.33	U	0.33	U	0.33	U	0.33	U	**6.6**		0.33	U	0.33	U
Metals															
Cobalt	5	2.380	U	2.380	U	**5.4**	J	2.380	U	2.4	U	2.380	U	2.4	U
Iron	300	**2050**		80.5	J	**1530**		62.4	J	**21700**		**444**		38.4	J
Manganese	300	**734**		20.3		**3670**		9.820	J	**1200**		15.8		1.3	J
Selenium	10	5.240	U	5.240	U	**13.9**	J	**10.8**		5.2	U	5.240	U	5.2	U
Sodium	20,000	**151000**	J	**26900**	J	8300	J	**25600**	J	**39200**	J	8640	J	189	U

$^{(1)}$ TOGS 1.1.1, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, New York State Department of Environmental Conservation, June 1998 and Addendum, April 2000.

Concentrations expressed in ug/l (micrograms per liter) or parts per billion (ppb)

Qualifiers

U - The compound was not detected at the indicated concentration.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero.
The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

GV - denotes Guidance Value

(ESI) Monitoring Well previously installed by Empire Soils Investigations

NA - Not Applicable

Acetone (66 ug/l), Methyl tert-butyl ether (27 ug/l), Benzene (9.9 ug/l), Toluene (110 ug/l), Ethyl benzene (110 ug/l), m/p Xylenes (250 ug/l), o-Xylene (180 ug/l), Styrene (22 ug/l) and Isopropylbenzene (38 ug/l) were detected above their SCGs in groundwater sampled from monitoring well CTM-1S.

Benzene (2.0 ug/l) and Isopropylbenzene (6.6 ug/l) were detected above their SCGs in groundwater sampled from monitoring well MW-3 (ESI).

The VOC detections at CTM-1 and CTM-1S are associated with contaminant sources removed during the course of the IRM for Parcel 1. The VOC detections at MW-3 (ESI) and subsurface conditions encountered in Test Pit #1 led to supplemental subsurface investigations on Parcel 2 which are further discussed in Section 4.9.

4.7.3 Semi-volatile Organic Compounds in Groundwater

Naphthalene was the only SVOC detected above its SCG of 10 ug/l. Naphthalene was detected in groundwater sampled from monitoring well CTM-1S at a concentration of 83 ug/l.

4.7.4 Metals in Groundwater

Five (5) metals were detected in groundwater above their respective SCGs. These included Cobalt, Iron, Manganese, Selenium and Sodium.

Cobalt was detected above its SCG (5 ug/l) from groundwater sampled from monitoring well CTM-11 (5.4 ug/l) only.

Iron was detected above its SCG (300 ug/l) at 10 locations. These included CTM-1 (3,690 ug/l), CTM-1S (412 ug/l), CTM-3 (2,230 ug/l), CTM-5 (477 ug/l), CTM-6 (1,480 ug/l), CTM-7 (461 ug/l), CTM-9 (2,050 ug/l), CTM-11 (1,530 ug/l), MW-3 (ESI) (21,700 ug/l) and MW-8 (ESI) (444 ug/l).

Manganese was detected above its SCG (300 ug/l) at 10 locations. These included CTM-1 (2,990 ug/l), CTM-1S (1,680 ug/l), CTM-3 (303 ug/l), CTM-5 (478 ug/l), CTM-6 (2,560 ug/l), CTM-7 (6,870 ug/l), CTM-8 (6,680 ug/l), CTM-9 (734 ug/l), CTM-11 (3,670 ug/l) and MW-3 (ESI) (1,200 ug/l).

Selenium was detected above its SCG (10 ug/l) at 3 locations. These included CTM-3 (10.8 ug/l), CTM-11 (13.9 ug/l) and CTM-13 (10.8 ug/l).

Sodium was detected above its SCG (20,000 ug/l) at 8 locations. These included CTM-5 (42,900 ug/l), CTM-6 (21,200 ug/l), CTM-7 (22,400 ug/l), CTM-8 (27,300 ug/l), CTM-9 (151,000 ug/l), CTM-10 (26,900 ug/l), CTM-13 (25,600 ug/l) and MW-3 (ESI) 39,200 ug/l).

4.8 Supplemental Investigations of the IRM

4.8.1 General

As discussed in Section 2.1.15, an IRM was conducted in the northeastern portion of Parcel 1 to address the discovery of buried drums and an underground storage tank. Upon excavation and disposal of the vessels and their contents, adjacent subsurface soils were examined for the presence of contaminants employing PID headspace analysis and organoleptic (sight and smell) perception. Due to the anticipated volume of impacted soils uncovered employing the above methods, it was decided that the excavation would be backfilled with the impacted soils and that a layer of polyethylene would be installed at the bottom of the excavation to separate impacted soils from non-impacted soils until an remedial strategies were developed and evaluated for the situation.

Further investigation of the IRM included installation of two monitoring wells in the backfilled excavation during the RI phase of the investigation and installation of eight (8) soil borings and six (6) monitoring wells to better define the extent of contamination in the IRM Supplemental Investigation. Additionally, as part of the supplemental investigation, monitoring wells CTM-1 and CTM-1S were re-sampled to determine the severity of impacts to groundwater.

The sampled soils and groundwater were analyzed in the laboratory for TCL volatile and semi-volatile organics. The subsurface soils analytical results were compared to NYSDEC soil cleanup guidelines and groundwater results were compared to NYSDEC Groundwater Standards.

4.8.2 Subsurface Soils

Seven (7) subsurface soil samples were collected from the eight (8) borings for laboratory analyses. A soil sample was not collected for analyses from soil boring SB-104 because a soil sample was collected from SB-103, which was located adjacent to SB-104. The samples were collected from soil borings SB-100 (14-16'), SB-101S (15-17'), SB-102 (16-18'), SB-103 (14-16'), SB-103 (22-24'), SB-105 (17-19') and SB-105S (17-19'). The boring locations are depicted on the IRM Supplemental Investigation Sampling Locations Map in Figure 5.

Results of the sampling event shows a total of seven (7) VOCs and 11 SVOCs detected at concentrations above the laboratory detection limit. Of the detected VOC and SVOC compounds, only one (1) SVOC was detected at a concentration exceeding its SCG. Benzo(a)pyrene was detected in soils sampled from SB-101 (0.12 mg/kg) and SB-102 (0.16 mg/kg). The SCG for benzo(a)pyrene is 0.061. The full analytical results are presented in Table 4.8.2 (Soil Boring Analytical Results Summary-IRM Investigation) located in the Tables section of the report.

4.8.3 Groundwater

Groundwater samples were collected from monitoring wells CTM-100, CTM-101, CTM-105 and CTM-1. Groundwater from monitoring well CTM-1 was not sampled in conjunction with the sampling of the other wells, but was sampled at a later date when wells installed as part of the Parcel 2 Supplemental Investigation were sampled. Monitoring wells CTM-101S, CTM-104 and CTM-105S were not sampled as these wells were dry during the sampling event. The monitoring well locations are depicted in Figure 5.

Results of the sampling show a total of four (4) VOCs and three (3) SVOCs detected at concentrations above the laboratory detection limit. Of the detected compounds, Benzene was the only compound detected slightly above its SCG of 1 ug/l in monitoring wells CTM-101 (4.0 ug/l), CTM-105 (3.4 ug/l) and CTM-1 (1.7 ug/l). Groundwater analytical results above SCGs are presented in Table 4.8.3. The full set of groundwater analytical results summaries are presented in Table 4.8.3-1 within the Tables section of this report.

TABLE 4.8.3: Groundwater Analytical Results Above SCGs
IRM Investigation
VOCs and SVOCs
(Validated Data)
South Troy Industrial Park
C. T. Male Project No. 04.9138

COMPOUND	NYSDEC Groundwater Standard (1) ug/l	CTM-100 ug/L		CTM-101 ug/L		CTM-105 ug/L		FD (CTM-105) ug/L		CTM-1 ug/L		EQUIPMENT BLANK ug/L		FIELD BLANK ug/L	
		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs															
Benzene	1	0.39	U	**4.0**	J	**3.4**	J	0.39	U	**1.7**	J	0.39	U	0.39	U

(1) TOGS 1.1.1, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, New York State Department of Environmental Conservation, June 1998 and Addendum, April 2000.

Concentrations expressed in ug/l (micrograms per liter) or parts per billion (ppb)

Qualifiers

U - The compound was not detected at the indicated concentration.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

GV - denotes Guidance Value

(ESI) Monitoring Well previously installed by Empire Soils Investigations

NA - Not Applicable

NS - Not Sampled

4.8.4 Subjective Observations and Analyses

There was no evidence of subjective impacts to subsurface soils employing PID headspace analyses and organoleptic perception during the course of the installation of the soil borings in the IRM area.

4.9 Supplemental Investigation of Parcel 2

4.9.1 General

A total of 19 soil borings (10 of which were converted to monitoring wells) were advanced on Parcel 2 for the collection of soil and groundwater samples to aid in the delineation of contaminants beneath the Parcel and to determine a contaminant source.

The sampled soils and groundwater were analyzed in the laboratory for TCL volatile and semi-volatile organics. Subsurface soil results were compared to SCGs and groundwater results were compared to NYSDEC Groundwater Standards.

4.9.2 Subsurface Soils

Thirteen (13) subsurface soil samples were collected for laboratory analyses from the soil borings. The samples were collected from soil borings SB/CTM-200 (20-24'), SB-201 (26-28'), SB-202 (20-22'), SB/CTM-203 (16-18'), SB/CTM-205 (26-28'), SB-206 (10-12'), SB/CTM-208 (6-8'), SB-209 (6-8'), SB/CTM-210 (22-24'), CTM-212 (10-12'), CTM-214 (2-4'), CTM-215 (20-22') and CTM-216 (18-20'). The boring locations are depicted on Figure 6.

Results of the sampling event show a total of 11 VOCs and 12 SVOCs detected at concentrations above the laboratory detection limit. Of the detected compounds, none were at concentrations exceeding their respective SCGs. Analytical results are presented in Table 4.9.2.

4.9.3 Groundwater

Nine groundwater samples were collected from the newly installed wells and from monitoring wells installed as part of the RI of the site. Samples were collected from newly installed monitoring wells CTM-203, CTM-208, CTM-212, CTM-213, CTM-214, CTM-215 and CTM-216 and from existing monitoring wells CTM-8 and CTM-9. The monitoring well locations are depicted on Figure 6.

Results of the sampling show a total of 11 VOCs and six (6) SVOCs at concentrations above the laboratory detection limits. Of the detected compounds, three (3) VOCs were detected at concentrations above SCGs. These included Methylene chloride at CTM-208 (18 ug/l vs. SCG of 5 ug/l); Benzene at CTM-214 (23 ug/l vs. SCG of 1 ug/l); and Ethyl benzene at CTM-208 (15 ug/l vs. SCG of 5 ug/l).

Groundwater analytical results above SCGs are presented in Table 4.9.3. Groundwater analytical summary results are presented in Table 4.9.3-1 located in the Tables section of this report.

4.9.4 Subjective Observations and Analyses

The following subjective observations and analyses were made during the course of the advancement of soil borings for the supplemental investigation of Parcel 2.

- **Soil Boring CTM-200:** Stained soils with a petroleum type odor were observed at 14 to 28’ bgs. PID readings ranged from 1.9 to 23.1 ppm. A soil sample was collected from the 20 to 24 foot interval for laboratory analyses for VOCs and SVOCs. Analytical results did not show any of the analyzed compounds at concentrations exceeding SCGs.

- **Soil Boring CTM-202:** Stained soils with a petroleum type odor were observed at 20.9 to 21.1’ bgs. The soils emitted a PID reading of 5.5 ppm. A soil sample was collected from the 20 to 22 foot interval for laboratory analyses for VOCs and SVOCs. Analytical results did not show any of the analyzed compounds at concentrations exceeding SCGs.

- **Soil Boring CTM-203:** Stained soils with a slight petroleum type odor were observed at 14 to 18’ bgs. PID readings ranged from 4.2 to 5.8 ppm. A soil sample was collected from the 16 to 18 foot interval for laboratory analyses for VOCs and SVOCs. Analytical results did not show any of the analyzed compounds at concentrations exceeding SCGs.

TABLE 4.9.3: Groundwater Analytical Results Above SCGs
Parcel 2 Supplemental Investigation
VOCs and SVOCs
(Validated Data)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	NYSDEC Groundwater Standard (1) ug/l	CTM-208 ug/L		CTM-214 ug/L		FD (CTM-214) ug/L	
		Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs							
Methylene Chloride	5	**18**		0.43	U	0.43	U
Benzene	1	0.39	U	**23**		**20**	
Toluene	5	0.36	U	1.2	J	0.98	J
Ethyl Benzene	5	0.45	U	**15**		**12**	

(1) TOGS 1.1.1, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations,

New York State Department of Environmental Conservation, June 1998 and Addendum, April 2000.

Concentrations expressed in ug/l (micrograms per liter) or parts per billion (ppb)

Qualifiers

U - The compound was not detected at the indicated concentration.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

GV - denotes Guidance Value

(ESI) Monitoring Well previously installed by Empire Soils Investigations

NA - Not Applicable

NS - Not Sampled

- **Soil Boring CTM-206:** PID readings of 17.9 ppm and 12.7 ppm were obtained from soils sampled from 6-8’ bgs and 10-12’ bgs, respectively. Soils did not display evidence of staining or emit any peculiar odors. A soil sample was collected from the 10 to 12 foot interval for laboratory analyses for VOCs and SVOCs. Analytical results did not show any of the analyzed compounds at concentrations exceeding SCGs.

- **Soil Boring SB-211:** Stained soils with a petroleum type odor were observed from soils collected at 3.6’ bgs. The impacted soils appeared to lie atop a buried concrete slab. A soil sample was not collected for laboratory analyses.

- **Soil Boring CTM-212:** Stained wet soils with a petroleum type odor were observed at 15 to 17’ bgs. Soils sampled from 10 to 20’ bgs displayed PID readings that ranged from 11.5 to 28.1 ppm. A soil sample was collected from the 10 to 12 foot interval for laboratory analyses for VOCs and SVOCs. Analytical results did not show any of the analyzed compounds at concentrations exceeding SCGs.

- **Soil Boring CTM-214:** Soils sampled at two foot intervals to a depth of 20 feet bgs exhibited PID readings that ranged from 5.6 to 109.3 ppm. A soil sample was collected from the 2 to 4 foot interval for laboratory analyses for VOCs and SVOCs. Analytical results did not show any of the analyzed compounds at concentrations exceeding SCGs.

- **Soil Boring CTM-215:** Damp soils sampled at 15 to 17’ bgs and 18 to 20’ bgs exhibited a mild petroleum type odor and displayed PID readings of 4.9 ppm and 0.7 ppm, respectively. A soil sample was collected from the 20 to 22 foot interval for laboratory analyses for VOCs and SVOCs. Analytical results did not show any of the analyzed compounds at concentrations exceeding SCGs.

4.10 Ground Penetrating Radar (GPR) Survey

The GPR survey consisted of utilizing a Subsurface Interface Radar (SIR-300) to traverse the surface area of Parcel 2 in an attempt to located buried structures. The SIR-300 was set to detect subsurface anomalies to a depth of 10 feet below the ground surface (bgs). The parcel was traversed with the SIR-300 employing a grid pattern with five to ten foot spacing intervals, which is sufficient to detect all large capacity underground storage tanks (USTs) of 500 gallons or greater.

Results of the GPR survey did not identify the presence of subsurface anomalies.

4.11 Fish and Wildlife Impact Analysis (FWIA)

C.T. Male completed a Fish and Wildlife Impact Analysis (FWIA) (dated August 10, 2004) pursuant to the October 1994 NYSDEC FWIA for Inactive Hazardous Waste Sites (see Exhibit 4).

The FWIA report concluded that no further steps need to be taken in the Fish and Wildlife Impact Analysis. The FWIA is presented as Exhibit 4.

4.12 Summary of Extent of Contamination

4.12.1 General Overview

This section summarizes compounds and analytes that were detected at concentrations exceeding SCGs per environmental media type (i.e., surface soils, subsurface soils and groundwater) and includes media that was sampled as part of the RI and subsequent supplemental investigations. A summary discussion is provided relative to the IRM.

4.12.2 IRM

As discussed in the report, the IRM involved the excavation and disposal of buried liquid containing vessels from the northeastern portion of Parcel 1. Soils which were impacted by the IRM were left in place and were not transported off-site for disposal. Rather, soil borings and monitoring wells were installed within and around the IRM excavation to aid in the collection of soil and groundwater samples to aid in determining the severity and extent of contamination.

4.12.3 Background Surface Soils

Three surface soil samples were collected from off-site locations to evaluate background levels for reference purposes only.

4.12.4 Surface Soils

Twenty-one (21) surface soil samples were collected from the project site for analyses for TCL SVOCs and metals. Analytical results were compared to SCGs. Six (6) SVOCs and 14 metals were detected at concentrations exceeding SCGs.

Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene and Dibenz(a,h)anthracene were detected above SCGs at different frequencies at nine (9) sampling locations on Parcel 1, four (4) sampling locations on Parcel 2, and the only sampling location on Parcel 3.

Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Magnesium, Manganese, Mercury, Nickel, Selenium and Zinc were detected above SCGs at different frequencies at all of the sampling locations and included the detection of 14 metals on Parcel 1, nine (9) metals on Parcel 2 and five (5) metals on Parcel 3.

Based on the foregoing, it appears that SVOCs and metals are present at concentrations exceeding SCGs in surface soils on each parcel of the site.

4.12.5 Subsurface Soils (Test Trenches and Test Pits)

Forty-seven subsurface soil samples were collected and analyzed for TCL VOCs and SVOCs and TAL metals from seven (7) test trenches located on Parcel 1 (39 samples collected) and four (4) test pits located on Parcel 2 (8 samples collected) of the project site. Trenches and test pits were not advanced on Parcel 3. Analytical results were compared to SCGs. One (1) VOC, five (5) SVOCs and 13 metals were detected at concentrations exceeding SCGs.

Acetone was the only VOC detected at a concentration slightly above its SCG in native soils sampled from Test Trench #2, located on Parcel 1. Although acetone is a common laboratory contaminant, it was not detected above SCGs in the QA/QC equipment blank and the result was not qualified in the DUSR.

Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(a)pyrene and Dibenz(a,h)anthracene were detected at concentrations slightly above SCGs at various sampling locations in all of the Test Trenches on Parcel 1 and Test Pit #1 (Parcel 2). SVOCs were not detected above SCGs from samples collected from Test Pit #'s 2 through 4, which are located on Parcel 2 of the site. The SVOCs were detected in both native soils and overlying fill material.

The metals of Aluminum, Arsenic, Barium, Beryllium, Calcium, Chromium, Copper, Iron, Magnesium, Manganese Mercury, Nickel, Selenium, Sodium and Zinc were detected at varying frequencies at concentrations exceeding SCGs at various sampling locations in all of the test trenches and test pits. The metals were detected in both native soils and overlying fill material.

Based on the foregoing, it appears that SVOCs and metals exceeding SCGs are present in subsurface native soils and fill material across Parcels 1 and 2 of the project site.

4.12.6 Subsurface Soils (Soil Borings)

Thirty-one (31) subsurface soil samples were collected from a total of 38 soil borings advanced across the site as part of the RI and supplemental investigations of the IRM and Parcel 2. The type of media (native soils and / or fill material) that was sampled for analyses from all of the borings is presented in Table 4.6-2. To summarize, samples of native soils beneath Parcel 1 were collected for analyses from soil borings CTM-1, CTM-5, and CTM-11 as part of the RI of the Parcel and from all of the borings advanced as part of the supplemental investigation of the IRM. Samples collected from the remaining borings on Parcel 1 (CTM-2, CTM-3, CTM-10 and CTM-13) consisted of fill material that was primarily composed of cinder and slag. Soil samples collected from beneath Parcel 2 as part of the RI and supplemental investigations consisted primarily of native soils (sand, gravel, silt and clay) with the exception of two samples of fill material (cinders and slag) collected from soil borings CTM-8 and CTM-214. The sample collected from soil boring CTM-6 on Parcel 3 consisted of native soils (silt and sand).

Subsurface soil samples collected as part of the RI (i.e., CTM-1, CTM-2, etc.) were analyzed for TCL VOCs and SVOCs and TAL Metals. Samples collected as part of the supplemental investigations (i.e., CTM-100 and CTM-200 series) were analyzed for TCL VOCs and SVOCs, only. Analytical results were compared to site specific SCGs. Three (3) SVOCs and nine (9) metals were detected above SCGs. VOCs were not detected above SCGs.

Benzo(a)anthracene, Chrysene and benzo(a)pyrene were detected at different frequencies at concentrations slightly above SCGs at CTM-3 (Parcel 1)and CTM-7 (Parcel 2), only. The sample submitted for analyses from CTM-3 consisted of fill material (cinders and slag) while the sample submitted from CTM-7 consisted of sand and gravel, but was collected at a depth of only 2' to 4' bgs, and may be indicative of fill material.

Arsenic, Beryllium, Calcium, Copper, Iron, Magnesium, Nickel, Selenium and Zinc were detected at different frequencies above SCGs at all RI sampling locations. Beryllium and iron were detected above SCGs at all sampling locations. Zinc was detected at 10 of 11 sampling locations on all Parcels. Nickel was detected at 8 of 11 sampling locations on all Parcels. Copper was detected at 5 of 11 sampling locations on all Parcels. Arsenic and calcium were each detected at 4 of 11 sampling locations on Parcels 1 and 2 only. Magnesium was detected at 3 of 11 sampling locations on Parcel 1 only.

From the foregoing, the following conclusions can be made:

- SVOCs were detected above SCGs in native soils (perhaps fill) and fill material at only two boring locations (see Table 4.6-2), although SVOCs were also detected above SCGs at several locations within native soils and fill material from the test trench and test pit sampling activities (see Table 4.5-2), thus indicating the presence of SVOCs in both native soils and fill materials throughout the project site.

- Metals were detected in samples from several borings across the site, and were present at differing frequencies at concentrations exceeding SCGs in native soils and fill material (see Table 4.6-2). Metals were also detected at concentrations exceeding SCGs in soils and fill material sampled during the advancement of the test trenches and test pits (see Table 4.5-2).

4.12.7 Groundwater

Twenty-six (26) groundwater samples were collected from monitoring wells installed as part of the RI and supplemental investigations of the site and from existing wells installed by others as part of historical investigations of the site. Groundwater sampled as part of the RI was analyzed for TCL VOCs and SVOCs and TAL Metals.

Groundwater sampled as part of the supplemental investigations was analyzed for TCL VOCs and SVOCs, only. Analytical results were compared to site specific SCGs. Results of the groundwater sampling events show 10 VOCs, one (1) SVOC and five (5) metals at concentrations above SCGs.

VOCs detected above SCGs included Acetone, Methylene chloride, Methyl tert-butyl ether (MTBE), Benzene, Toluene, Ethyl Benzene, m/p Xylenes, o-Xylene, Styrene and Isopropylbenzene. Ten (10) of the 10 VOCs were detected in groundwater at monitoring well CTM-1S, which is screened in the shallow aquifer of the backfilled IRM excavation area of Parcel 1. Four (4) of the 10 VOCs were detected in groundwater at monitoring well CTM-1, which is located in the deep aquifer of the IRM excavation area. Two (2) of the 10 VOCs were detected in groundwater at monitoring well CTM-214, which is a shallow well located in the western portion of Parcel 2, and monitoring well MW-3 (ESI), which is a deep well located in the central portion of Parcel 2 that has since been abandoned. One (1) VOC each was detected in groundwater at monitoring wells CTM-101 (benzene), CTM-105 (benzene) and CTM-208 (methylene chloride). Monitoring wells CTM-101 and CTM-105 were each installed immediately down gradient of the IRM excavation and are deep wells. Monitoring well CTM-208 is a shallow well located on northern portions of Parcel 2. No VOCs were detected in groundwater sampled from monitoring well CTM-6 on Parcel 3.

Naphthalene (SVOC) was detected above its SCG in groundwater at monitoring well CTM-1S, which is a shallow well located in the IRM excavation area of Parcel 1. SVOCs were not detected above SCGs in groundwater from monitoring wells which were sampled on Parcels 2 and 3.

Metals detected above SCGs included Cobalt, Iron, Manganese, Selenium and Sodium. The metals were detected at different frequencies in all monitoring wells sampled as part of the RI, including existing monitoring wells MW-3 (ESI) and MW-8 (ESI).

Based on the foregoing, VOC detections are limited to groundwater that was sampled from both shallow and deep monitoring wells in and near the IRM area of Parcel 1, and at three (3) locations on Parcel 2. Metals were detected at varying frequencies in all RI wells and select existing wells on all three Parcels. As such, it can be concluded that metals are present in groundwater throughout the project site at concentrations exceeding SCGs and that VOCs are present above SCGs in groundwater in the immediate vicinity of the IRM excavation and at select locations on Parcel 2.

5.0 CONTAMINANT FATE AND TRANSPORT

5.1 General Overview

The site related contaminants include VOCs and SVOCs that are associated with petroleum based fuels or solvents, and metals. Compounds detected in surface and subsurface soils and groundwater are presented in Table 5.1-1. Chemical compounds and analytes which were detected at concentrations below SCGs are not included in the table.

The fate and transport of the contaminants are based on the physical and chemical properties of the compounds and the site characteristics. This section defines and discusses the general characteristics of the contaminants which affect the fate and transport, the specific characteristics of the contaminants identified at the site, the site conditions which impact fate and transport, the transport off-site of the contaminants in the groundwater and soil vapor, and the fate of the contaminants in terms of transformation and degradation.

5.2 Definition of Relevant Properties

Due to their similar composition, the site contaminants have some general characteristics and behavior in common. Characteristics which affect fate and transport include density, organic carbon/water partition coefficient, solubility in water, volatility, and degradability.

Table 5.2 presents various properties of the known and potential contaminants of concern. The specific gravity of a contaminant describes the weight of the contaminant relative to water, where one is the weight of water. The volatile organic compounds typically have a specific gravity value less than 1, while semi-volatile compounds and metals generally have specific gravity value greater than 1. Therefore, separate phase volatile organic compounds would have a tendency to float within the upper portions of the aquifer whereas the semi-volatile organic compounds and metals would tend to migrate vertically downward. At the subject site, the depth to shallow groundwater ranged from approximately 6 to 20 feet below grade while the depth to deep groundwater ranged from approximately 22 to 35 feet bgs. However, none of the

TABLE 5.1-1: Contaminants of Concern
South Troy Industrial Park
C.T. Male Project No. 04.9138

Media	Class	Contaminant of Concern	Frequency of Exceeding SCGs (Project Site)	Frequency of Exceeding SCGs (Parcel 1)	Frequency of Exceeding SCGs (Parcel 2)	Frequency of Exceeding SCGs (Parcel 3)
Surface Soils (mg/kg)	SVOCs	Benzo(a)anthracene	9 of 21	6 of 16	3 of 4	1 of 1
		Chrysene	11 of 21	7 of 16	3 of 4	1 of 1
		Benzo(b)fluoranthene	6 of 21	3 of 16	2 of 4	1 of 1
		Benzo(k)fluoranthene	6 of 21	3 of 16	3 of 4	0 of 1
		Benzo(a)pyrene	14 of 21	9 of 16	4 of 4	1 of 1
		Dibenz(a,h)anthracene	8 of 21	5 of 16	3 of 4	0 of 1
	Metals	Arsenic	17 of 21	12 of 16	4 of 4	1 of 1
		Barium	4 of 21	4 of 16	0 of 4	0 of 1
		Beryllium	21 of 21	16 of 16	4 of 4	1 of 1
		Cadmium	1 of 21	1 of 16	0 of 4	0 of 1
		Calcium	10 of 21	10 of 16	0 of 4	0 of 1
		Chromium	2 of 21	2 of 16	0 of 4	0 of 1
		Copper	14 of 21	11 of 16	2 of 4	1 of 1
		Iron	21 of 21	16 of 16	4 of 4	1 of 1
		Magnesium	13 of 21	12 of 16	1 of 4	0 of 1
		Manganese	1 of 21	1 of 16	0 of 4	0 of 1
		Mercury	6 of 21	3 of 16	2 of 4	0 of 1
		Nickel	14 of 21	11 of 16	3 of 4	0 of 1
		Selenium	14 of 21	13 of 16	1 of 4	0 of 1
		Zinc	21 of 21	16 of 16	4 of 4	1 of 1
Subsurface Soils (Trenches/Pits) (mg/kg)	VOCs	Acetone	1 of 47	1 of 39	0 of 8	NA
	SVOCs	Benzo(a)anthracene	14 of 47	13 of 39	1 of 8	NA
		Chrysene	7 of 47	6 of 39	1 of 8	NA
		Benzo(b)fluoranthene	2 of 47	1 of 39	1 of 8	NA
		Benzo(a)pyrene	20 of 47	19 of 39	1 of 8	NA
		Dibenz(a,h)anthracene	6 of 47	5 of 39	1 of 8	NA
	Metals	Aluminum	2 of 47	2 of 39	0 of 8	NA
		Arsenic	22 of 47	19 of 39	3 of 8	NA
		Barium	2 of 47	2 of 39	0 of 8	NA
		Beryllium	46 of 47	38 of 39	8 of 8	NA
		Calcium	11 of 47	11 of 39	0 of 8	NA
		Chromium	1 of 47	1 of 39	0 of 8	NA
		Copper	16 of 47	12 of 39	4 of 8	NA
		Iron	47 of 47	39 of 39	8 of 8	NA
		Magnesium	10 of 47	9 of 39	1 of 8	NA
		Manganese	3 of 47	3 of 39	0 of 8	NA

TABLE 5.1-1: Contaminants of Concern
South Troy Industrial Park
C.T. Male Project No. 04.9138

Media	Class	Contaminant of Concern	Frequency of Exceeding SCGs (Project Site)	Frequency of Exceeding SCGs (Parcel 1)	Frequency of Exceeding SCGs (Parcel 2)	Frequency of Exceeding SCGs (Parcel 3)
		Mercury	11 of 47	11 of 39	0 of 8	NA
Subsurface Soils (Trenches/Pits) (mg/kg)		Nickel	30 of 47	24 of 39	6 of 8	NA
		Selenium	21 of 47	18 of 39	3 of 8	NA
		Sodium	2 of 47	2 of 39	0 of 8	NA
		Zinc	45 of 47	38 of 39	7 of 8	NA
Subsurface Soils (Soil Borings) (mg/kg)	SVOCs	Benzo(a)anthracene	1 of 31	0 of 14	1 of 16	0 of 1
		Chrysene	1 of 31	0 of 14	1 of 16	0 of 1
		Benzo(a)pyrene	4 of 31	3 of 14	1 of 16	0 of 1
	Metals	Arsenic	4 of 11	1 of 7	2 of 3	1 of 1
		Beryllium	11 of 11	7 of 7	3 of 3	1 of 1
		Calcium	4 of 11	3 of 7	1 of 3	0 of 1
		Copper	5 of 11	3 of 7	1 of 3	1 of 1
		Iron	11 of 11	7 of 7	3 of 3	1 of 1
		Magnesium	3 of 11	3 of 7	0 of 3	0 of 1
		Nickel	8 of 11	5 of 7	2 of 3	1 of 1
		Selenium	3 of 11	2 of 7	0 of 3	1 of 1
		Zinc	10 of 11	7 of 7	2 of 3	1 of 1
Groundwater (ug/l)	VOCs	Acetone	1 of 26	1 of 12	0 of 13	0 of 1
		Methylene Chloride	1 of 26	0 of 12	1 of 13	0 of 1
		MTBE	1 of 26	1 of 12	0 of 13	0 of 1
		Benzene	5 of 26	4 of 12	1 of 13	0 of 1
		Toluene	1 of 26	1 of 12	0 of 13	0 of 1
		Ethyl Benzene	3 of 26	2 of 12	1 of 13	0 of 1
		m/p Xylenes	1 of 26	1 of 12	0 of 13	0 of 1
		o-Xylene	2 of 26	2 of 12	0 of 13	0 of 1
		Styrene	1 of 26	1 of 12	0 of 13	0 of 1
		Isopropylbenzene	2 of 26	2 of 12	0 of 13	0 of 1
	SVOCs	Naphthalene	1 of 26	1 of 12	0 of 13	0 of 1
	Metals	Cobalt	1 of 13	1 of 8	0 of 4	0 of 1
		Iron	10 of 13	6 of 8	3 of 4	1 of 1
		Manganese	10 of 13	5 of 8	4 of 4	1 of 1
		Selenium	3 of 13	3 of 8	0 of 4	0 of 1
		Sodium	8 of 13	3 of 8	4 of 4	1 of 1

contaminants found at the site are present at levels that would suggest a separate phase.

TABLE 5.2: Physical and Chemical Properties of Site Contaminants

Compound	Density	Kow(1)	Koc(2)	Water Solubility(3)	Henry's Law Constant(4)
Volatile Organic Compounds:					
Acetone	0.79	-0.24	2.2	Miscible	5.69E-05
Methylene Chloride	1.318	1.25	21	20,000	1.31E-03
MTBE	0.74	1.1	12	5,000	1.24E-03
Benzene	0.879	2.12	83	1.75E+06	5.59E-03
Toluene	0.87	2.69	300	515	2.20E+01
Ethylbenzene	0.867	3.15	1100	1.52E+05	6.43E-03
O-Xylene	0.8802	2.95	363	1.52E+02	5.27E-03
M-Xylene	0.8642	3.20	363	1.58E+02	7.00E-03
P-Xylene	0.8610	3.18	363	1.98E+02	7.10E-03
Styrene	0.91	3.02	520	310	2.75E-3
Isopropylbenzene	0.862	4.10	948	50	NDA
Semi-Volatile Organic Compounds:					
Benzo(a)anthracene	1.274	5.90	1,380,000	1.20E-02	2.30E-06
Benzo(a)pyrene	1.351	6.00	5,500,000	3.90E-03	2.40E-06
Benzo(b)fluoranthene	NDA	6.57	550,000	1.40E-02	1.20E-05
Benzo(k)fluoranthene	NDA	6.85	550,000	5.50E-04	1.04E-03
Chrysene	1.274	5.61	200,000	1.80E-03	7.26E-20
Naphthalene	1.145	3.36	1,300	3.00E+01	4.60E-04
Dibenzo(a,h)anthracene	1.282	6.19	1,668,800	5.00E-03	7.33E-09
Metals:					NDA
Aluminum	7.7	NDA	NA	NDA	NDA
Arsenic	5.73	NA	NA	0.3	NA
Beryllium	1.848	NA	NA	NDA	NA
Cadmium	8.65	NDA	NA	NDA	NDA
Calcium	1.55	NDA	NA	2.5E-06	NDA
Chromium	7.14	NA	NA	0.2	NA
Cobalt	8.92	NDA	NA	Insoluble	NDA
Copper	8.94	NA	NA	0.12	NA
Iron	7.86	NA	NA	NDA	NA
Magnesium	1.74	NA	NA	NDA	NA
Manganese	7.43	NA	NA	NDA	NA
Mercury	13.53	NA	NA	2.0E-21	NA
Nickel	8.9	NA	NA	6.1	NA
Selenium	4.79	NA	NA	NDA	NA
Sodium	0.97	NA	NA	Soluble	NA

TABLE 5.2: Physical and Chemical Properties of Site Contaminants

Compound	Density	Kow(1)	Koc(2)	Water Solubility(3)	Henry's Law Constant(4)
Zinc	7.14	NA	NA	1.0E-4	NA

References: Superfund Public Health Evaluation Manual; EPA/540/189/002; Hawley's Condensed Chemical Dictionary, Twelfth Edition; Howard, Philip H., Fate and Exposure Data for Organic Chemicals. Vols. 1&2. 1989; and Robert C. Knox and others, Subsurface Transport and Fate Processes, 1993; Wilson & Clarke, Hazardous Waste Site Soil Remediation, Theory and Application of Innovative Technologies, 1994; various internet sources searched per chemical compound.

NDA denotes no data available in cited references.
NA denotes not applicable.
(1) Log octanol/water partition coefficient.
(2) Organic carbon partition coefficient. Often a range is available rather than a single number.
(3) mg/l at 25 degrees C.
(4) Henry's Law constant, atm-m^3 / mole.

5.3 Contaminant Persistence

The organic carbon/water partition coefficient (Koc) indicates the tendency of an organic contaminant (VOCs and SVOCs) to sorb onto soil or sediment particles. Where the Koc is not experimentally available, it can be calculated based on the log octanol/water partition coefficient. The Koc multiplied by the organic carbon content of a given soil gives the estimated absorption partition coefficient (K_d) for that soil. Some absorption may occur between contaminants and inorganic soil or sediment particles, particularly clay. However, experimental data indicates that the absorption of nonionic, undissociated chemicals to inorganic soil or sediment is low. Once the sorption sites in soil are used up, mobility will usually increase to some extent.

Mobility is expected to be lowest in surface soils, which tend to have some organic carbon. Below several feet in depth, the organic carbon content of soils is likely to be very low, and even a compound with a high Koc will be moderately mobile. However, fill containing organic materials such as ash, cinders or building rubble may have organic carbon levels that equal or exceed surface soils. The VOCs have organic carbon partition coefficients that range from 2.2 for acetone to 1,100 for ethylbenzene, indicating low to medium sorption and medium to high mobility. The SVOCs have a wide range of organic carbon partition coefficients, from 5,500,000 for benzo(a)pyrene, indicating medium to high sorption and low to medium mobility in soil, to 1,300 for naphthalene, indicating low sorption and high mobility.

The mobility of metals is affected by geologic conditions, and is often gauged by the environment's oxidation/reduction (redox) potential. As the pH and dissolved oxygen vary, the solubility of metals can change substantially. Generally, but not always, reductive conditions favor the solid phase of the metal, so a change toward reducing conditions can precipitate soluble metals, making them immobile.

Water solubility indicates the tendency of a compound to dissolve in and travel in water. The site contaminants (except for metals) have a wide range of solubilities, but are generally soluble. When contaminant concentrations are above approximately ten percent of the water solubility, a separate phase will tend to form. The water solubility values of the volatile and semi-volatile organic contaminants in groundwater vary, but are on the order of 50 to 1,750,000,000 mg/l (VOCs) and 0.00055 to 30 mg/l (SVOCs). Since the concentration of the contaminants detected at the site are much less than their water solubility values, separate phase layers are not likely to exist within the site. The majority of the metals of concern, with the exception of arsenic, calcium, chromium, copper, mercury, nickel and zinc, are nearly insoluble in water.

Volatility in diffuse aqueous conditions such as occur in groundwater at the subject site is quantified by Henry's constant (K_h). The rate of volatilization increases as K_h increases. Volatility increases with decreases in atmospheric pressure, increase in temperature and when the compound vapor pressure is low relative to saturation. The contaminants of concern (except for metals, which are not volatile) consist of volatile and semi-volatile organic compounds, which will volatilize to some degree when unsaturated vapor, such as soil gas or the open atmosphere, are present. VOC contaminants in surface soil thus volatilize quickly to the atmosphere. The density of the VOCs is typically lighter than water, and so these compounds typically migrate vertically within the vadose zone due to capillary forces. In the subsurface soils, these compounds commonly dissolve in the groundwater in the saturated and vadose zone. The VOCs dissolved in groundwater tend to volatilize into the vadose zone.

Due to the chemical composition of metals, they do not typically biodegrade. The lighter petroleum hydrocarbon contaminants biodegrade readily. The heavier semi-volatile organic compounds biodegrade at a slower rate, primarily under anaerobic conditions. Biodegradation of VOCs and SVOCs in soil/groundwater has been found to occur under aerobic and to a lesser extent anaerobic conditions, such as occurs in groundwater. The presence of acclimatized microbes, which are likely to occur within the site, enhances biodegration of VOCs and SVOCs. Acclimatized microbes are soil micro-organisms which have adapted themselves to the contaminants by producing enzymes to withstand toxic effects and to allow metabolism of the contaminants. Addition of nutrients and oxygen would be expected to increase the rate of biotic degradation.

5.4 Contaminant Migration

The potential routes of contaminant migration are through groundwater and the atmosphere. Depending on their solubility, contaminants could dissolve in groundwater and be transported in the direction of groundwater flow. Contaminants present in the vapor phase in the unsaturated soil and fill zone above the water table could disperse into the open atmosphere or into structures constructed at the site. The contaminant dispersal would depend on its volatility and the depth of soil/fill cover. Contaminants (SVOCs and metals) present in surface soils could be transported to the atmosphere should this media be disturbed or through displacement of this media by excessive winds.

5.4.1 Groundwater Migration

Because the site is underlain with VOCs, SVOCs and metals having densities greater to, or lesser than water, there may be migration of contaminants occurring in the upper portions of the shallow aquifer and along the top of the lower, less permeable silt layer of the shallow aquifer. It is expected that the lighter VOCs would migrate in the direction of the groundwater flow. Similar migration patterns for the heavier semi-VOCs may occur, but could also be influenced by the surface topography of the underlying silt layer. The detected metals are for the most part insoluble in water and would tend to adsorb and absorb to soil and/or fill particles, thus making it difficult for the metals to migrate with groundwater. Metals that are soluble in water (such as sodium) would readily migrate with groundwater. Based on monitoring well data, groundwater at the site appears to be flowing in an overall westerly direction towards the Hudson River.

Generally, groundwater contamination consists of low level VOCs (nine total) and SVOCs (one total) that were detected in the vicinity of the IRM and at two locations on Parcel 2 and Metals (five total) that were detected in groundwater sampled on Parcels 1 and 2. Based on groundwater flow direction, the contaminants will migrate towards the Hudson River within the shallow and deep aquifers.

5.4.2 Atmospheric Migration

Site contaminants (VOCs and SVOCs) in the soil vapor will diffuse slowly upward and horizontally to unsaturated soil vapor. At the soil surface, where an impermeable barrier does not exist, contaminants in the surface soil vapor will diffuse to the atmosphere. The rate of diffusion into the atmosphere depends on the differential in vapor saturation and on the atmospheric pressure. Under natural soil conditions, the differential is expected to be low within the soil. At the soil/atmosphere interface, the differential can change frequently, with great increases in differential causing contaminants to transport rapidly from surface soil to the atmosphere. Site contaminants which may volatilize from the site soils to the atmosphere will disperse or abiotically degrade, with rates dependent on wind speed and levels of atmospheric radicals, respectively. Since the levels of contaminants are relatively low, VOC and SVOC contaminants in the atmosphere are not expected to accumulate at detectable levels under existing conditions. Metals do not exhibit volatility and therefore would not likely enter the atmosphere unless site soils were disturbed such that dust particles with metals adhered to them enter the atmosphere.

6.0 EXPOSURE ASSESSMENT

6.1 Qualitative Exposure Assessment

The purpose of the qualitative exposure assessment is to evaluate the potential for human exposure from site related contamination without any additional remedial action. In performing the qualitative exposure assessment, the potential site related contaminants were identified, and the actual or potential exposure pathways, the potentially exposed populations and the extent of actual or potential exposure were evaluated.

The potential site related contaminants were identified as those contaminants detected in various media at the site above NYSDEC regulatory levels including the NYSDEC TAGM 4046 soil cleanup objectives and the NYSDEC groundwater standards and/or guidance values, as applicable. The potential site related contaminants that have been identified in various media at the site are presented in Table 5.1-1.

Potential exposure pathways for site contaminants are a function of the contaminant, the affected media, contaminant location and the potentially impacted population. The potential exposure routes and pathways include the following:

- dermal contact and/or ingestion of potentially contaminated soil on-site;
- dermal contact and/or ingestion of potentially contaminated soil off-site, generated from storm water runoff leaching contaminants from on-site and transporting and depositing them down gradient of the site;
- dermal contact and/or ingestion of potentially contaminated groundwater generated from potential leaching of contaminants during storm water infiltration/percolation and then migrating with groundwater; and
- inhalation of dust and/or vapor emissions transported by wind, or within enclosed structures.

The potential impacted populations at the site and vicinity include residents in the neighboring community, site visitors, trespassers on the site, workers engaged in subsurface excavation or other ground disturbance activity and construction workers during impending future site development.

Several metals and semi-volatile organic compounds were detected in surface soil at concentrations exceeding SCGs. The concentrations of these contaminants of concern may warrant remedial action in portions of the site, as they are present within surface soil that is readily accessible to dermal contact, ingestion or inhalation. Furthermore, disturbance of the surface soils is likely should the site undergo future development. If this is the case, development activities could create airborne contaminants that may be inhaled. The potential for dermal contact (including ingestion and inhalation) with exposure to the impacted surface soil and the associated impact is, therefore, anticipated to be high.

Several metals and semi-volatile organic compounds, as well as one volatile organic compound, were detected in subsurface soil and fill materials at concentrations exceeding SCGs. The concentrations of these contaminants of concern may warrant remedial action in portions of the site that are slated for future development. Disturbance of the subsurface soils and fill materials during construction activities could potentially create airborne contaminants that may be inhaled and/or ingested. The potential for dermal contact, inhalation and ingestion of the impacted subsurface soil and fill material is, therefore, anticipated to be high.

Groundwater impacts consisted of several metals and volatile organic compounds, as well as one semi-volatile organic compound, which were above NYSDEC groundwater standard and guidance values. Considering that the depth to groundwater is greater than 3 feet below grade, the potential for dermal contact through exposure to groundwater and the associated impact is anticipated to be low, unless groundwater is encountered and subsequently disturbed during impending future construction activities. Ingestion of the contaminated groundwater is unlikely since the area surrounding the site is serviced by public water and no private water supply wells used for drinking water are known to exist.

7.0 SUMMARY AND CONCLUSIONS

7.1 Summary

The site investigation work tasks have been completed in substantial conformance with the Final Site Investigation Work Plan dated August 31, 2004. Any deviations to the final approved work plan have been described within the body of this report. In addition to the tasks set forth within the Work Plan, an IRM and supplemental investigations of the IRM and Parcel 2 were also conducted as part of this investigation. The following provides an overview of the RI of the project site.

7.1.1 Site Background

The project site consists of three (3) separate parcels of undeveloped land situated within the South Troy Industrial Park. The project site consisted of farmland up until the late 1800's when it was developed into the lower works of the Burden Iron Works. Iron manufacturing by-products and construction and demolition debris generated by the City of Troy have historically been deposited on the site as fill material to bring low lying western portions of the site in the vicinity of the Hudson River to grade with remaining portions of the site. Fill materials observed during the course of the RI included slag, cinder, ash, brick, construction and demolition debris, and differing fill soils consisting primarily of sand and gravel.

Extensive environmental investigations have been conducted on the site since 1986. The investigations included the advancement of soil borings, test pits and trenches and the installation of monitoring wells to aid in the collection of media samples for laboratory analyses and to characterize subsurface conditions beneath the project site. Additionally, several samples of "slag mountain" have been collected for laboratory analyses to determine if the slag could be used as backfill for the site.

Results of the past investigations revealed the presence of select VOCs, SVOCs and metals in groundwater and SVOCS and metals in surface and subsurface soils at concentrations exceeding regulatory action levels. Additionally, coal tar was discovered beneath the present New Penn facility. The coal tar was subsequently remediated under the auspices of the NYSDEC Voluntary Cleanup Program in 2000 and 2001. Analytical results for samples collected of “slag mountain’ did not reveal the presence of hazardous constituents within this media.

7.1.2 Physical Characteristics of the Project Site

The site consists of three (3) parcels of undeveloped land underlain with fill materials that range in thickness from four (4) to 32 feet bgs. Overall, the fill material slopes to greater thicknesses near the Hudson River on western portions of the site. The fill present beneath Parcel 1 consists primarily of slag, cinder, ash, brick, construction and demolition debris, and varying intermingled soils consisting primarily of sand and gravel. Fill underlying Parcel 2 consists primarily of slag, cinders and ash that are intermingled with sand and gravel. Fill underlying parcel 3 is primarily made up of silt, sand, cinder and slag. The thickness of fill material on Parcel 2 of the site deepens and converges within central portions of the Parcel constituting a trough type feature that may represent a former stream channel. Bedrock, in the form of shale, was encountered during previous investigations on all parcels of the site at depths that ranged from 35 to 58.5 feet bgs. Soils underlying the fill material consist primarily of silts with varying percentages of sand, gravel and clay. Groundwater was observed atop this native silt layer and is referenced as shallow groundwater. A sand and gravel water bearing unit is located beneath the native silt layer at select locations across the site and is referenced as deep groundwater.

Groundwater contour maps were generated from water level measurements collected on November 14 and 21, 2005. Overall, site wide groundwater flows westerly towards the Hudson River. Groundwater beneath Parcel 1 was encountered at the fill material and native soil interface. Shallow groundwater flow within Parcel 2 converges into the trough type feature in the central portion of the parcel. Deep groundwater flow direction on Parcel 2 is towards the northwest, where it eventually changes flow direction and proceeds in a westerly direction towards the Hudson River.

7.1.3 Survey of Public and Private Wells

According to officials from the Rensselaer County Health Department, the project site and its surrounding area are serviced by public water furnished by the City of Troy. Private water wells are not located on the project site or its vicinity.

7.1.4 Ground Penetrating Radar (GPR) Survey

The GPR survey consisted of utilizing a Subsurface Interface Radar (SIR-300) to traverse the surface area of Parcel 2 in an attempt to located buried structures. The SIR-300 was set to detect subsurface anomalies to a depth of 10 feet below the ground surface (bgs). The parcel was traversed with the SIR-300 employing a grid pattern with five to ten foot spacing intervals, which is sufficient to detect all large capacity underground storage tanks (USTs) of 500 gallons or greater.

Results of the GPR survey did not identify the presence of subsurface anomalies.

7.1.5 Slag Sampling

Three samples of slag material and two samples of a fine light-grey material were collected from “slag mountain” for analysis for the 8 RCRA Metals.

Sampling results show all analytes at concentrations below SCGs with the exception of Selenium, which was detected within the sampled fine light-grey material. Selenium was detected at this sampling location at a concentration of 2.52 mg/kg, which is slightly above its RSCO of 2 mg/kg but below the Eastern USA Background range of 0.1-3.9 mg/kg.

7.1.6 Fish and Wildlife Impact Analysis (FWIA)

C.T. Male completed a Fish and Wildlife Impact Analysis (FWIA) (dated August 10, 2004) pursuant to the October 1994 NYSDEC FWIA for Inactive Hazardous Waste Sites.

The FWIA report concluded that no further steps need to be taken in the Fish and Wildlife Impact Analysis.

7.1.7 Investigations of Lands Adjoining the Project Site

Environmental investigations were conducted by others on the Former Sperry Warehouse Site (adjoins Parcel 2) and of the Former King Fuels North (The Alamo) (adjoins Parcels 1 and 2). Results of the investigations show several petroleum related compounds and metals detected above regulatory levels in soils and groundwater sampled at the Former Sperry Warehouse Site, while several metals and SVOCs in soils and several metals in groundwater were detected at concentrations above regulatory levels at the Former King Fuels North (The Alamo).

7.1.8 Interim Remedial Measure

An IRM was conducted to address the discovery of buried liquid containing vessels beneath northeastern portions of Parcel 1. The vessels were excavated and disposed off-site along with the liquids found within them. Subjective analyses of subsurface soils in the vicinity of the buried vessels showed evidence of impacts. The soils were left in place and the severity of impacts to soils and groundwater in the vicinity of the IRM were further investigated by the installation of soil borings and monitoring wells to aid in the collection of samples for laboratory analyses. The result of the investigation shows subsurface soils and groundwater impacted by VOCs, SVOCs and metals at concentrations exceeding their SCGs; with the impacts being localized to the immediate vicinity of the tank and drums. The highest concentration of VOCs were present in groundwater sampled from monitoring wells CTM-1 and CTM-1S, which are located within the IRM backfilled excavation. Low level detections (above SCGs) of benzene in groundwater were encountered at monitoring wells CTM-101 and CTM-105, which are located in the vicinity of, and hydraulically down gradient of, the IRM excavation.

7.1.9 Supplemental Investigation of Parcel 2

Additional soil borings and monitoring wells were advanced on Parcel 2 to further delineate known subsurface soil and groundwater contaminants discovered during the RI. The result of the investigation showed low levels of VOCs above SCGs in groundwater at two monitoring well locations. No VOCs and SVOCs were present at concentrations exceeding SCGs from soils sampled from the soil borings. Based on both the analytical results for the sampled media and the groundwater flow direction beneath the parcel, the Sperry Warehouse appears to be a contributor to the contaminants uncovered on the parcel during the course of this investigation and historic investigations conducted by others.

7.1.10 Nature and Extent of Contamination

The primary contaminants of concern at the site are metals and SVOCs in surface and subsurface soils and fill material, and metals and VOCs in groundwater. Additionally, petroleum related contaminants and contaminants displaying paint-like odors were subjectively observed and analyzed during the course of the investigation of the project site. The following summarizes the nature and extent of contamination for the project site on a parcel by parcel basis.

Parcel 1

The following summarizes the nature and extent of contaminants in Parcel 1 of the project site.

- Several SVOCs and metals were detected at varying frequencies above their respective SCGs in all surface soil sampling locations on Parcel 1. Based on the foregoing, it can be concluded that surface soils throughout Parcel 1 are impacted with SVOCs and metals at concentrations exceeding SCGs.

- One VOC and several SVOCs and metals were detected at varying frequencies above their respective SCGs from all subsurface soil/fill sampling locations on Parcel 1. The contaminants were detected in both native soils and overlying fill material, indicating that fill material and native soils beneath Parcel 1 are impacted by SVOCs and metals, and one (1) VOC.

- One (1) SVOC and several VOCs and metals were detected at varying frequencies above their respective SCGs from all groundwater sampled on Parcel 1. The VOCs and SVOC in groundwater are associated with the tank and drums that were removed from the northeastern portion of the Parcel.

- Subjective evidence of contamination was observed during the RI and IRM investigations. Subjective impacts were observed and qualitatively analyzed from native soils and fill material within Test Trench #'s 1, 2 and 4 and soil borings CTM-1, CTM-1S, CTM-3, CTM-11 and CTM-13.

- Impacted soils are present within the backfilled IRM excavation area.

Parcel 2

The following summarizes the nature and extent of contaminants in Parcel 2 of the project site.

- Several SVOCs and metals were detected at varying frequencies above their respective SCGs from all surface soil sampling locations on Parcel 2. Based on the foregoing, it can be concluded that surface soils throughout Parcel 2 are contaminated with SVOCs and metals at concentrations exceeding SCGs.

- Several SVOCs and metals were detected at varying frequencies above their respective SCGs from subsurface soil/fill sampled from test pits and soil borings on Parcel 2. The contaminants were detected in both native soils and overlying fill material, thus indicating that fill material and native soils beneath Parcel 2 are impacted by SVOCs and metals.

- Several VOCs and metals were detected at varying frequencies above their respective SCGs from groundwater sampled on Parcel 2.

- Subjective evidence of contamination was observed on Parcel 2 at Test Pit #1 (fuel oil contaminated soils and free petroleum product in groundwater); and soil boring CTM-9 (slight fuel odor in wet soils).

Parcel 3

The following summarizes the nature and extent of contaminants in Parcel 3 of the project site.

- Several SVOCs and metals were detected above their SCGs from the sole surface soil sampling location on Parcel 3.

- Several metals were detected above their SCGs from native soils sampled through the advancement of one soil boring on Parcel 3.

- Several metals were detected above their SCGs in groundwater sampled from one monitoring well installed on Parcel 3.

7.1.11 Fate and Transport

The site contaminants are predominantly metals and SVOCs in surface and subsurface soils and VOCs and metals in groundwater. One VOC (acetone) was detected in subsurface soils and one SVOC (naphthalene) was detected in groundwater.

The SVOCs and metals in surface soil and subsurface soil/fill will tend to adhere to surrounding soil and fill particles and not migrate into underlying groundwater. This is exemplified by the presence of only four (4) of the 13 metals and no SVOCs identified in the surface soil and subsurface soil/fill sampling results within the sampled groundwater. Surface soil and subsurface soil/fill metals are not anticipated to volatilize to the open atmosphere. SVOCs in surface soils and subsurface soil/fill may volatilize to the atmosphere should the soils/fill be disturbed.

The VOCs and one SVOC in groundwater are in a dissolved phase and will tend to migrate with groundwater flow direction towards the Hudson River. Metals in groundwater are expected to adhere to surrounding soil and fill particles and will not necessarily follow groundwater flow direction nor volatilize to the vadose zone.

The transport mechanisms for the contaminants present at the site are migration in the groundwater and/or volatilization into the atmosphere. The petroleum fuel related compounds tend to occur and migrate in the upper portions of the aquifer due to their densities being less than 1. The SVOCs will tend to sink to the bottom of the aquifer to a less permeable soil type and migrate in the direction of groundwater flow and/or the surface of the less permeable unit. Most metals are strongly held, reducing their migration and extent of contamination. VOC and SVOC contaminants within the groundwater and vadose zone will volatilize into the unsaturated soils above the water table, and eventually will diffuse into the atmosphere.

7.2 Conclusions

Based upon the findings and conclusion of this site investigation, additional investigative activities are not warranted at this time. The site investigation has adequately delineated the presence and extent of the contaminants of concern identified for the site. Further investigations may be necessary during the design phase of the selected remedial actions to refine the areas of concern and gather additional information necessary to complete the remedial design. However, the existing data is considered to be sufficient for the preparation of the Alternatives Analysis Report (AAR). The AAR presents and discusses potential options for addressing the contaminants of concern.

7.2.1 Data Limitations and Disclaimer

All of the site investigation analytical data has been independently validated in accordance with NYSDEC DUSR requirements. The analytical results tabulated herein reflect the results of the DUSR and have been appropriately qualified. The DUSRs are presented in Exhibit 6 of this report.

FIGURE 1

SITE LOCATION MAP

NO XREFS

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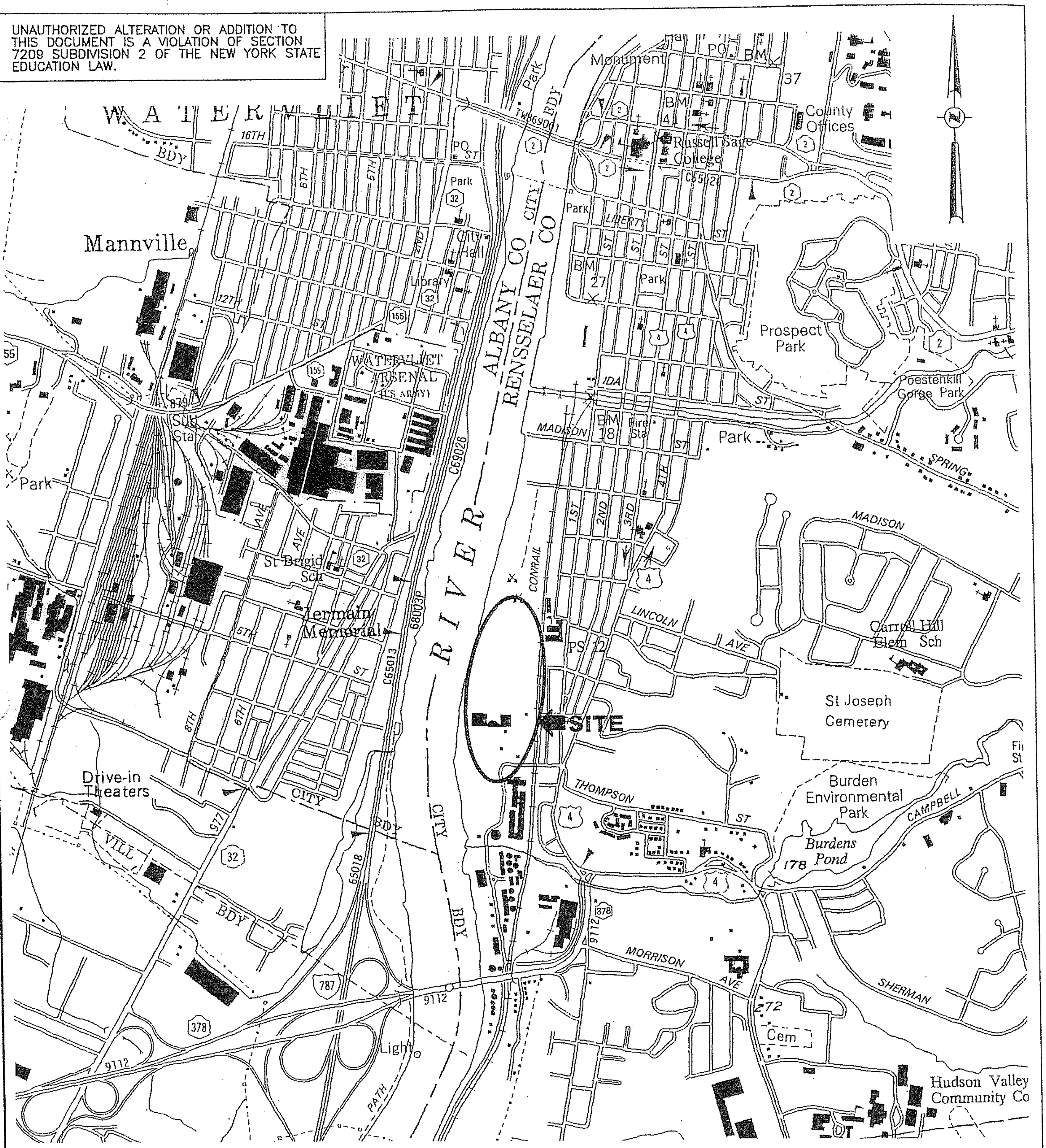


MAP REFERENCE:
NYSDOT 1993 TROY SOUTH QUADRANGLE

Date	RECORD OF WORK	Appr.

Drafter: JAM

Checker: KM

FIGURE 1 – SITE LOCATION MAP
SOUTH TROY INDUSTRIAL PARK

CITY OF TROY

RENSSELAER COUNTY, NY

C.T. MALE ASSOCIATES, P.C.
50 CENTURY HILL DRIVE, P.O. BOX 727, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299
Architecture & Building Systems Engineering * Civil Engineering
Environmental Services * Survey & Land Information Services

DWG. FILE NAME: s ion map.dwg

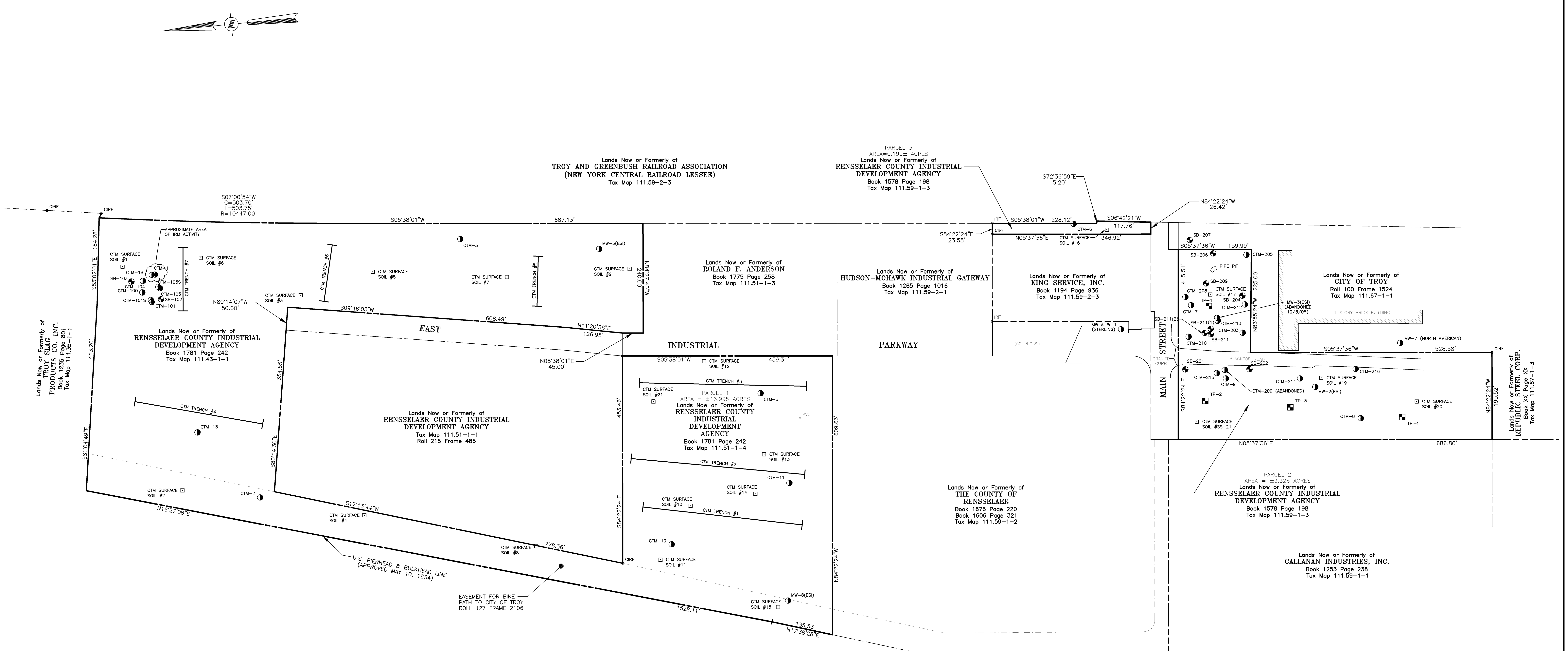
FIGURE 2

SITE BOUNDARY SURVEY AND SAMPLING LOCATIONS MAP

NO XREFS

PROJECT NUMBER: 04.9138

CAD DWG. FILE NAME: FIG2 ENV.DWG



LEGEND

○ CIRF	CAPPED IRON ROD FOUND
○ IRF	IRON ROD FOUND
⊡ CTM SURFACE SOIL #11	C.T. MALE SURFACE SOIL SAMPLE
◑ CTM-9	C.T. MALE MONITORING WELL
◑ MW-5(ESI)	EMPIRE SOILS INVESTIGATION MONITORING WELL
◑ MW-7 (NORTH AMERICAN)	NORTH AMERICAN INVESTIGATION MONITORING WELL
◑ MW-A-W-1	STERLING INVESTIGATION MONITORING WELL
⊕ SB-211	C.T. MALE SOIL BORING (SOIL BORINGS SB-102, SB-103, SB-201, SB-204, SB-211(1) AND SB-211(2) ARE APPROXIMATE LOCATIONS AND HAVE NOT BEEN FIELD SURVEYED
▚ TP-1	C.T. MALE TEST PIT
I	C.T. MALE EXPLORATORY TRENCH
☁	APPROXIMATE AREA OF IRM ACTIVITY

BAR SCALE
100 0 50 100 200
1 inch = 100 ft.

NOTE:
1.) THE LOCATIONS AND FEATURES DEPICTED ON THIS MAP ARE APPROXIMATE AND DO NOT REPRESENT AN ACTUAL FIELD SURVEY.

MAP REFERENCE:
1.) BOUNDARY SURVEY PREPARED BY C.T. MALE ASSOCIATES, P.C., DWG. NO.:01-564, DATED OCT. 8, 2001

CAD DWG. FILE NAME: FIG2 ENV.DWG

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DRAFTED : J.KARON
CHECKED : N.FREEMAN
PROJ. NO: 04.9138
SCALE : 1"=100'
DATE : NOV. 28, 2005

FIGURE 2
SITE BOUNDARY SURVEY AND SAMPLING LOCATIONS MAP

SOUTH TROY INDUSTRIAL PARK BROWNFIELDS INVESTIGATION

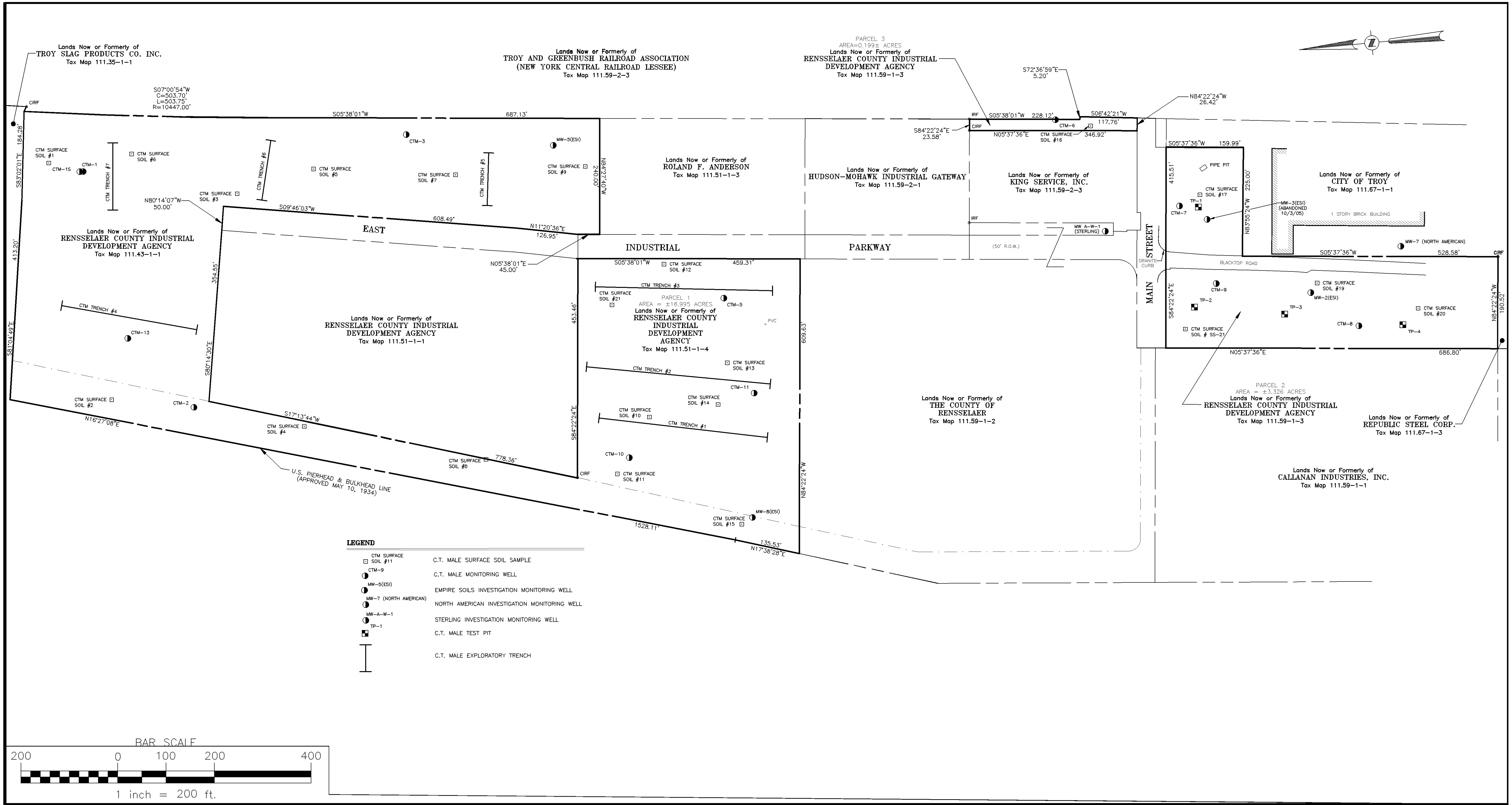
CITY OF TROY
RENSSELAER COUNTY, NEW YORK

C.T. MALE ASSOCIATES, P.C.
50 CENTURY HILL DRIVE, P.O. BOX 727, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299
ARCHITECTURE & BUILDING SYSTEMS ENGINEERING * CIVIL ENGINEERING
ENVIRONMENTAL SERVICES * SURVEY & LAND INFORMATION SERVICES

SHEET 1 OF 10
DWG. NO: 05-0857

FIGURE 3

RI SITE SAMPLING LOCATIONS MAP



NOTE:
1.) THE LOCATIONS AND FEATURES DEPICTED ON THIS MAP ARE APPROXIMATE AND DO NOT REPRESENT AN ACTUAL FIELD SURVEY.

MAP REFERENCE:
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SCALE : 1"=200'
DATE : Nov. 28, 2005

FIGURE 3
REMEDIAL INVESTIGATION SITE SAMPLING LOCATIONS MAP

SOUTH TROY INDUSTRIAL PARK BROWNFIELDS INVESTIGATION

CITY OF TROY — RENSSELAER COUNTY, NEW YORK

C.T. MALE ASSOCIATES, P.C.
50 CENTURY HILL DRIVE, P.O. BOX 727, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299
ARCHITECTURE & BUILDING SYSTEMS ENGINEERING * CIVIL ENGINEERING
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SHEET 2 OF 10
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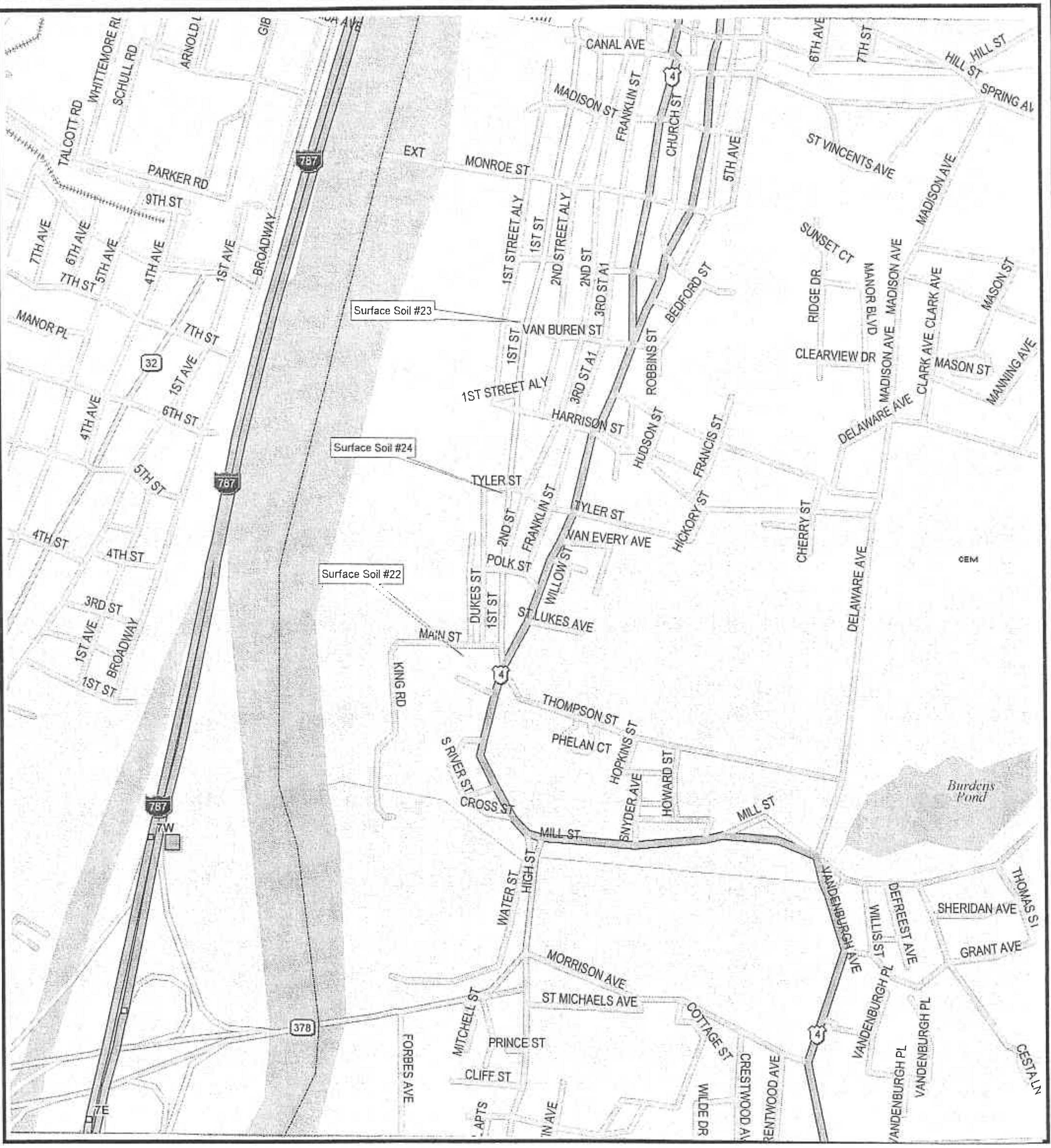
CAD DWG. FILE NAME: FIG3 RI SS LO.DWG

FIGURE 4

BACKGROUND SURFACE SOIL SAMPLING LOCATIONS MAP



MAP REFERENCE

DeLorme Street Atlas 2005

ENGINEERING
ENVIRONMENTAL SERVICES
SURVEYING
PHONE (518)786-7400
FAX (518) 786-7299

C.T.MALE ASSOCIATES, P.C.
50 CENTURY HILL DRIVE, PO BOX 727, LATHAM, NY 12110

FIGURE 4
Background Surface Soil Sampling Locations Map

South Troy

RENSSELAER COUNTY, NY

SCALE: NS

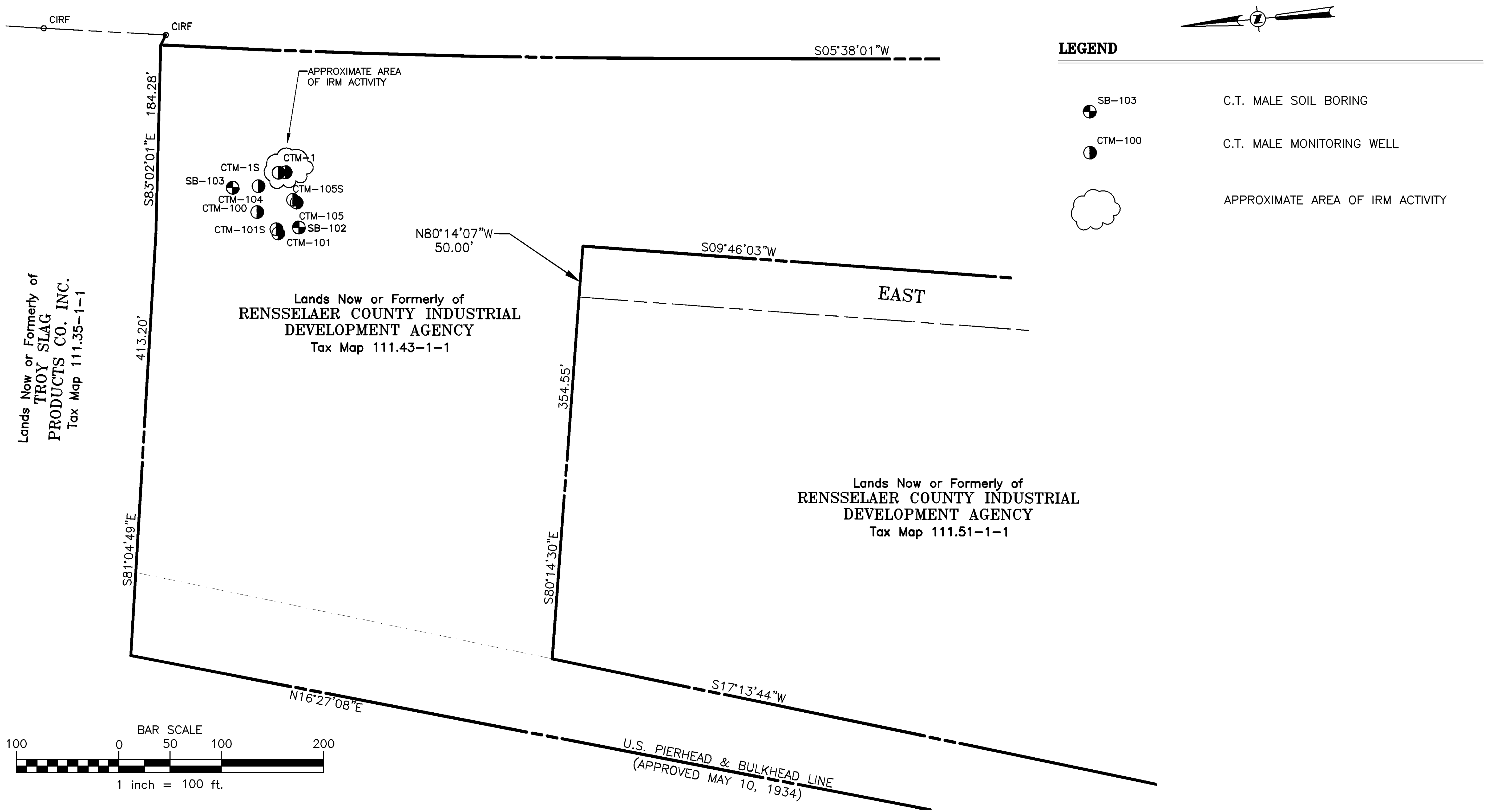
DRAFTER:

PROJECT No. 04.9138

FIGURE 5

IRM SUPPLEMENTAL INVESTIGATION

SAMPLING LOCATIONS MAP



NOTE:
1.) THE LOCATIONS AND FEATURES DEPICTED ON THIS MAP ARE APPROXIMATE AND DO NOT REPRESENT AN ACTUAL FIELD SURVEY.

MAP REFERENCE:
1.) BOUNDARY SURVEY PREPARED BY C.T. MALE ASSOCIATES, P.C., DWG. NO.:01-564, DATED OCT. 8, 2001.

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FIGURE 5
IRM SUPPLEMENTAL INVESTIGATION SAMPLING LOCATIONS MAP

SOUTH TROY INDUSTRIAL PARK BROWNFIELDS INVESTIGATION

CITY OF TROY RENSSELAER COUNTY, NEW YORK

C.T. MALE ASSOCIATES, P.C.
50 CENTURY HILL DRIVE, P.O. BOX 727, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299
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SHEET 3 OF 10
DWG. NO: 05-0857

FIGURE 6

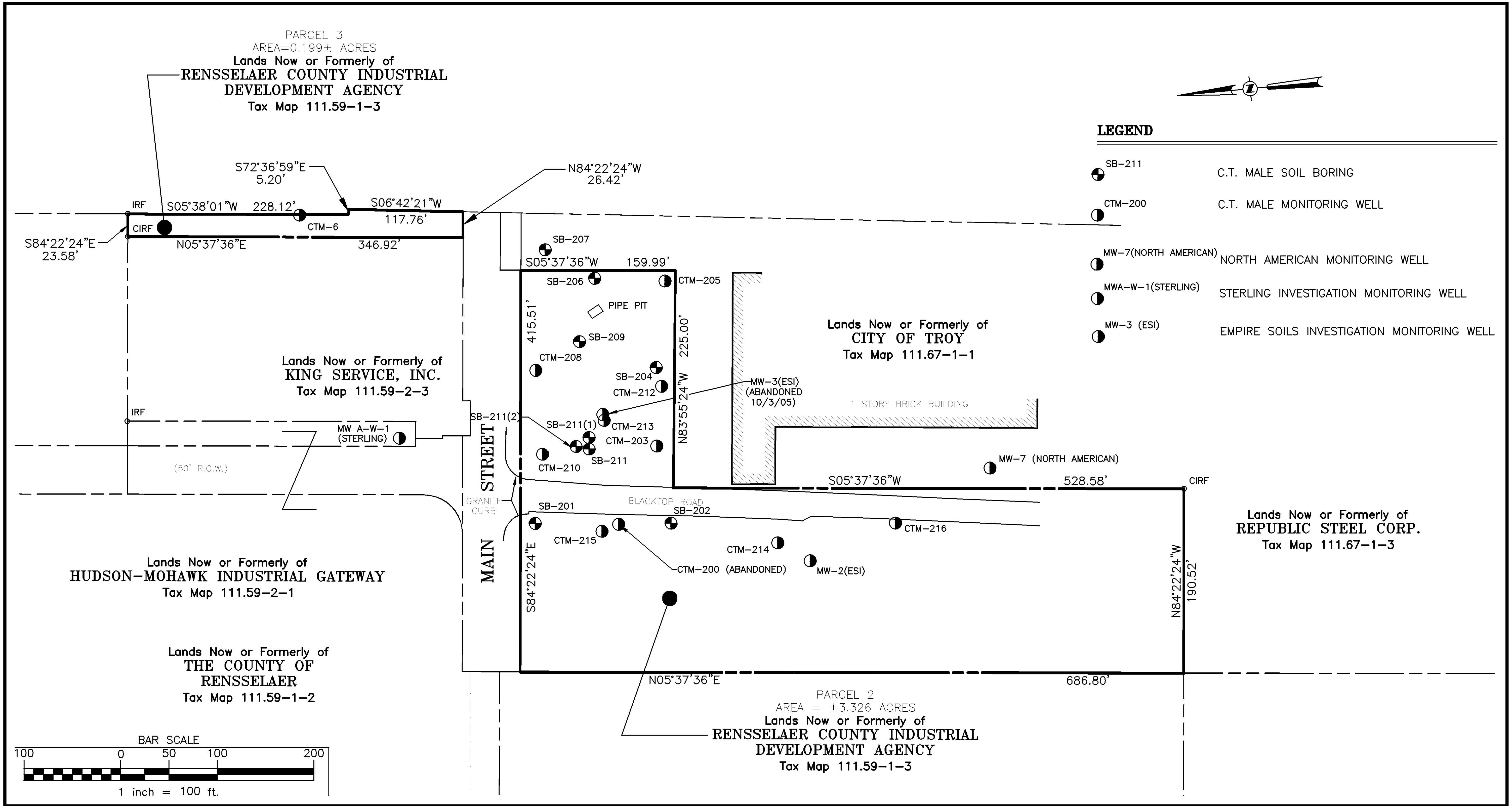
PARCEL 2 SUPPLEMENTAL INVESTIGATIONS

SAMPLING LOCATIONS MAP

NO XREFS

PROJECT NUMBER: 04.9138

CAD DWG. FILE NAME:FIG6 SUPP INVES.DWG



NOTE:
1.) THE LOCATIONS AND FEATURES DEPICTED ON THIS MAP ARE APPROXIMATE AND DO NOT REPRESENT AN ACTUAL FIELD SURVEY.

MAP REFERENCE:
1.) BOUNDARY SURVEY PREPARED BY C.T. MALE ASSOCIATES, P.C., DWG. NO.:05-104, DATED NOV. 30, 2004

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CHECKED : N.FREEMAN
PROJ. NO: 04.9138
SCALE : 1"=100'
DATE : Nov. 28, 2005

FIGURE 6
SUPPLEMENTAL INVESTIGATION SAMPLING LOCATIONS MAP

SOUTH TROY INDUSTRIAL PARK BROWNFIELDS INVESTIGATION

CITY OF TROY RENSSELAER COUNTY, NEW YORK

C.T. MALE ASSOCIATES, P.C.
50 CENTURY HILL DRIVE, P.O. BOX 727, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299
ARCHITECTURE & BUILDING SYSTEMS ENGINEERING * CIVIL ENGINEERING
ENVIRONMENTAL SERVICES * SURVEY & LAND INFORMATION SERVICES

SHEET 4 OF 10
DWG. NO: 05-0857

CAD DWG. FILE NAME:FIG6 SUPP INVES.DWG

FIGURE 7

SITE WIDE THICKNESS OF FILL
CONTOUR MAP

LEGEND

⊡ CTM SURFACE SOIL #11	C.T. MALE SURFACE SOIL SAMPLE
◑ CTM-9	C.T. MALE MONITORING WELL
◑ MW-5(ESI)	EMPIRE SOILS INVESTIGATION MONITORING WELL
◑ MW-7 (NORTH AMERICAN)	NORTH AMERICAN INVESTIGATION MONITORING WELL
◑ MW-A-W-1(STERLING)	STERLING INVESTIGATION MONITORING WELL
⊕ SB-211	C.T. MALE SOIL BORING
▚ TP-1	C.T. MALE TEST PIT
I	C.T. MALE EXPLORATORY TRENCH
3.1'	THICKNESS OF FILL (TOF) CONTOUR LINE (DASHED WHERE INFERRED)

BAR SCALE
100 0 50 100 200
1 inch = 100 ft.

NOTE:
1.) THE LOCATIONS AND FEATURES DEPICTED ON THIS MAP ARE APPROXIMATE AND DO NOT REPRESENT AN ACTUAL FIELD SURVEY.

MAP REFERENCE:
1.) BOUNDARY SURVEY PREPARED BY C.T. MALE ASSOCIATES, P.C., DWG. NO.:01-564, DATED OCT. 8, 2001

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DESIGNED:
DRAFTED : J. KARON
CHECKED : N.FREEMAN
PROJ. NO: 04.9138
SCALE : 1"=100'
DATE : NOV. 28, 2005

FIGURE 7
SITE WIDE THICKNESS OF FILL CONTOUR MAP

SOUTH TROY INDUSTRIAL PARK BROWNFIELDS INVESTIGATION

CITY OF TROY
RENSSELAER COUNTY, NEW YORK

C.T. MALE ASSOCIATES, P.C.
50 CENTURY HILL DRIVE, P.O. BOX 727, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299
ARCHITECTURE & BUILDING SYSTEMS ENGINEERING * CIVIL ENGINEERING
ENVIRONMENTAL SERVICES * SURVEY & LAND INFORMATION SERVICES

SHEET 5 OF 10
DWG. NO: 05-0857

FIGURE 8

SITE WIDE GROUNDWATER CONTOUR MAP

(November 14, 2005)

LEGEND

⊡ CTM SURFACE SOIL #11	C.T. MALE SURFACE SOIL SAMPLE
◑ CTM-9	C.T. MALE MONITORING WELL
◑ MW-5(ESI)	EMPIRE SOILS INVESTIGATION MONITORING WELL
◑ MW-7 (NORTH AMERICAN)	NORTH AMERICAN INVESTIGATION MONITORING WELL
◑ MW-A-W-1(STERLING)	STERLING INVESTIGATION MONITORING WELL
⊕ SB-211	C.T. MALE SOIL BORING
▚ TP-1	C.T. MALE TEST PIT
I	C.T. MALE EXPLORATORY TRENCH
☁	APPROXIMATE AREA OF IRM ACTIVITY
3.1'	GROUNDWATER CONTOUR LINE (DASHED WHERE INFERRED) BASED ON WATER TABLE DEPTHS MEASURED ON NOVEMBER 14, 2005 AND CONVERTED TO WATER TABLE ELEVATIONS BASED ON A BENCHMARK ELEVATION OF 24.92' MSL (NGVD1929). ARROW DEPICTS INFERRED DIRECTION OF GROUDNWATER FLOW.
WLE 3.27'	WLE DENOTES WATER LEVEL ELEVATION IN FEET ABOVE MEAN SEA LEVEL.

NOTE:
1.) THE LOCATIONS AND FEATURES DEPICTED ON THIS MAP ARE APPROXIMATE AND DO NOT REPRESENT AN ACTUAL FIELD SURVEY.

MAP REFERENCE:
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BAR SCALE
100 0 50 100 200
1 inch = 100 ft.

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SCALE : 1"=100'
DATE : NOV. 28, 2005

FIGURE 8
SITE WIDE GROUNDWATER CONTOUR MAP
(NOVEMBER 14, 2005)

SOUTH TROY INDUSTRIAL PARK
BROWNFIELDS INVESTIGATION

CITY OF TROY
RENSSELAER COUNTY, NEW YORK

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SHEET 6 OF 10
DWG. NO: 05-0857

FIGURE 9

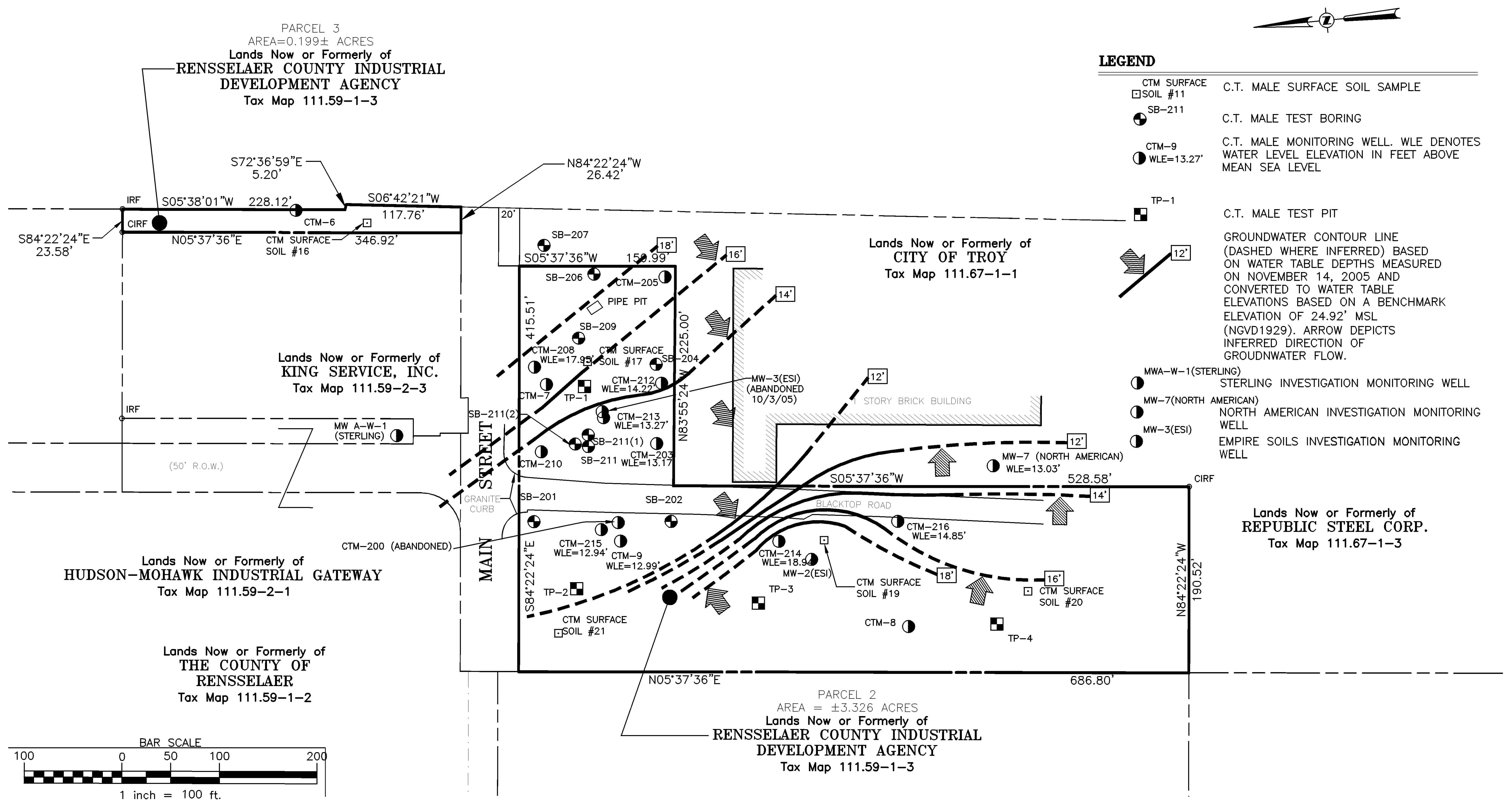
PARCEL 2 SHALLOW
GROUNDWATER CONTOUR MAP

(November 14, 2005)

NO XREFS

PROJECT NUMBER: 04.9138

CAD DWG. FILE NAME:FIG9 SHALL GWC.DWG



NOTE:
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MAP REFERENCE:
1.) BOUNDARY SURVEY PREPARED BY C.T. MALE ASSOCIATES, P.C., DWG. NO.:05-104, DATED NOV. 30, 2004.

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CHECKED : N.FREEMAN
PROJ. NO: 04.9138
SCALE : 1"=100'
DATE : NOV. 28, 2005

FIGURE 9
PARCEL 2 SHALLOW GROUNDWATER CONTOUR MAP (NOVEMBER 14, 2005)

SOUTH TROY INDUSTRIAL PARK BROWNFIELDS INVESTIGATION

CITY OF TROY　RENSSELAER COUNTY, NEW YORK

C.T. MALE ASSOCIATES, P.C.
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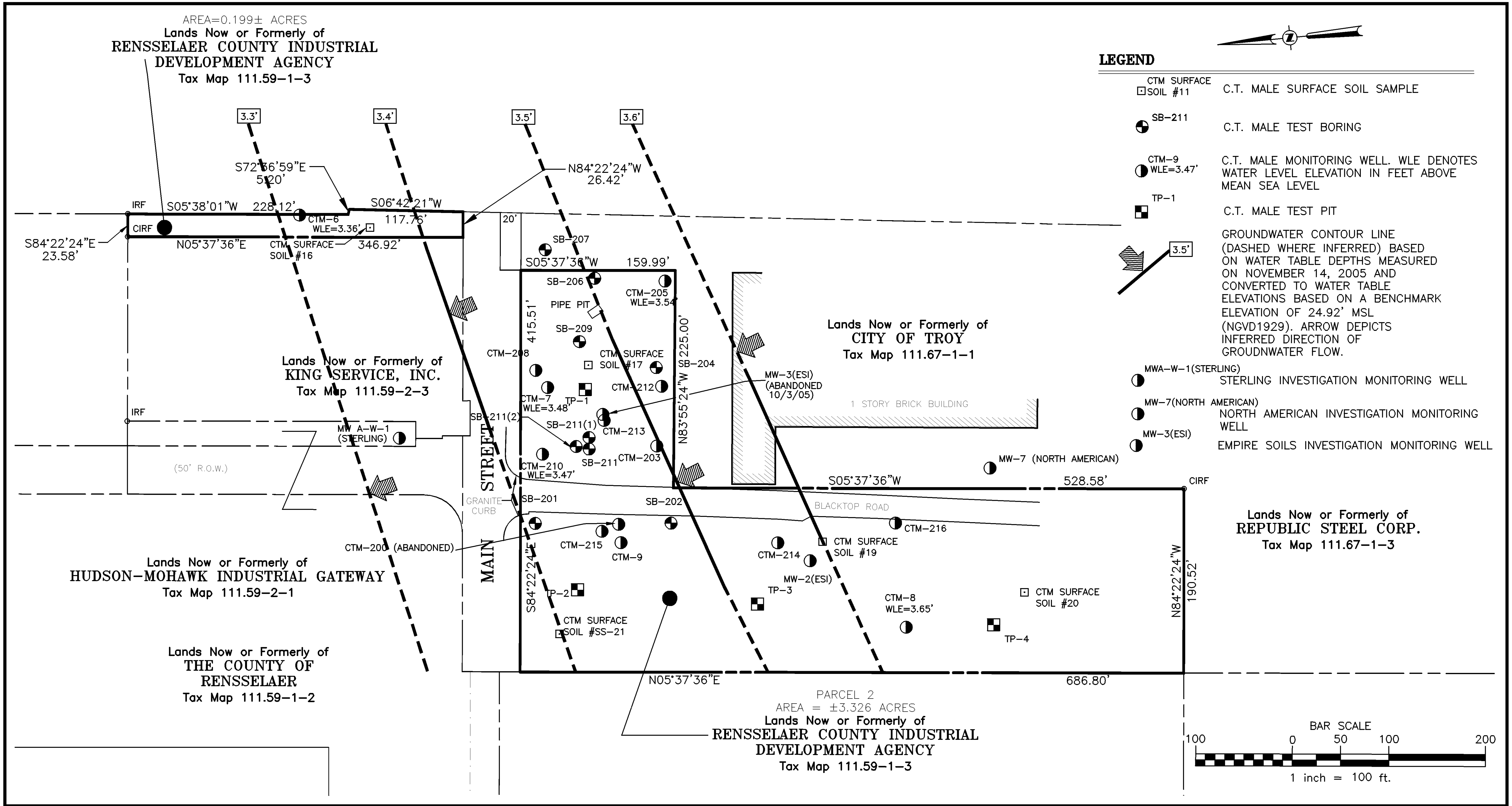
SHEET 7 OF 10
DWG. NO: 05-0857

CAD DWG. FILE NAME:FIG9 SHALL GWC.DWG

FIGURE 10

PARCEL 2 DEEP GROUNDWATER CONTOUR MAP
(November 14, 2005)



NOTE:
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MAP REFERENCE:
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SCALE : 1"=100'
DATE : NOV. 28, 2005

FIGURE 10
PARCEL 2 DEEP GROUNDWATER CONTOUR MAP (NOVEMBER 14, 2005)

SOUTH TROY INDUSTRIAL PARK BROWNFIELDS INVESTIGATION

CITY OF TROY
RENSSELAER COUNTY, NEW YORK

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SHEET 8 OF 10
DWG. NO: 05-0857

FIGURE 11

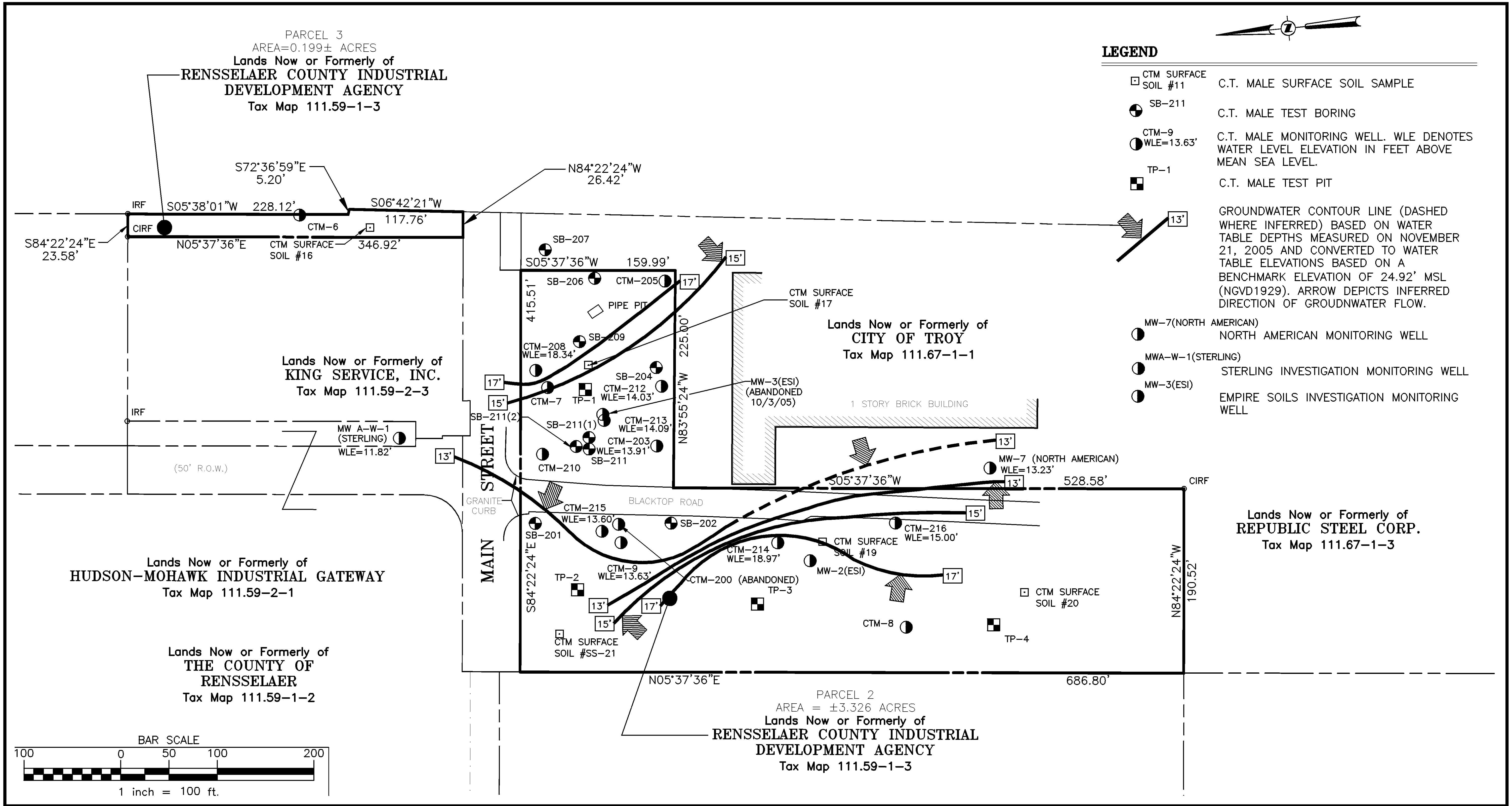
PARCEL 2 SHALLOW GROUNDWATER CONTOUR MAP

(November 21, 2005)

NO XREFS

PROJECT NUMBER: 04.9138

CAD DWG. FILE NAME:FIG11 GWC P2.DWG



LEGEND

⊡ CTM SURFACE SOIL #11	C.T. MALE SURFACE SOIL SAMPLE
⊕ SB-211	C.T. MALE TEST BORING
◐ CTM-9 WLE=13.63'	C.T. MALE MONITORING WELL. WLE DENOTES WATER LEVEL ELEVATION IN FEET ABOVE MEAN SEA LEVEL.
▚ TP-1	C.T. MALE TEST PIT
13'	GROUNDWATER CONTOUR LINE (DASHED WHERE INFERRED) BASED ON WATER TABLE DEPTHS MEASURED ON NOVEMBER 21, 2005 AND CONVERTED TO WATER TABLE ELEVATIONS BASED ON A BENCHMARK ELEVATION OF 24.92' MSL (NGVD1929). ARROW DEPICTS INFERRED DIRECTION OF GROUDNWATER FLOW.
◐ MW-7(NORTH AMERICAN)	NORTH AMERICAN MONITORING WELL
◐ MWA-W-1(STERLING)	STERLING INVESTIGATION MONITORING WELL
◐ MW-3(ESI)	EMPIRE SOILS INVESTIGATION MONITORING WELL

NOTE:
1.) THE LOCATIONS AND FEATURES DEPICTED ON THIS MAP ARE APPROXIMATE AND DO NOT REPRESENT AN ACTUAL FIELD SURVEY.

MAP REFERENCE:
1.) BOUNDARY SURVEY PREPARED BY C.T. MALE ASSOCIATES, P.C., DWG. NO.:05-104, DATED NOV. 30, 2004

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DESIGNED :
DRAFTED : J. KARON
CHECKED : N.FREEMAN
PROJ. NO: 04.9138
SCALE : 1"=100'
DATE : NOV. 28, 2005

FIGURE 11
PARCEL 2 SHALLOW GROUNDWATER CONTOUR MAP (NOVEMBER 21, 2005)
SOUTH TROY INDUSTRIAL PARK BROWNFIELDS INVESTIGATION

CITY OF TROY RENSSELAER COUNTY, NEW YORK

C.T. MALE ASSOCIATES, P.C.
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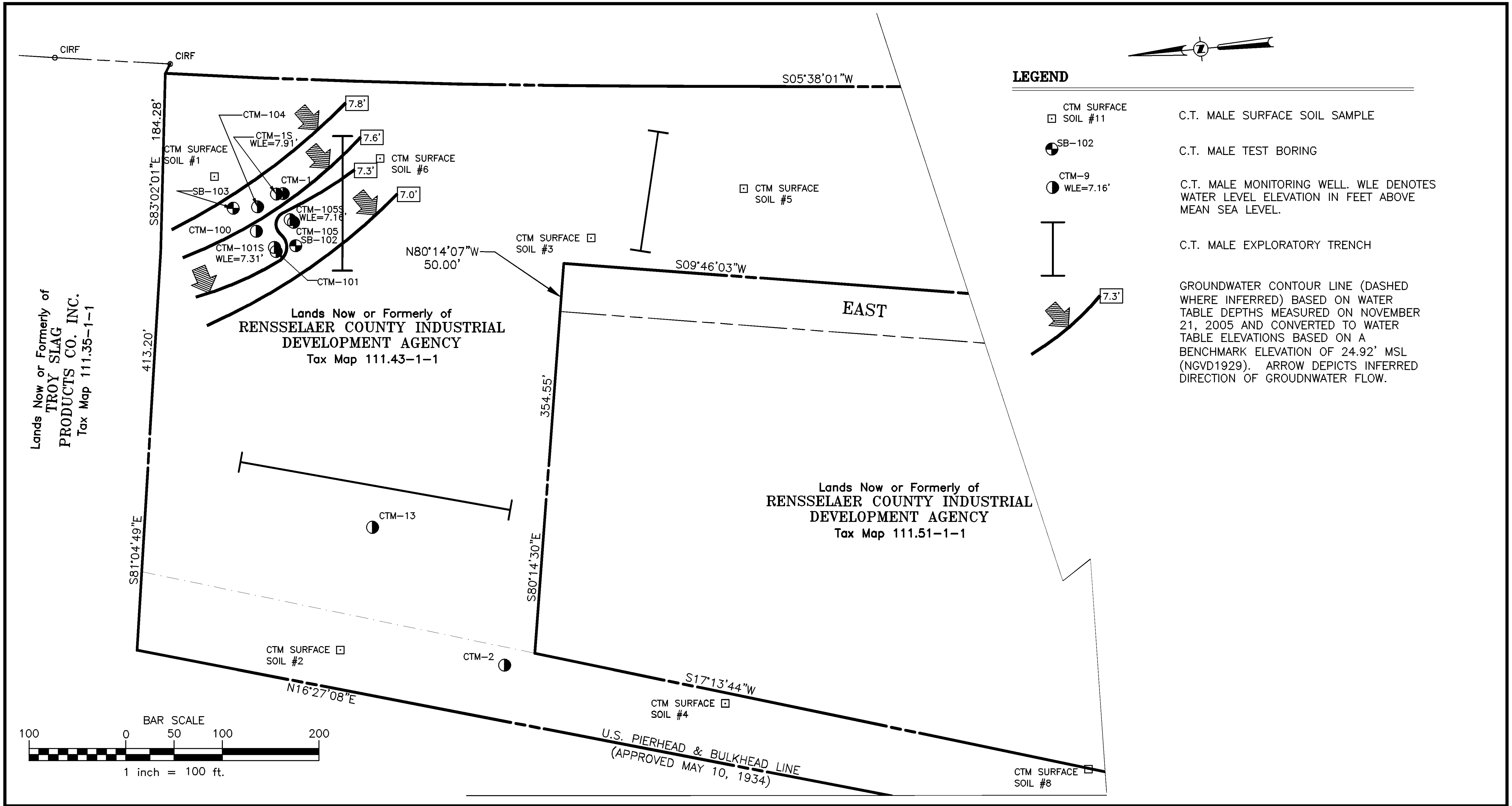
SHEET 9 OF 10
DWG. NO: 05-0857

CAD DWG. FILE NAME:FIG11 GWC P2.DWG

FIGURE 12

SHALLOW GROUNDWATER CONTOUR MAP IN VICINITY OF IRM ON PARCEL 1

(November 21, 2005)



NOTE:
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DESIGNED :
DRAFTED : J. KARON
CHECKED : N.FREEMAN
PROJ. NO: 04.9138
SCALE : 1"=100'
DATE : NOV. 28, 2005

FIGURE 12
SHALLOW GROUNDWATER CONTOUR MAP IN VICINITY OF IRM ON PARCEL 1 (NOV. 21, 2005)

SOUTH TROY INDUSTRIAL PARK BROWNFIELDS INVESTIGATION

CITY OF TROY RENSSELAER COUNTY, NEW YORK

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SHEET 10 OF 10
DWG. NO: 05–0857

APPENDIX A

METES AND BOUNDS DESCRIPTION

DESCRIPTION
PORTION OF LANDS OF
RENSSELAER COUNTY INDUSTRIAL DEVELOPMENT AGENCY

All those certain tracts, pieces or parcels of land situate, in the City of Troy, Rensselaer County, State of New York, lying Easterly of the Hudson River and Northerly of Main Street, and being more particularly bounded and described as follows:

PARCEL 1

BEGINNING at the point of intersection of the division line between the lands now or formerly of Rensselaer County Industrial Development Agency as described in Book 1578 of Deeds at Page 198 on the North and lands now or formerly of The County of Rensselaer as described in Book 1675 of Deeds at Page 220 and Book 1606 of Deeds at Page 321 on the South with the Westerly street boundary of East Industrial Parkway; thence from said point of beginning along said division line North 84 deg. 22 min. 24 sec. West 609.63 feet to its intersection with the Easterly U.S. Pierhead and Bulkhead line of the Hudson River (approved May 10, 1934); thence along said Easterly U.S. Pierhead and Bulkhead line the following two (2) courses: 1) North 17 deg. 38 min. 28 sec. East 135.54 feet to a point; and 2) North 16 deg. 27 min. 08 sec. East 1,528.11 feet to its point of intersection with the division line between the lands of said Rensselaer County Industrial Development Agency on the South and lands now or formerly of Troy Slag Products Company, Inc. as described in Book 1235 of Deeds at Page 801 and Roll 98 of Deeds at Frame 1,641 on the North; thence along said division line the following two (2) courses: 1) South 81 deg. 04 min. 49 sec. East 413.20 feet to a point; and 2) South 83 deg. 02 min. 00 sec. East 184.28 feet to its point of intersection with the division line between the lands of said Rensselaer County Industrial Development Agency on the West and lands now or formerly of Troy and Greenbush Railroad Association (New York Central Railroad Company Lessee) on the East; thence along said division line the following two (2) courses: 1) Southerly along a curve to the left of radius 10,447.00 feet, an arc length of 503.75 feet and a chord bearing of South 07 deg. 00 min. 54 sec. West 503.70 feet to a point of tangency; and 2) South 05 deg. 38 min. 01 sec. West 687.13 feet to its point of intersection with the division line between the lands of said Rensselaer County Industrial Development Agency as described in Book 1578 of Deeds at Page 198 on the North and other lands now or formerly of Rensselaer County Industrial Development Agency as described in Book 1781 of Deeds at Page 242 on the South; thence along said division line North 84 deg. 27 min. 40 sec. West 240.00 feet to a point on the Easterly street boundary of East Industrial Parkway; thence along said Easterly street boundary the following three (3) courses: 1) North 05 deg. 38 min. 01 sec. East 45.00 feet to a point; 2) North 11 deg. 20 min. 36 sec. East 126.95 feet to a point; and 3) North 09 deg. 46 min. 03 sec. East 608.49 feet to the Northeasterly terminus of East Industrial Parkway; thence along the Northerly terminus of East Industrial Parkway, North 80 deg. 14 min. 23 sec. West 50.00 feet to a point on the Westerly street boundary of East Industrial Parkway at its point of intersection with the division line between the lands of said Rensselaer County Industrial Development Agency as described in Book 1578 of Deeds at Page 198 on the North and other lands now or formerly of Rensselaer County Industrial Development Agency as described in Book

_____ of Deeds at Page ______ on the South; thence along said division line North 80 deg. 14 min. 23 sec. West 354.56 feet to its point of intersection with the division line between the lands of said Rensselaer County Industrial Development Agency as described in Book 1578 of Deeds at Page 198 on the West and other lands of said Rensselaer County Industrial Development Agency as described in Book _____ of Deeds at Page _____ on the East; thence along said division line South 17 deg. 13 min. 45 sec. West 778.36 feet to its point of intersection with the division line between the lands of said Rensselaer County Industrial Development Agency as described in Book 1578 of Deeds at Page 198 on the South and other lands of said Rensselaer County Industrial Development Agency as described in Book _____ of Deeds at Page _____ on the North; thence along said division line South 84 deg. 22 min. 24 sec. East 453.47 feet to its intersection with the Westerly street boundary of East Industrial Parkway; thence along said Westerly street boundary South 05 deg. 38 min. 01 sec. West 459.31 feet to the point or place of beginning, containing 16.955± acres of land.

PARCEL 2

BEGINNING at the point of intersection of the division line between the lands now or formerly of Rensselaer County Industrial Development Agency as described in Book 1578 of Deeds at Page 198 on the West and lands now or formerly of The City of Troy as described in Roll 100 of Deeds at Frame 1,524 on the East with the Southerly street boundary of Main Street; thence along said division line South 05 deg. 37 min. 36 sec. West 159.99 feet to its point of intersection with the division line between the lands of said Rensselaer County Industrial Development Agency on the North and lands of said City of Troy on the South; thence along said division line North 83 deg. 55 min. 24 sec. West 225.00 feet to its point of intersection with the division line between the lands of said Rensselaer County Industrial Development Agency on the West and lands of said City of Troy on the East; thence along said division line South 05 deg. 37 min. 36 sec. West 528.58 feet to its point of intersection with the division line between the lands of said Rensselaer County Industrial Development Agency on the North and lands now or formerly of King Service, Inc. as described in Book 1194 of Deeds at Page 936 and Book 1253 of Deeds at Page 531 on the South; thence along said division line North 84 deg. 22 min. 24 sec. West 190.52 feet to its point of intersection with the division line between the lands of said Rensselaer County Industrial Development Agency on the East and lands now or formerly of Callanan Industries, Inc. as described in Book 1253 of Deeds at Page 238 on the West; thence along said division line North 05 deg. 37 min. 36 sec. East 686.80 feet to its intersection with the Westerly terminus of Main Street at its point of intersection with the Southerly street boundary of Main Street; thence along said Southerly street boundary of Main Street, South 84 deg. 22 min. 24 sec. East 415.51 feet to the point or place of beginning, containing 3.826± acres of land.

PARCEL 3

BEGINNING at the point of intersection with the division line between the lands now or formerly of Rensselaer County Industrial Development Agency as described in Book 1578 of Deeds at Page 198 on the West and lands now or formerly of Troy and

Greenbush Railroad Association (New York Central Railroad Company Lessee) on the East with the Northerly street boundary of Main Street; thence from said point of beginning along said Northerly street boundary North 84 deg. 22 min. 24 sec. West 26.43 feet to its point of intersection with the division line between the lands of said Rensselaer County Industrial Development Agency on the East and lands now or formerly of King Service, Inc. as described in Book 1194 of Deeds at Page 936 on the West; thence along said division line North 05 deg. 37 min. 36 sec. East 346.92 feet to its point of intersection with the division line between the lands of said Rensselaer County Industrial Development Agency on the South and lands now or formerly of Hudson-Mohawk Industrial Gateway as described in Book 1265 of Deeds at Page 1016 on the North; thence along said division line South 84 deg. 22 min. 24 sec. East 23.58 feet to its point of intersection with the division line between the lands of said Rensselaer County Industrial Development Agency on the West and lands of said Troy and Greenbush Railroad Association on the East; thence along said division line South 05 deg. 38 min. 01 sec. West 228.12 feet to its point of intersection with the division line between the lands of said Rensselaer County Industrial Development Agency on the South and lands of said Troy and Greenbush Railroad Association on the North; thence along said division line South 72 deg. 36 min. 59 sec. East 5.20 feet to its point of intersection with the above first mentioned division line; thence along said above last mentioned division line South 06 deg. 42 min. 21 sec. West 117.76 feet to the point or place of beginning, containing 0.199± acres of land.

Subject to any easements, restrictions or covenants of record.

C.T. MALE ASSOCIATES, P.C.

James F. Cook, PLS

September 27, 2001
JFC / am / jc / jfc
C.T. Male Project No. 01.7300

APPENDIX B

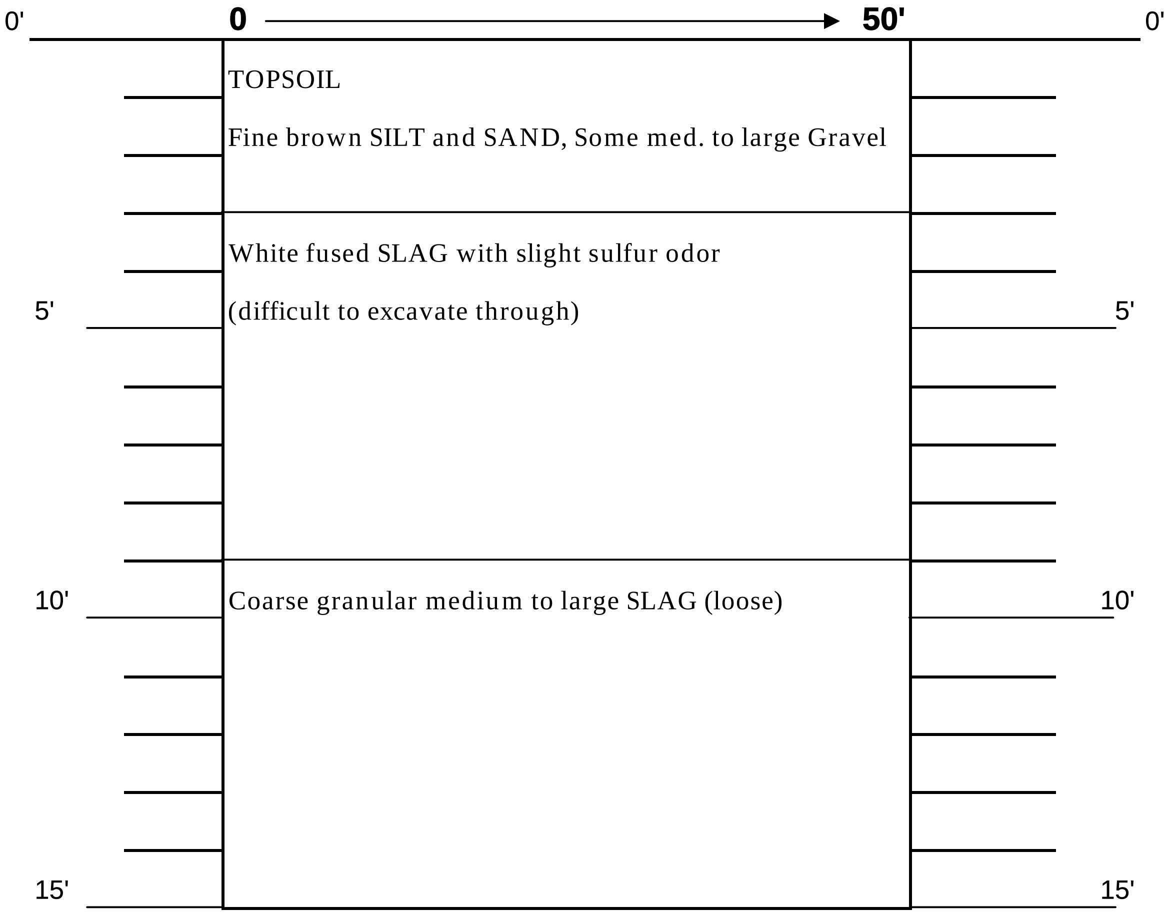
TEST PIT AND TEST TRENCH LOGS

TEST PIT LOG

C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive, P.O. Box 727
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
Building Systems • Engineering • Environmental Services • Land Information Services

PROJECT NAME: South Troy Industrial Park
PROJECT NUMBER: 04.9138
LOGGED BY: N. Freeman
EXCAVATOR: Precision Environmental
EQUIPMENT: Kobelco SK 200 LC
DATE: 10/4/2004

CTM TRENCH NO.1



TOPSOIL

Fine brown SILT and SAND, Some med. to large Gravel

White fused SLAG with slight sulfur odor
(difficult to excavate through)

Coarse granular medium to large SLAG (loose)

TOTAL DEPTH: 17-18' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 50' long (south to north)

NOTES: Native soils encountered at 15.5' bgs at southern end and sloped down to 17' bgs at 50' location.
Excavation refusal out to 35' then able to penetrate through fused slag and work back to 0'.
Topography of land started to rise over this section of trench but fused slag layer stayed at same elevation.
Native brown fine to medium SAND layer encountered below slag - ranged from 6"-18" thick and was
underlain by light brown fine SAND and SILT

TEST PIT LOG

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Building Systems • Engineering • Environmental Services • Land Information Services

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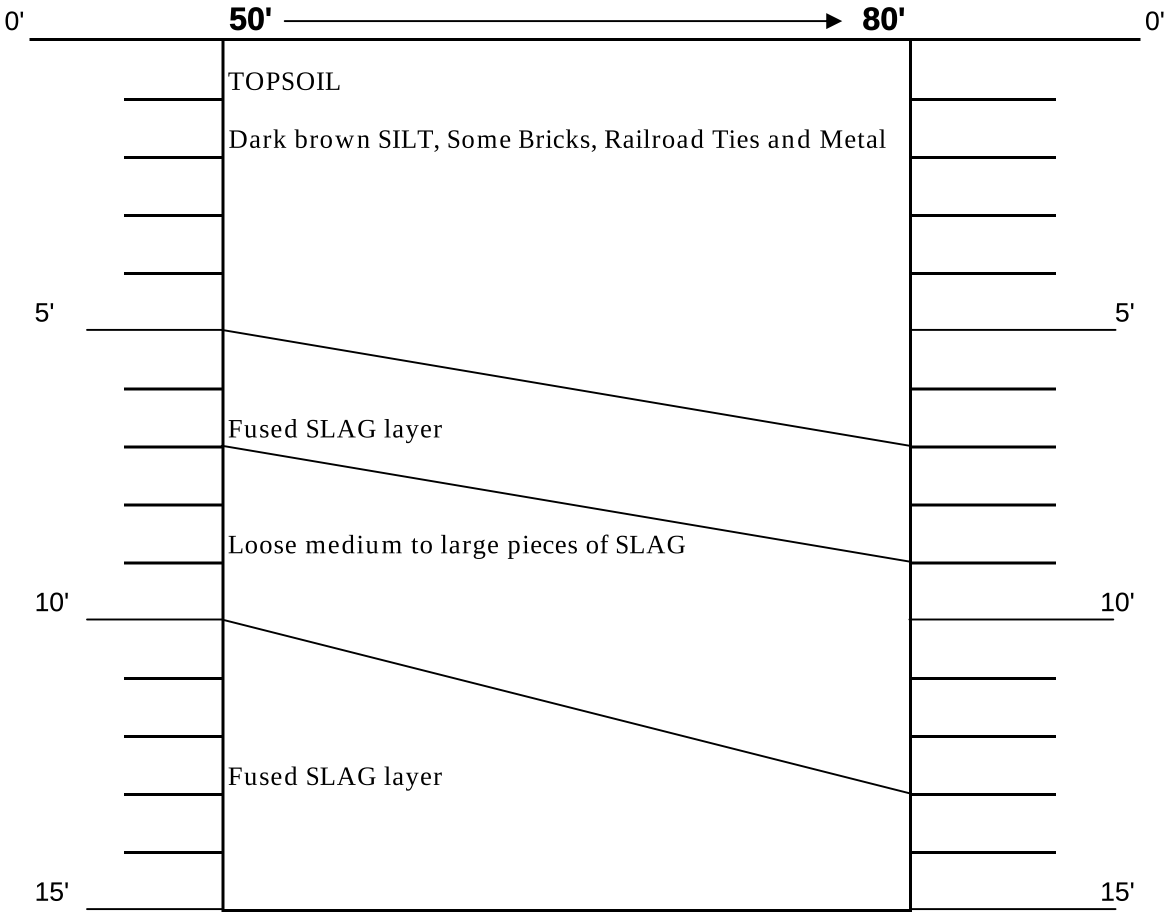
PROJECT NUMBER: 04.9138
LOGGED BY: N. Freeman
EXCAVATOR: Precision Environmental
EQUIPMENT: Kobelco SK 200 LC
DATE: 10/4/2004

CTM TRENCH NO.1



TOTAL DEPTH: 19-20' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 30' long (south to north)

NOTES: Native soils encountered at 17 - 19' below grade composed of Brown SILT and fine SAND.
At 74'- 80', slag encountered at 1' above native soil had a sweet chemical odor with noticeable staining.
At 75', an observed 8" pipe found appears to be associated with construction debris.
Topography of land continues to rise over this section of trench.
As trench moved north, sweet chemical odor becomes stronger.

TEST PIT LOG

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50 Century Hill Drive, P.O. Box 727
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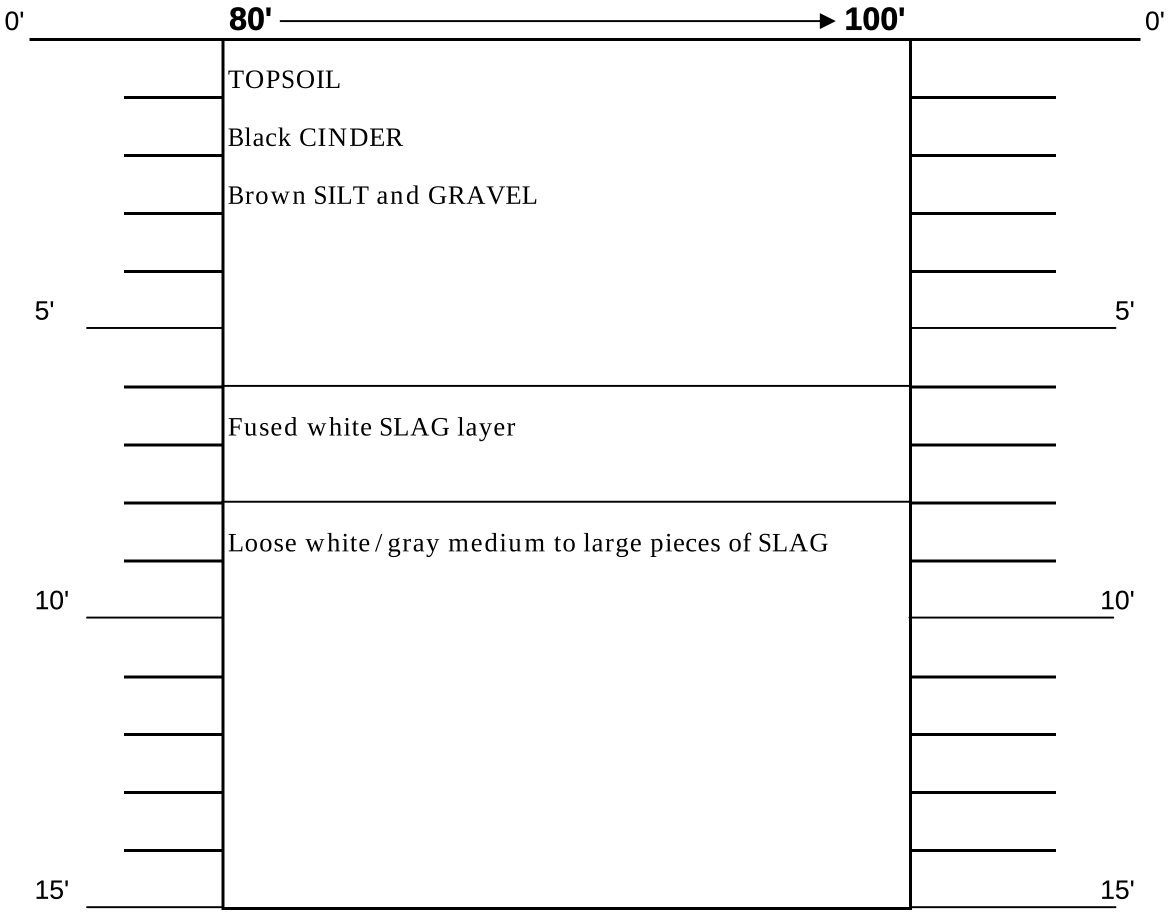
Building Systems • Engineering • Environmental Services • Land Information Services

PROJECT NAME: South Troy Industrial Park
PROJECT NUMBER: 04.9138
LOGGED BY: N. Freeman
EXCAVATOR: Precision Environmental
EQUIPMENT: Kobelco SK 200 LC
DATE: 10/5/2004

CTM TRENCH NO.1



TOPSOIL

Black CINDER

Brown SILT and GRAVEL

Fused white SLAG layer

Loose white/gray medium to large pieces of SLAG

TOTAL DEPTH: 20-21' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 20' long (south to north)

NOTES: At 90', native material encountered consisted of medium SAND and medium and large rounded GRAVEL
At 100', native soils unattainable due to upward sloping topography

TEST PIT LOG

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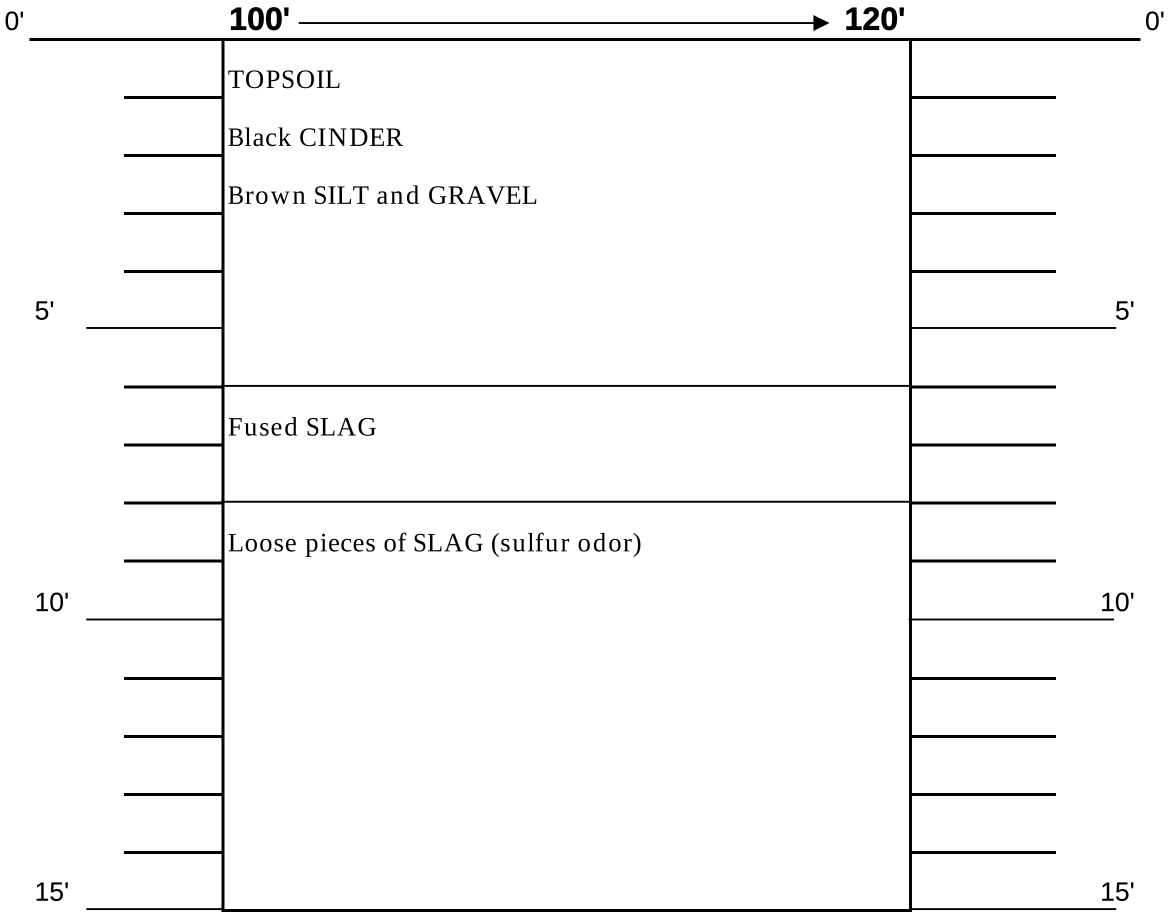
CTM TRENCH NO.1



TOPSOIL

Black CINDER

Brown SILT and GRAVEL

Fused SLAG

Loose pieces of SLAG (sulfur odor)

TOTAL DEPTH: 20' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 20' long (south to north)

NOTES: Starting to see slight resemblance of native soil at 20' below grade - large round gravel in bucket.
Excavation refusal from 120' to 152' at ground surface due to fused slag.

TEST PIT LOG

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Building Systems • Engineering • Environmental Services • Land Information Services

PROJECT NAME: South Troy Industrial Park
PROJECT NUMBER: 04.9138
LOGGED BY: N. Freeman
EXCAVATOR: Precision Environmental
EQUIPMENT: Kobelco SK 200 LC
DATE: 10/5/2004

CTM TRENCH NO.1

0' **120'** → **152'** 0'

Could not penetrate the ground surface

5' 5'

10' 10'

15' 15'

TOTAL DEPTH: NA
WATER AT: NA
SIZE OF TEST PIT: NA (south to north)

NOTES:

TEST PIT LOG

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EQUIPMENT: Kobelco SK 200 LC
DATE: 10/5/2004

CTM TRENCH NO.1

0' **152'** → **193'** 0'

Loose GRAVEL and SILT

Several bricks noted

CINDER and ASH

easy to excavate

5' trench continuosly caves in 5'

10' 10'

15' 15'

TOTAL DEPTH: 15' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 41' long (south to north)

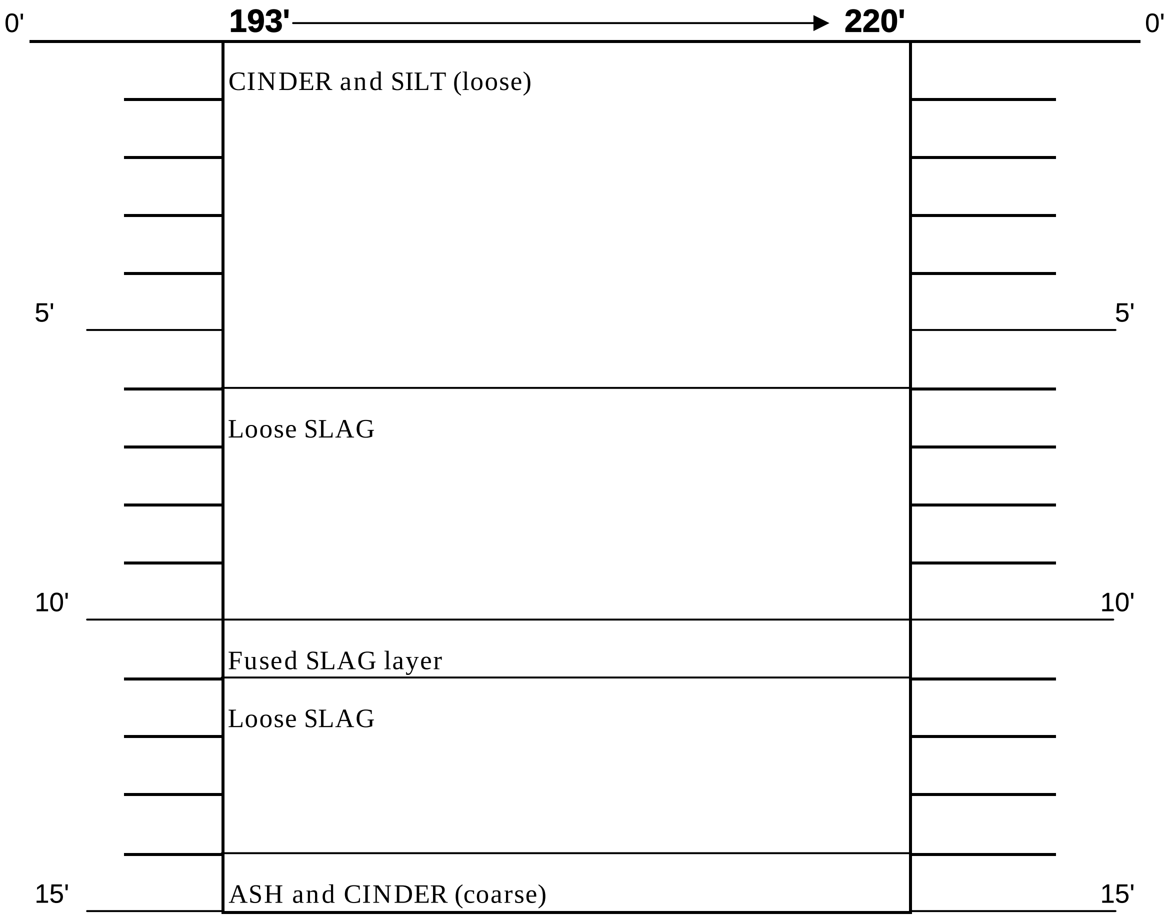
NOTES: 152-193' Brick and loose silt and cinder material to 15' bgs.
At 152' encountered large fused slag boulder at the ground surface, trench was moved to the west (± 10')
and advancement was continued to the north.

TEST PIT LOG

C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive, P.O. Box 727
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
Building Systems • Engineering • Environmental Services • Land Information Services

PROJECT NAME: South Troy Industrial Park
PROJECT NUMBER: 04.9138
LOGGED BY: N. Freeman
EXCAVATOR: Precision Environmental
EQUIPMENT: Kobelco SK 200 LC
DATE: 10/5/2004

CTM TRENCH NO.1



TOTAL DEPTH: 18' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 27' long (south to north)

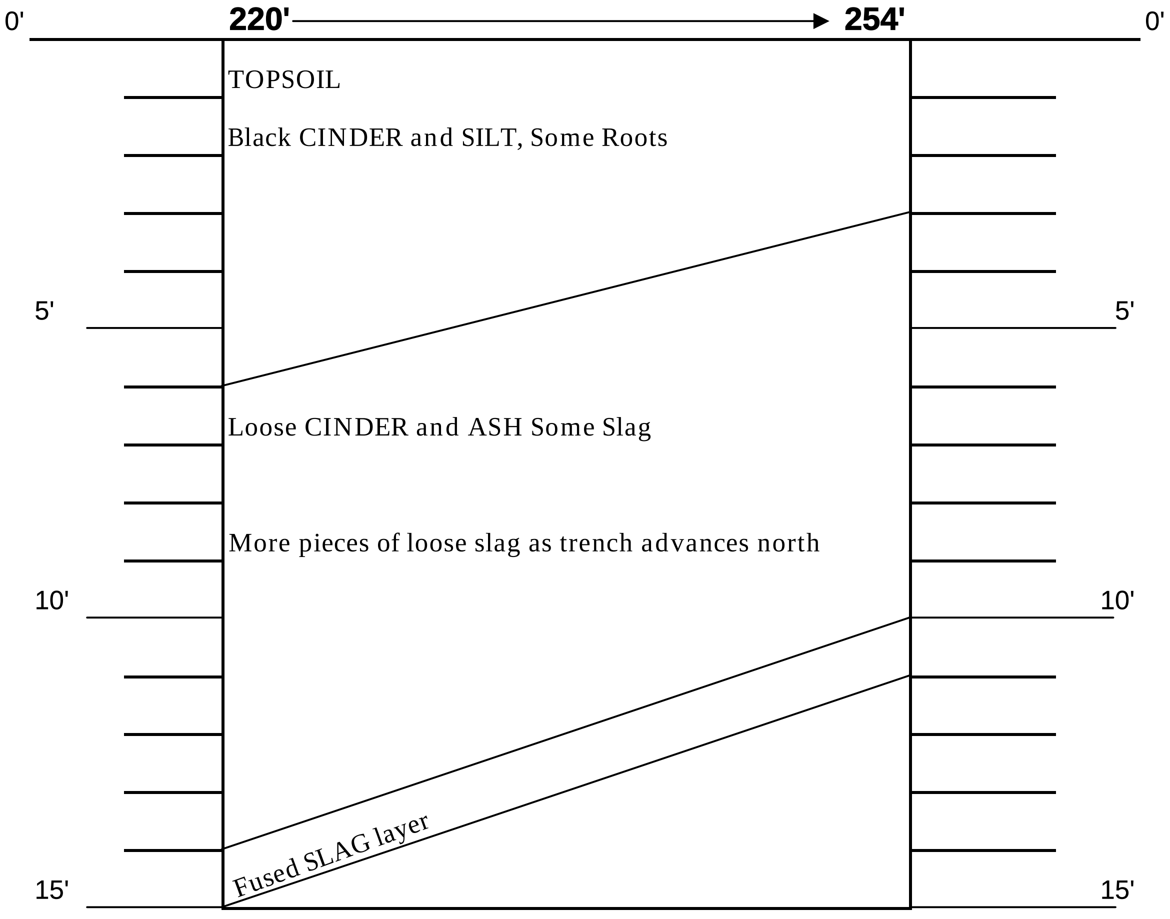
NOTES: Native material was not encountered with the depths explored

TEST PIT LOG

C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive, P.O. Box 727
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
Building Systems • Engineering • Environmental Services • Land Information Services

PROJECT NAME: South Troy Industrial Park
PROJECT NUMBER: 04.9138
LOGGED BY: N. Freeman
EXCAVATOR: Precision Environmental
EQUIPMENT: Kobelco SK 200 LC
DATE: 10/6/2004

CTM TRENCH NO.1



TOPSOIL

Black CINDER and SILT, Some Roots

Loose CINDER and ASH Some Slag

More pieces of loose slag as trench advances north

TOTAL DEPTH: 19-20' BGS
WATER AT: Not encountered within depths explored
SIZE OF TEST PIT: 34' long (south to north)

NOTES: At 228' - Encountered sweet petroleum type fuel odor at 17' below grade.
At 235' -Sweet odor still present both above and below fused slag layer at 14' bgs.
At 228-254' Sweet fuel odor noticable down to extent of excavator reach (19-20' bgs)

TEST PIT LOG

C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive, P.O. Box 727
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
Building Systems • Engineering • Environmental Services • Land Information Services

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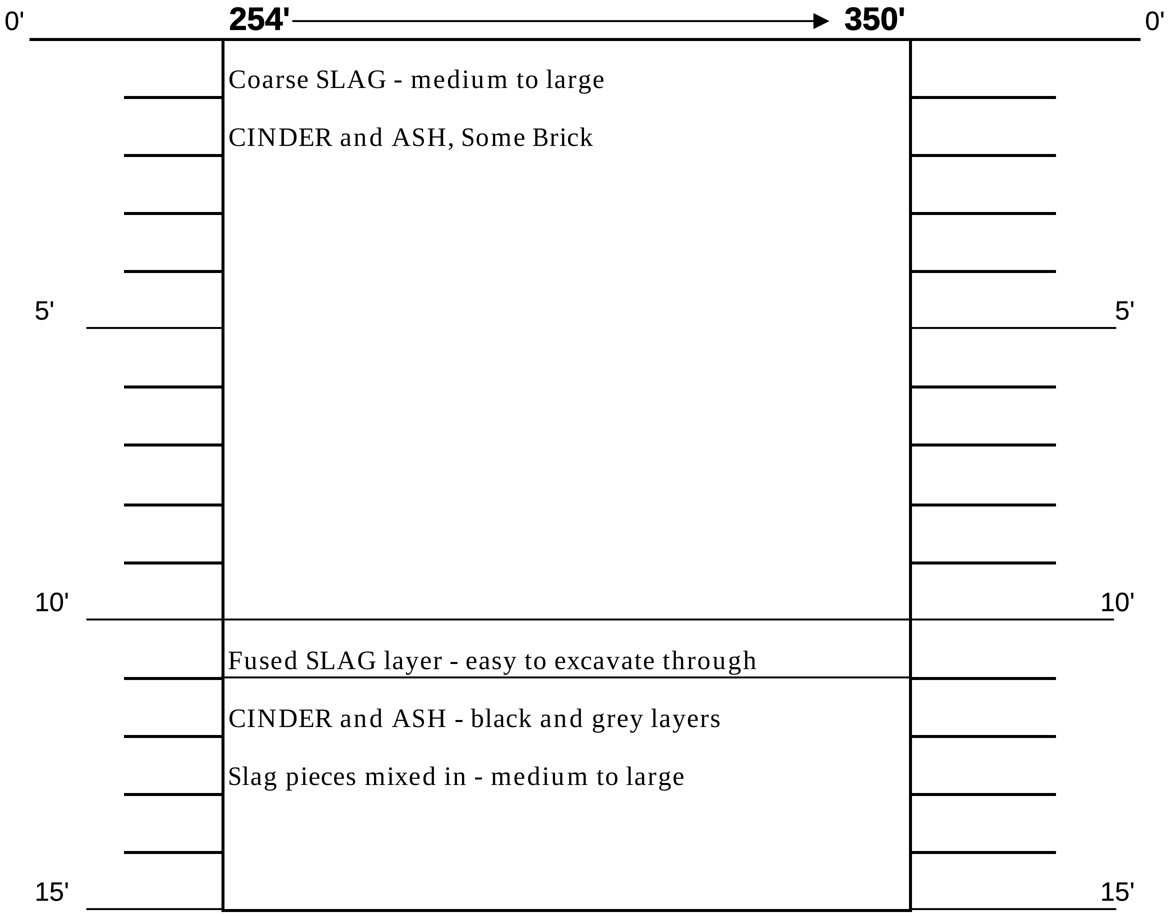
EQUIPMENT: Kobelco SK 200 LC
DATE: 10/6/2004

CTM TRENCH NO.1



Coarse SLAG - medium to large

CINDER and ASH, Some Brick

Fused SLAG layer - easy to excavate through

CINDER and ASH - black and grey layers

Slag pieces mixed in - medium to large

TOTAL DEPTH: 20' bgs
WATER AT: 20' bgs
SIZE OF TEST PIT: 96' long (south to north)

NOTES: At 305' groundwater present in excavation at 20' below grade with slight sheen on water surface
Native soil encountered at ±20' bgs at 260', 305' and 350' consisting of brown SILT and fine SAND.
Trench ended at 350' from beginning point.

TEST PIT LOG

C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive, P.O. Box 727
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
Building Systems • Engineering • Environmental Services • Land Information Services

PROJECT NAME: South Troy Industrial Park
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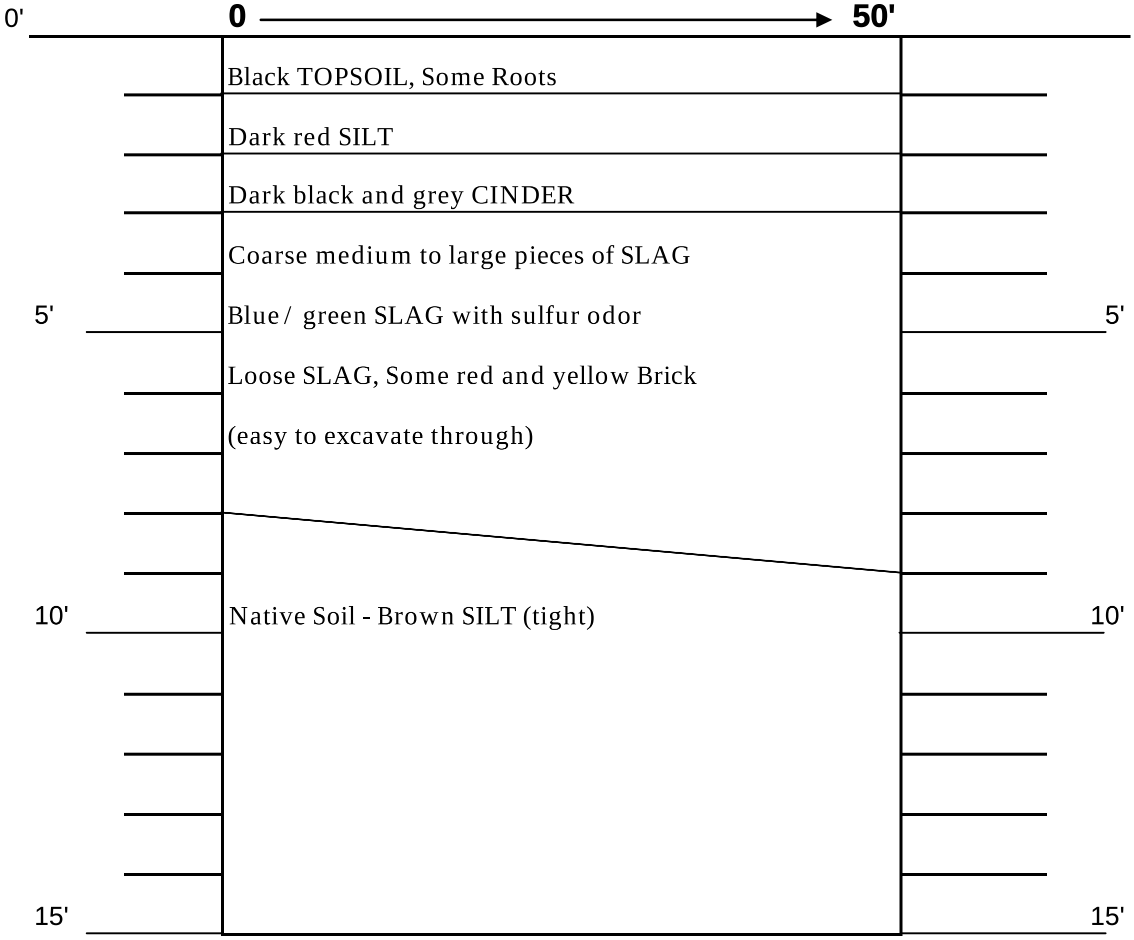
LOGGED BY: N. Freeman
EXCAVATOR: Precision Environmental
EQUIPMENT: Kobelco SK 200 LC
DATE: 9/24/2004

CTM TRENCH NO.5



Black TOPSOIL, Some Roots

Dark red SILT

Dark black and grey CINDER

Coarse medium to large pieces of SLAG

Blue/ green SLAG with sulfur odor

Loose SLAG, Some red and yellow Brick

(easy to excavate through)

Native Soil - Brown SILT (tight)

TOTAL DEPTH: 9-10' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 50' long (east to west)

NOTES: Native soil gradually sloped deeper from 8 -9' over this 50' section of trench.

TEST PIT LOG

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50 Century Hill Drive, P.O. Box 727
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
Building Systems • Engineering • Environmental Services • Land Information Services

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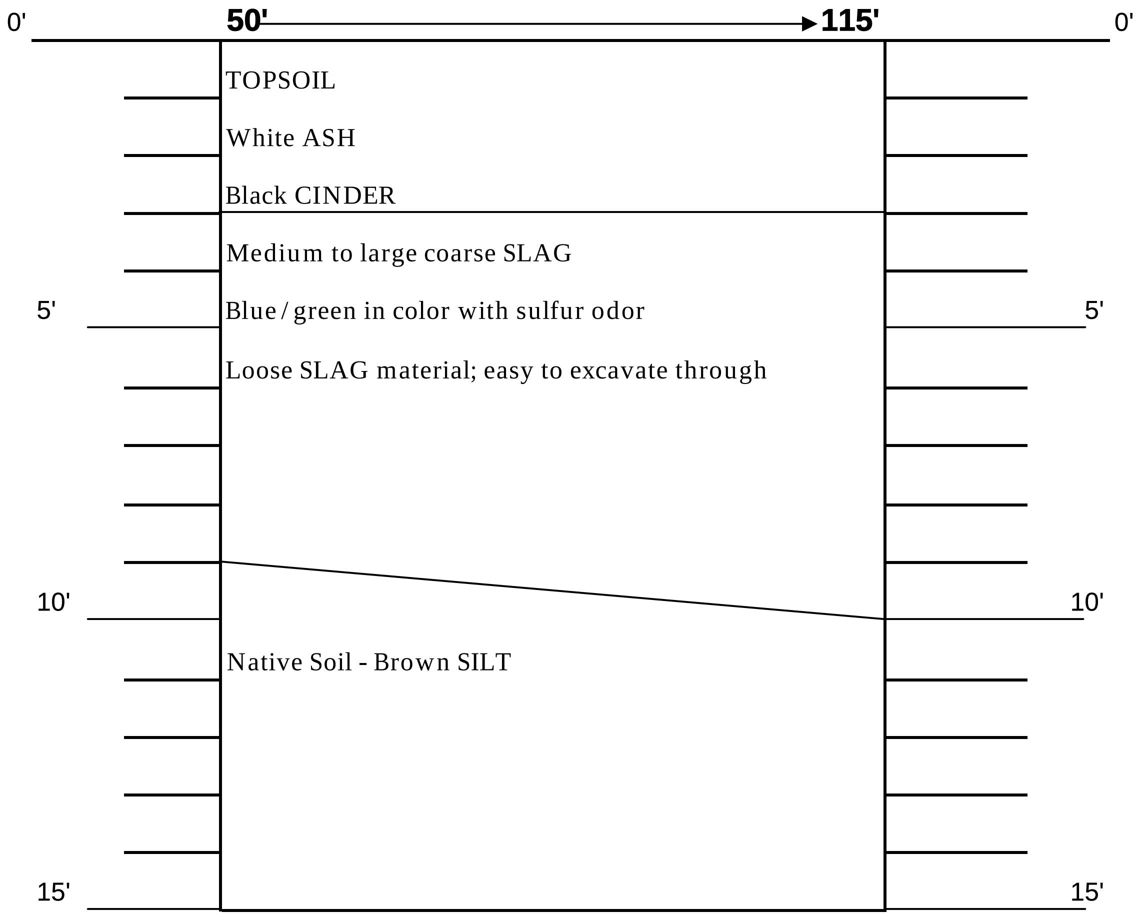
EQUIPMENT: Kobelco SK 200 LC
DATE: 9/24/2004

CTM TRENCH NO.5



TOPSOIL

White ASH

Black CINDER

Medium to large coarse SLAG

Blue/green in color with sulfur odor

Loose SLAG material; easy to excavate through

Native Soil - Brown SILT

TOTAL DEPTH: 10-11' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 65' long (east to west)

NOTES: Native soil continues to dive over lengh of trench, from 9-10'

No fused slag observed, all loose material.

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50 Century Hill Drive, P.O. Box 727
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(518) 786-7400 • FAX (518) 786-7299
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EQUIPMENT: Kobelco SK 200 LC
DATE: 9/27/2004

CTM TRENCH NO.3

0' 0 → 25' 0'

TOPSOIL over brown SAND

Black SILT and CINDER

Fused SLAG - hard to excavate through

5' 5'

Coarse SLAG and loose medium to large COBBLES

White, blue and green SLAG (sulfur odor)

easy to excavate

10' 10'

Native Soil-Brown SILT

15' 15'

TOTAL DEPTH: 14' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 25' long (south to north)

NOTES: Native soils present at 13' bgs.

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Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
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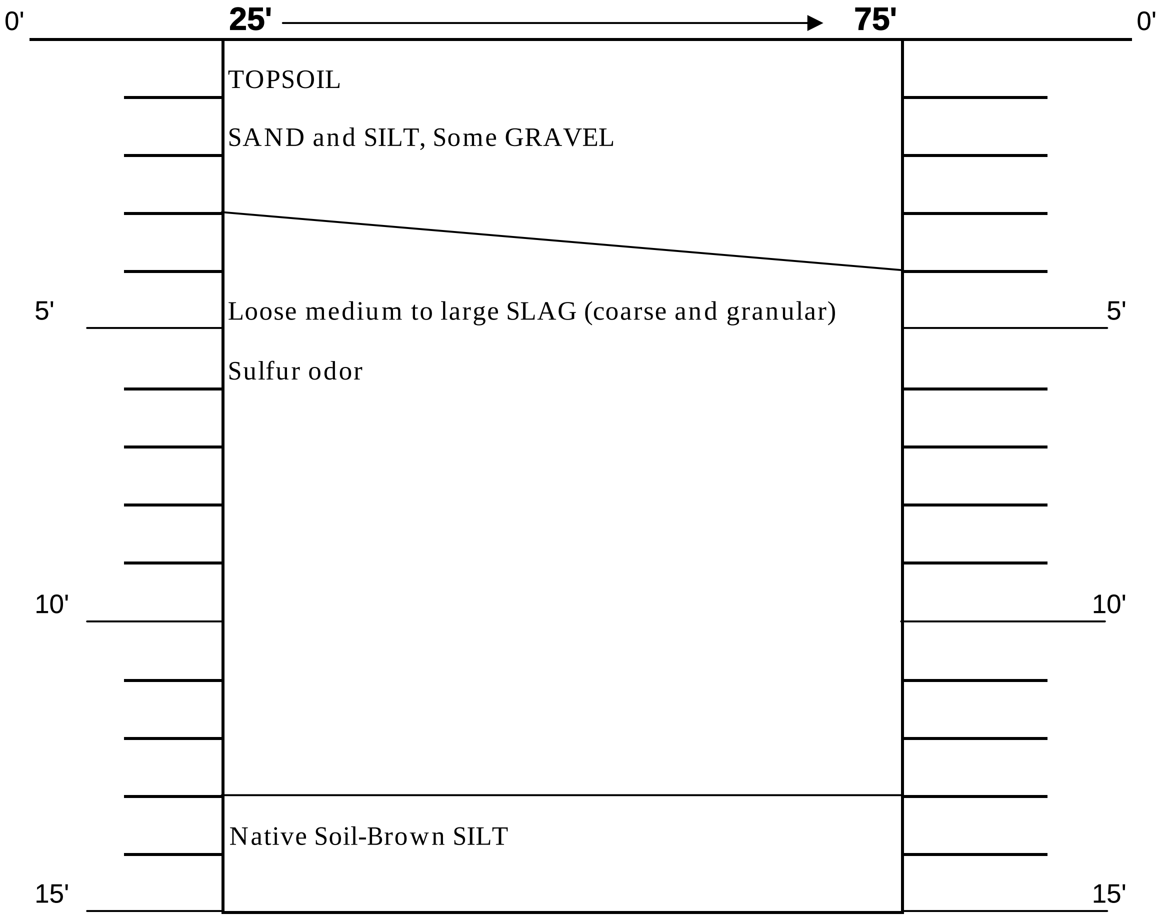
DATE: 9/27/2004

CTM TRENCH NO.3



TOPSOIL

SAND and SILT, Some GRAVEL

Loose medium to large SLAG (coarse and granular)

Sulfur odor

Native Soil-Brown SILT

TOTAL DEPTH: 14' bgs
WATER AT: Not encountered at depth explored
SIZE OF TEST PIT: 50' long (south to north)

NOTES: At 26' - 42'; refusal at 3' below grade.
At 62' - 67', brief gap in slag consisting of backfill material - pipes surrounded by sandy silt observed,
2-4' bgs, running in an east to west direction.

TEST PIT LOG

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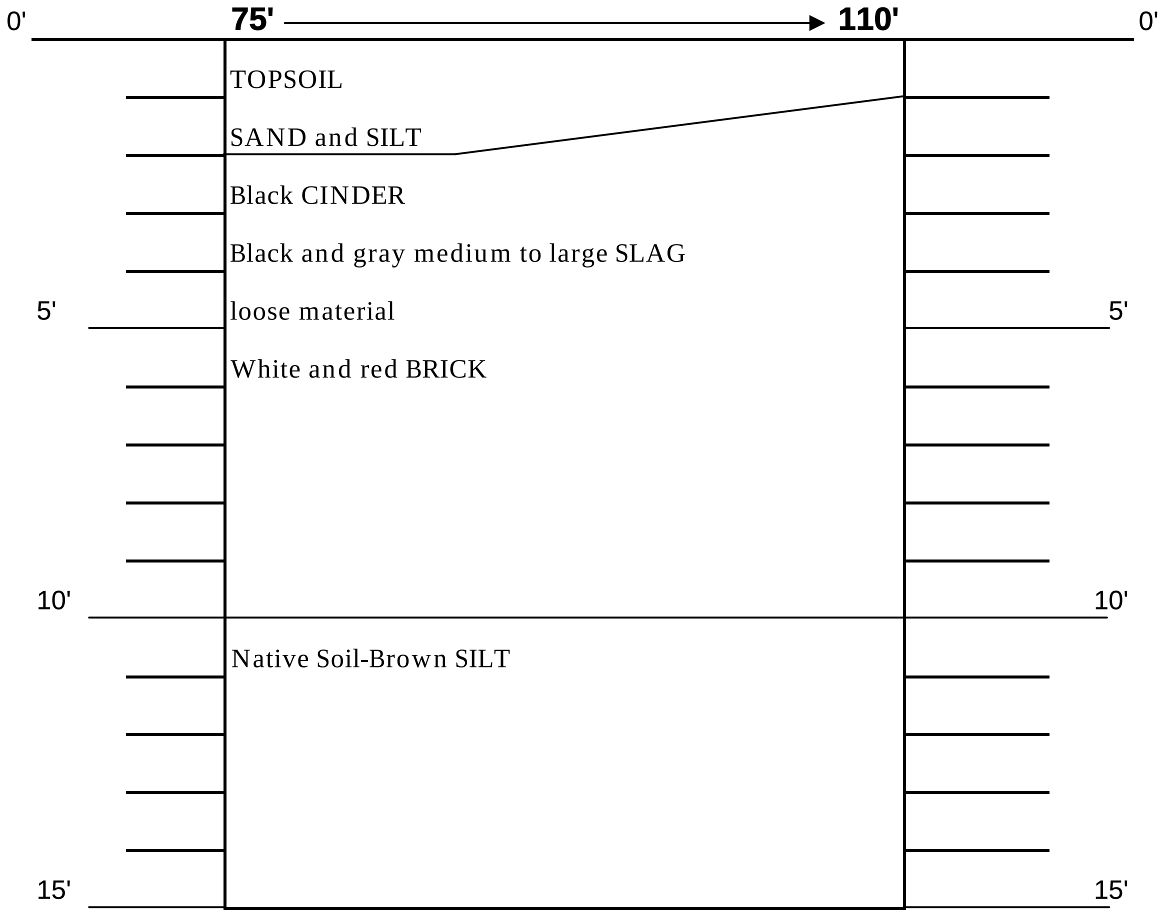
DATE: 9/27/2004

CTM TRENCH NO.3



TOPSOIL
SAND and SILT
Black CINDER
Black and gray medium to large SLAG
loose material
White and red BRICK
Native Soil-Brown SILT

TOTAL DEPTH: 11' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 35' long (south to north)

NOTES: At 76', native material is present at 10' below grade

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50 Century Hill Drive, P.O. Box 727
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
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EQUIPMENT: Kobelco SK 200 LC
DATE: 9/27/2004

CTM TRENCH NO.3

0' **110'** → **150'** 0'

TOPSOIL

Layer of fused white SLAG

Black CINDER, medium/large pieces of dark SLAG

Red and white BRICK

5' Glassy (shines) SLAG (easy to excavate) 5'

10' 10'

Native Soil-Brown SILT

15' 15'

TOTAL DEPTH: 10 - 11' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 40' long (south to north)

NOTES: Native soil present at 10' below grade

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50 Century Hill Drive, P.O. Box 727
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
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EQUIPMENT: Kobelco SK 200 LC
DATE: 9/27/2004

CTM TRENCH NO.3

0' **150'** ⟶ **215'** 0'

TOPSOIL

White and gray SLAG

breaks up easy

5' Black CINDER and GRAVEL 5'

Loose medium to large granular SLAG

Changes from dark to light colored from south to north

10' 10'

Native Soil-Brown SILT

15' 15'

TOTAL DEPTH: 10-11' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 65' long (south to north)

NOTES: At 170', a few small pieces of what appeared to be coal were found.
At 180'-190', crushed red BRICK was observed at 6' below grade.

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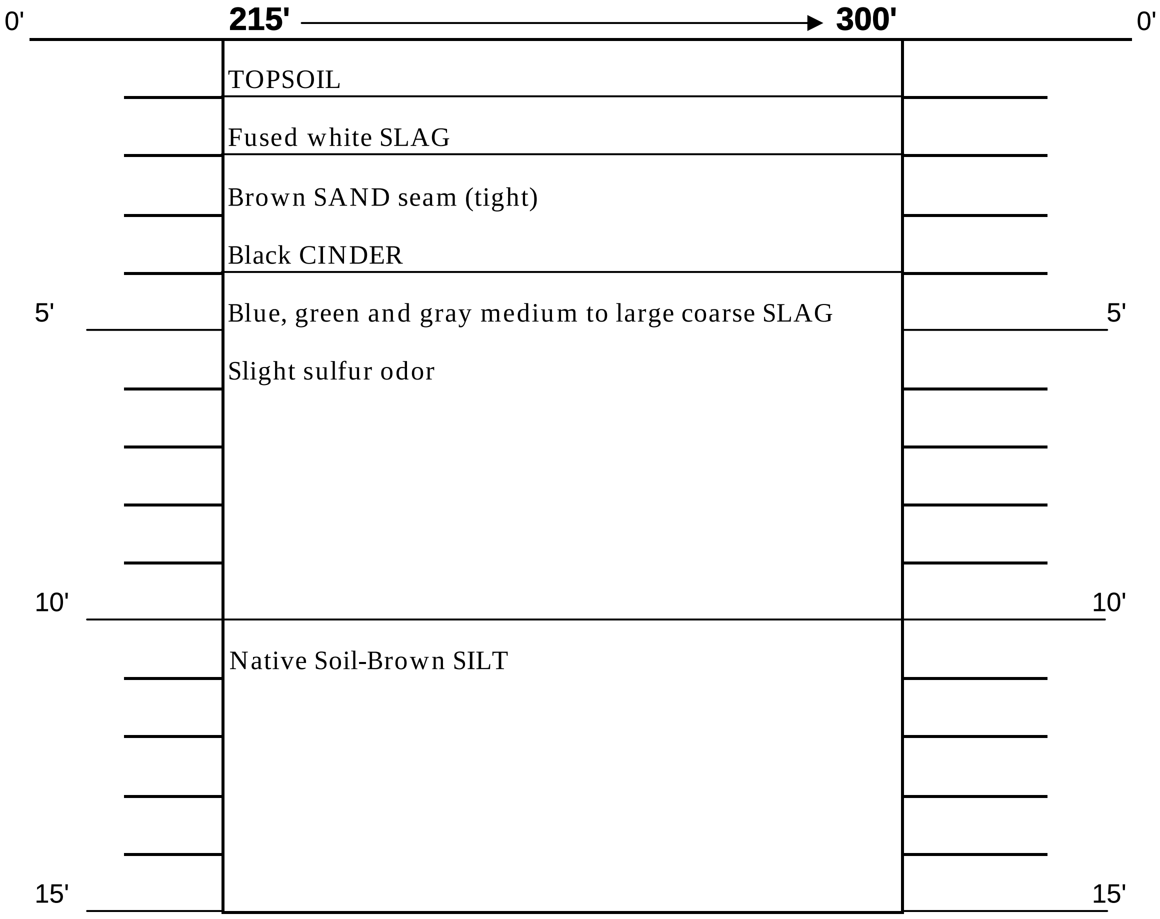
50 Century Hill Drive, P.O. Box 727
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
Building Systems • Engineering • Environmental Services • Land Information Services

PROJECT NAME: South Troy Industrial Park
PROJECT NUMBER: 04.9138
LOGGED BY: N. Freeman
EXCAVATOR: Precision Environmental
EQUIPMENT: Kobelco SK 200 LC
DATE: 9/28/2004

CTM TRENCH NO.3



TOPSOIL

Fused white SLAG

Brown SAND seam (tight)

Black CINDER

Blue, green and gray medium to large coarse SLAG
Slight sulfur odor

Native Soil-Brown SILT

TOTAL DEPTH: 10 - 11' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 85' long (south to north)

NOTES: At 228', encountered old large animal bones at 6-8'bgs.
Native soil encountered between 10 - 11' bgs.

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50 Century Hill Drive, P.O. Box 727
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
Building Systems • Engineering • Environmental Services • Land Information Services

PROJECT NAME: South Troy Industrial Park
PROJECT NUMBER: 04.9138
LOGGED BY: N. Freeman
EXCAVATOR: Precision Environmental
EQUIPMENT: Kobelco SK 200 LC
DATE: 9/29/2004

CTM TRENCH NO.3

0' **300'** → **325'** 0'

TOPSOIL

Fused white SLAG layer-difficult to penetrate

Black CINDER and ASH, Some Gravel

Brown SAND lens with roots

5' Medium to large coarse SLAG 5'

Red and white BRICK (sulfur odor)

Loose material

10' 10'

Native Soil-Brown SILT

15' 15'

TOTAL DEPTH: 11- 12' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 25' long (south to north)

NOTES:

TEST PIT LOG

C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive, P.O. Box 727
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
Building Systems • Engineering • Environmental Services • Land Information Services

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DATE: 9/29/2004

CTM TRENCH NO.3

0' **325'** → **370'** 0'

Dark brown SILT and SAND with light brown sand layers

5' White, blue, green and grey coarse SLAG 5'

10' Native Soil-Brown silt, trace sand 10'

15' 15'

TOTAL DEPTH: 10-11' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 45' long (south to north)

NOTES: At 338', encountered 2" metal pipe. Pipe ran to 370', never found the end of pipe, pipe did break and no liquid was observed leaving pipe.
At 360', pea stone observed at 2' bgs

TEST PIT LOG

C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive, P.O. Box 727
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
Building Systems • Engineering • Environmental Services • Land Information Services

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DATE: 9/29/2004

CTM TRENCH NO.2

0' 0 → 50' 0'

TOPSOIL

Fused white SLAG (difficult to penetrate)

5' Loose medium to large granular SLAG 5'

White, grey, blue and green SLAG with sulfur odor

Easy to excavate through

Native Soil-Brown SILT

10' 10'

15' 15'

TOTAL DEPTH: 8-10' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 50' long (south to north)

NOTES: At 28', encountered heavy fuel oil stained soils emitting strong fuel oil type odors at 9.5' bgs.
At 28'-40', fuel oil odor and staining apparent in native SILT.

TEST PIT LOG

C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive, P.O. Box 727
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
Building Systems • Engineering • Environmental Services • Land Information Services

PROJECT NAME: South Troy Industrial Park
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EQUIPMENT: Kobelco SK 200 LC
DATE: 9/30/2004

CTM TRENCH NO.2

0' **50'** → **100'** 0'

TOPSOIL

Fused white SLAG (difficult to penetrate)

Coarse medium to large pieces of SLAG

5' Loose material easy to excavate through 5'

Native Soil-Brown SILT

10' 10'

15' 15'

TOTAL DEPTH: 8-10' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 50' long (south to north)

NOTES: At 90', contamination encountered (sweet odor) from 4' to 8' bgs.
Contamination was present in the slag material and slightly into the native soil.
At 90' - 100', contaminated slag (sweet odor) most noticable on western side of trench

TEST PIT LOG

C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive, P.O. Box 727
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
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CTM TRENCH NO.2

0' **100'** → **150'** 0'

Black TOPSOIL and ROOTS

Coarse fused light brown SLAG (gritty)

Fused SLAG with sulfur odor

5' Coarse medium to large SLAG 5'

sulfur odor

loose material

Native Soil-Brown SILT

10' 10'

15' 15'

TOTAL DEPTH: 8 - 10' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 50' long (south to north)

NOTES: At 105', appeared to be the end of contamination detected by PID, 90 - 105' (sweet odor)
At 112', strong rotten egg (sulfur) smell at 4 - 7' below grade

TEST PIT LOG

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50 Century Hill Drive, P.O. Box 727
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
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DATE: 9/30/2004

CTM TRENCH NO.2

0' **150'** → **190'** 0'

TOPSOIL

Thick fused SLAG layer (difficult to penetrate)

5' Loose granular coarse SLAG 5'

Sulfur odor

BRICK

Native Soil-Brown SILT

10' 10'

15' 15'

TOTAL DEPTH: 8-10' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 40' long (south to north)

NOTES: Fused layer of slag, very thick and almost impossible to excavate through.

TEST PIT LOG

C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive, P.O. Box 727
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
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PROJECT NAME: South Troy Industrial Park
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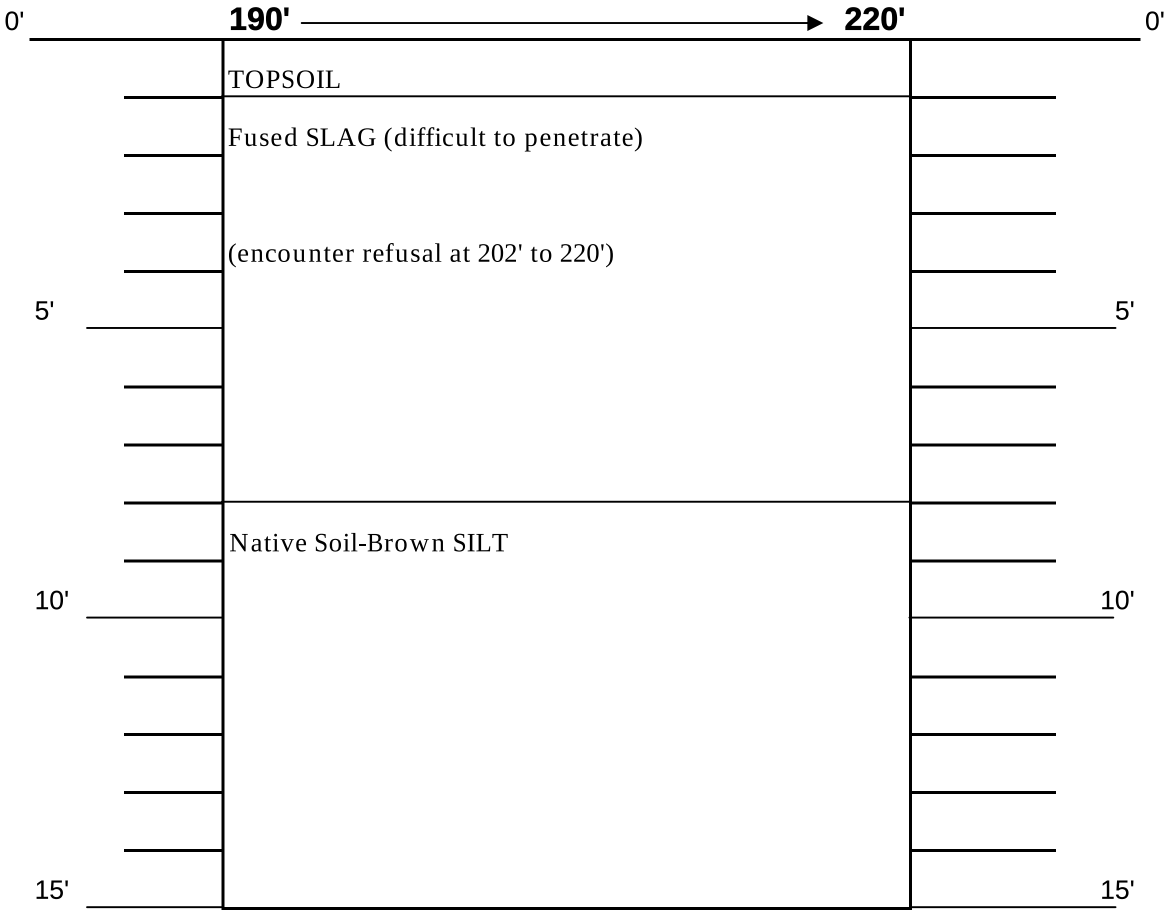
EQUIPMENT: Kobelco SK 200 LC
DATE: 10/1/2004

CTM TRENCH NO.2



TOPSOIL

Fused SLAG (difficult to penetrate)

(encounter refusal at 202' to 220')

Native Soil-Brown SILT

TOTAL DEPTH: 8-10' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 30' long (south to north)

NOTES: At 200', refusal at 1' below grade due to 4-5' thick slag layer.
At 202-220', refusal at 1' below grade.

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C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive, P.O. Box 727
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
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DATE: 10/1/2004

CTM TRENCH NO.2

0' **220'** ⟶ **315'** 0'

TOPSOIL

Loose medium to large granular SLAG

easy to excavate through

Strong sulfur odor

5'

Native Soil: brown fine SAND, trace silt

10'

Native Soil: Brown SILT

15'

TOTAL DEPTH: 8-10' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 95' long (south to north)

NOTES:

TEST PIT LOG

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50 Century Hill Drive, P.O. Box 727
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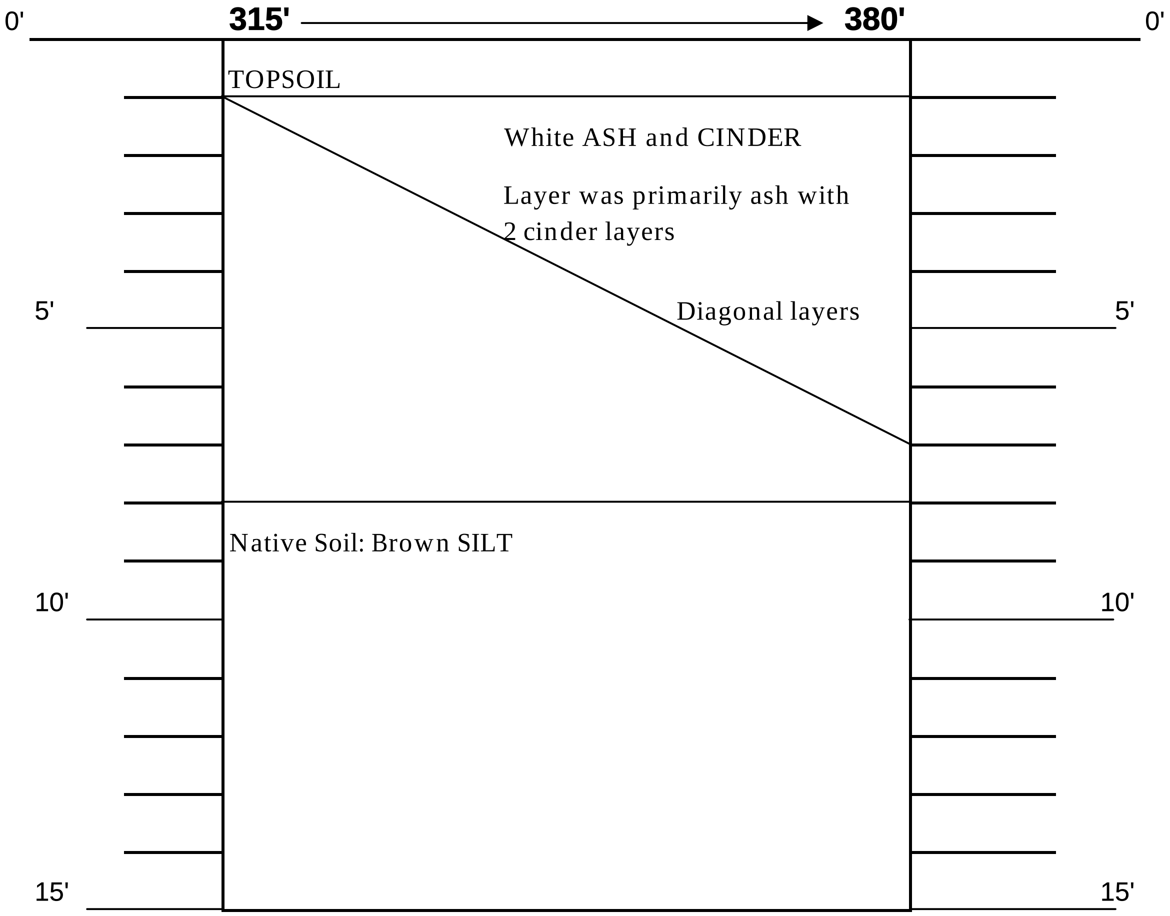
CTM TRENCH NO.2



TOTAL DEPTH: 8-10' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 95' long (south to north)

NOTES: At 310' - 342', ash layer starts to taper from 1' to 6' thick.
At 342' - 350', thick fused slag layer (6 to 7') encountered.
At 350', refusal due to fused slag at 1' bgs.
At 370' -380', refusal due to fused slag located 4-5' bgs.

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DATE: 10/1/2004

CTM TRENCH NO.2

0' **270'** → **West into Bank** 0'

Black CINDER, Some Brick

Medium pieces of fused SLAG

5' 5'

ASH

Coarse medium to large pieces of SLAG

sulfur odor

10' 10'

15' 15'

TOTAL DEPTH: 10' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 15' long (east to west into an elevated bank)

NOTES: PID analyses at 2 foot intervals showed all material to be less than 1 ppm.

Directly to the west of the conducted trench was a change in the land topography, consisting of a rise in elevation of ± 10'.

Trench ran east and west to see what type of material made up the elevated bank

TEST PIT LOG

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DATE: 9/21/2004

CTM TRENCH NO.4

0' **0** ⟶ **42'** 0'

Black SILT (fill material)

5' White SLAG and CONCRETE 5'
rail road ties
metal pieces
old cables
large boulder size pieces of fused SLAG
10' white pulverized SLAG 10'

Black fine to medium ASH and CINDER
Medium SLAG

15' 15'

TOTAL DEPTH: 18' - 20' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 42' long (north to south)

NOTES: Trench started from north end.
Native material encounterd at 18' bgs at 42' from start of trench (only area native soils encountered).
Native material encountered was gray SILT (moist).

TEST PIT LOG

C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive, P.O. Box 727
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
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EQUIPMENT: Kobelco SK 200 LC
DATE: 9/21/2004

CTM TRENCH NO.4

0' **42'** ⟶ **80'** 0'

Large fused boulders of SLAG
roots

White brown and rust colored SLAG
easy to break up
5' red and yellow BRICK 5'

10' Black ASH and CINDER (loose) 10'
metal pipes
wheels, shocks, leaf springs
red brick
shingles
15' cables and tires 15'

TOTAL DEPTH: 18'-20' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 38' long (north to south)

NOTES: Possible native soils observed in excavator bucket at 19'-20' bgs consisting of gray SILT and medium GRAVEL (not well defined)

TEST PIT LOG

C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive, P.O. Box 727
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
Building Systems • Engineering • Environmental Services • Land Information Services

PROJECT NAME: South Troy Industrial Park
PROJECT NUMBER: 04.9138
LOGGED BY: N. Freeman
EXCAVATOR: Precision Environmental
EQUIPMENT: Kobelco SK 200 LC
DATE: 9/21/2004

CTM TRENCH NO.4

0' **80'** ⟶ **100'** 0'

Fused boulders of SLAG

Black, brown, white and red SLAG
5' no noticable odor 5'
fire brick, red and yellow brick
telephone pole
corrugated metal

10' 10'

Fused SLAG (large flat slabs)
cables
bottles
tarp

15' 15'

TOTAL DEPTH: 18'-20' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 20' long (north to south)

NOTES: Native soils were not encountered at the depths explored (18-20').

TEST PIT LOG

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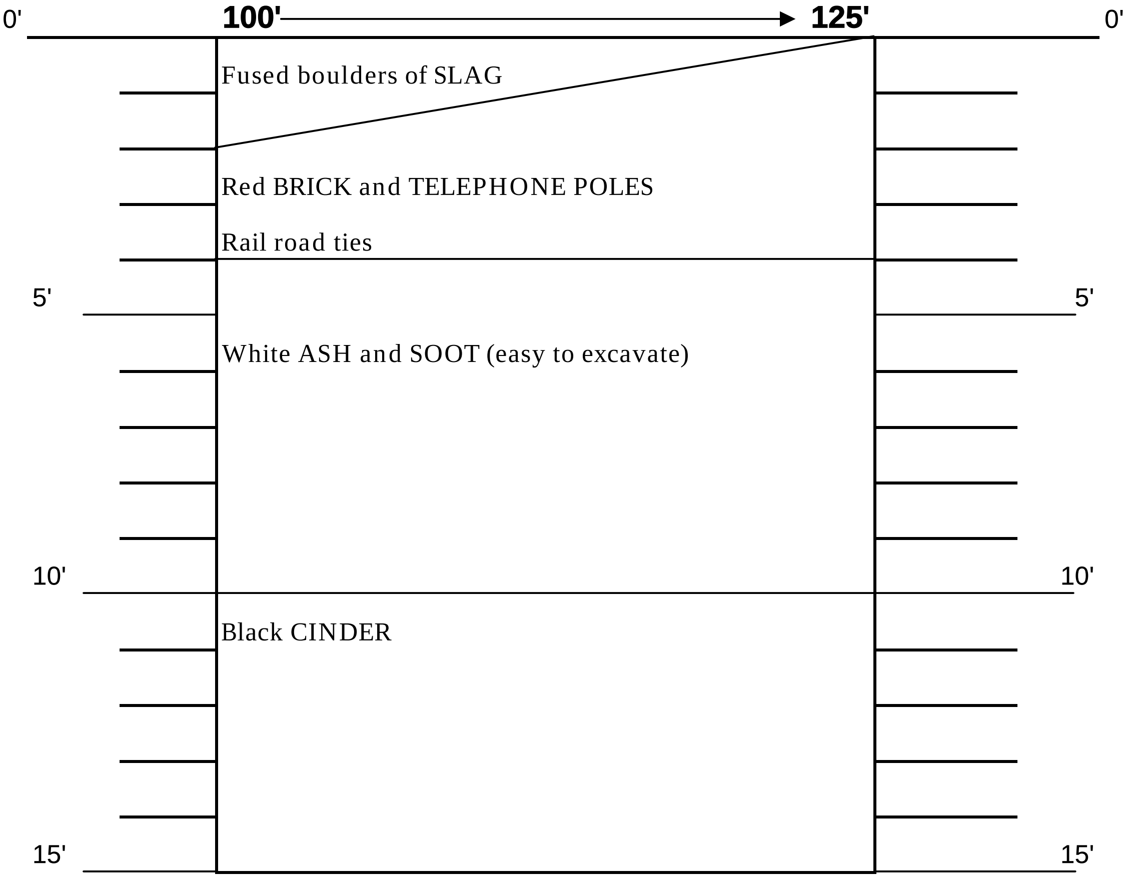
EQUIPMENT: Kobelco SK 200 LC
DATE: 9/22/2004

CTM TRENCH NO.4



TOTAL DEPTH: 19' - 20' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 25' long (north to south)

NOTES: Refusal from 114' to 125' at 15' below grade due to a fused slag layer emitting a slight sulfur odor.
Native soil was not encountered at depths explored.

TEST PIT LOG

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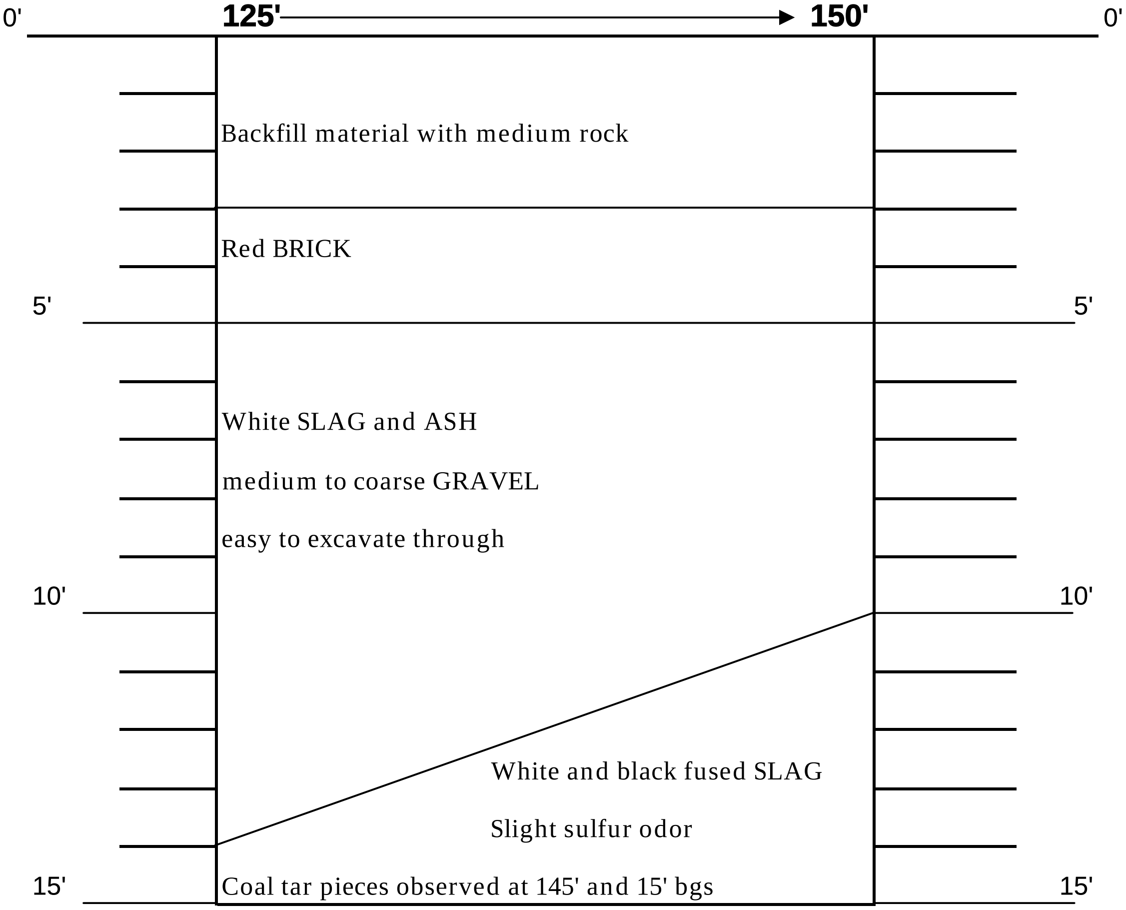
CTM TRENCH NO.4



TOTAL DEPTH: 18' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 25' long (north to south)

NOTES: At 145', encountered solidified coal tar at 14'-15' bgs. Coal tar exhibited a tar odor and ambient air analysis with the PID exhibited readings of 10 to 12 ppm.

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EQUIPMENT: Kobelco SK 200 LC
DATE: 9/22/2004

CTM TRENCH NO.4

0' **150'** → **200'** 0'

Black SILT and medium GRAVEL

Fill material

5' 5'

Medium to coarse SLAG

Thick fused white SLAG layer (difficult to excavate)

10' 10'

Granular medium to large SLAG (no noticeable odor)

15' Thick fused SLAG layer (unable to penetrate) 15'

TOTAL DEPTH: 14'-15' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 50' long (north to south)

NOTES: At 160', refusal encountered at 8' below grade due to white fused slag that extended beyond 5 feet.
At 160' - 190', refusal encountered due to fused white slag at 14' below grade

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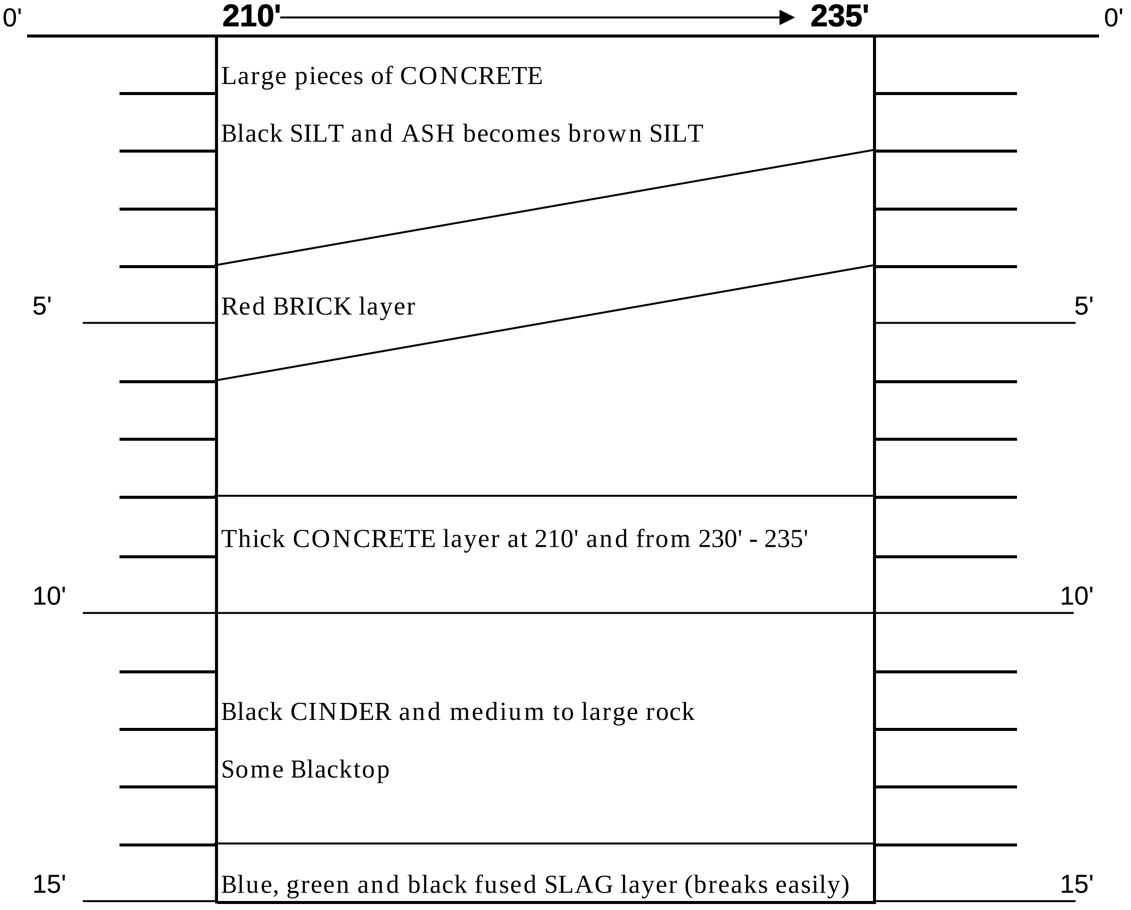
EQUIPMENT: Kobelco SK 200 LC
DATE: 9/23/2004

CTM TRENCH NO.4



TOTAL DEPTH: 18'-19' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 25' long (north to south)

NOTES: At 210', a one foot thick layer of concrete was observed at 8' bgs.
As the excavation advanced from 210' to 235', the thick slag layer at the base of the trench stayed consistent. Native soils were not encountered at depths explored.
Top portion of excavation changed from black cinder to brown silt. Top of excavation contained large pieces of concrete.

TEST PIT LOG

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DATE: 9/23/2004

CTM TRENCH NO.4

0' **235'** → **280'** 0'

	Black SILT and medium to large GRAVEL (loose)	
5'	Brown CLAY, Some Silt and fine to coarse Gravel (tight)	5'
	Black SILT and fine to coarse GRAVEL	
10'	CONCRETE layer	10'
	Black CINDERS	
15'	White, brown, gray and black fused SLAG (sulfur odor)	15'

TOTAL DEPTH: 18-20' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 45' long (north to south)

NOTES: This section of trench was very uniform throughout.
At 268', a thick layer of yellow fire brick was observed just below the concrete layer at 10-11' bgs.
At 275', the thick layer of concrete ends.
At 14'-15', a fused slag layer was encountered. Native soil was not encountered at depths explored.

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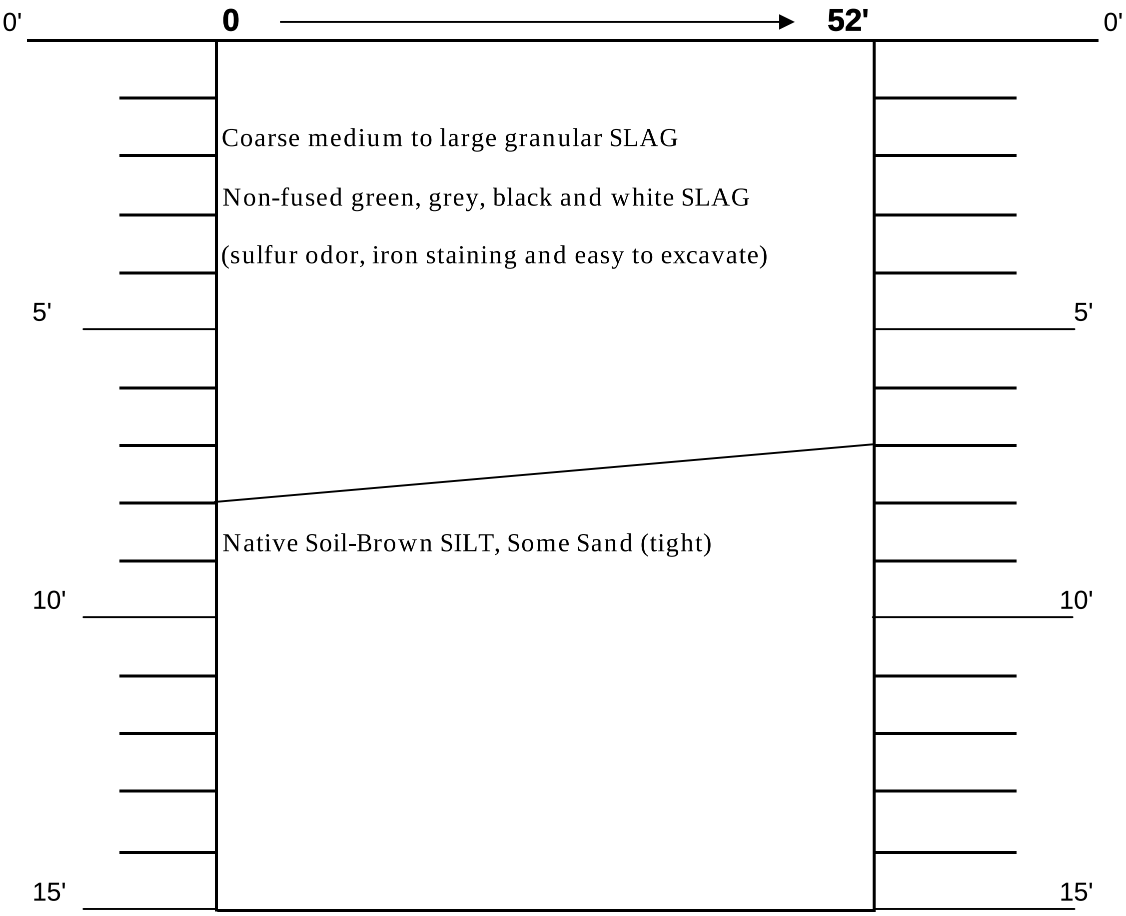
DATE: 9/23/2004

CTM TRENCH NO.6



Coarse medium to large granular SLAG
Non-fused green, grey, black and white SLAG
(sulfur odor, iron staining and easy to excavate)

Native Soil-Brown SILT, Some Sand (tight)

TOTAL DEPTH: 8-10' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 52' long (east to west)

NOTES: Native material ranged in depth from 7'-8' bgs

TEST PIT LOG

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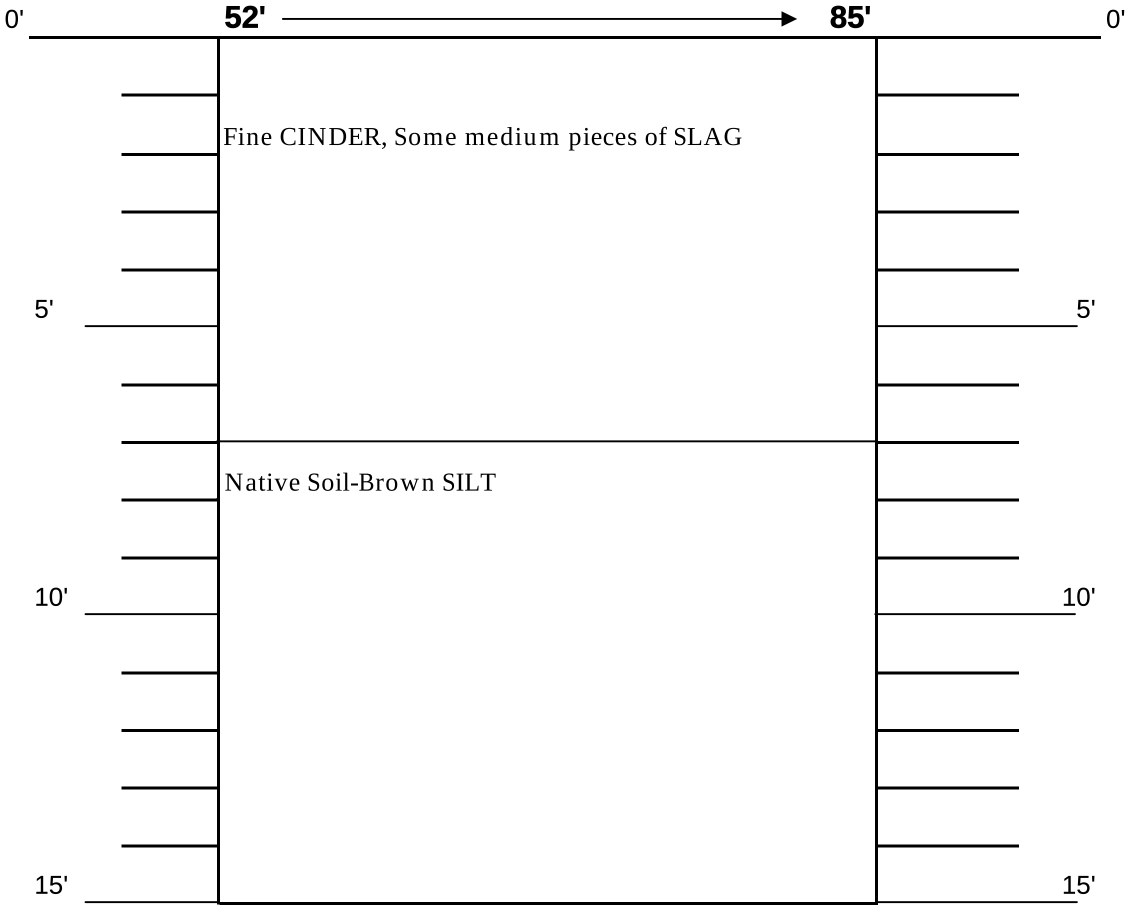
EQUIPMENT: Kobelco SK 200 LC
DATE: 9/23/2004

CTM TRENCH NO.6



Fine CINDER, Some medium pieces of SLAG

Native Soil-Brown SILT

TOTAL DEPTH: 7'-8' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 33' long (east to west)

NOTES: At 55'-82', refusal was encountered at 3' bgs. Moved south 12' and still encountered refusal.
At 85', excavator broke through to native brown SILT at 7' bgs.
As the excavation progressed from east to west, the SLAG changed from coarse to fine.

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EQUIPMENT: Kobelco SK 200 LC
DATE: 9/24/2004

CTM TRENCH NO.6

0' 85' ⟶ 115' 0'

Fine black SLAG, CINDER and ASH

Some Brick

Concrete

Cables

5' Railroad ties 5'

Native Soil-Brown SILT and CLAY

10' 10'

15' 15'

TOTAL DEPTH: 7-8' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 30' long (east to west)

NOTES: At 112', encountered a thick piece of slag at 3' bgs that could not be penetrated.
At 100-115', a concrete layer was observed at 2.5-3.0' bgs.

TEST PIT LOG

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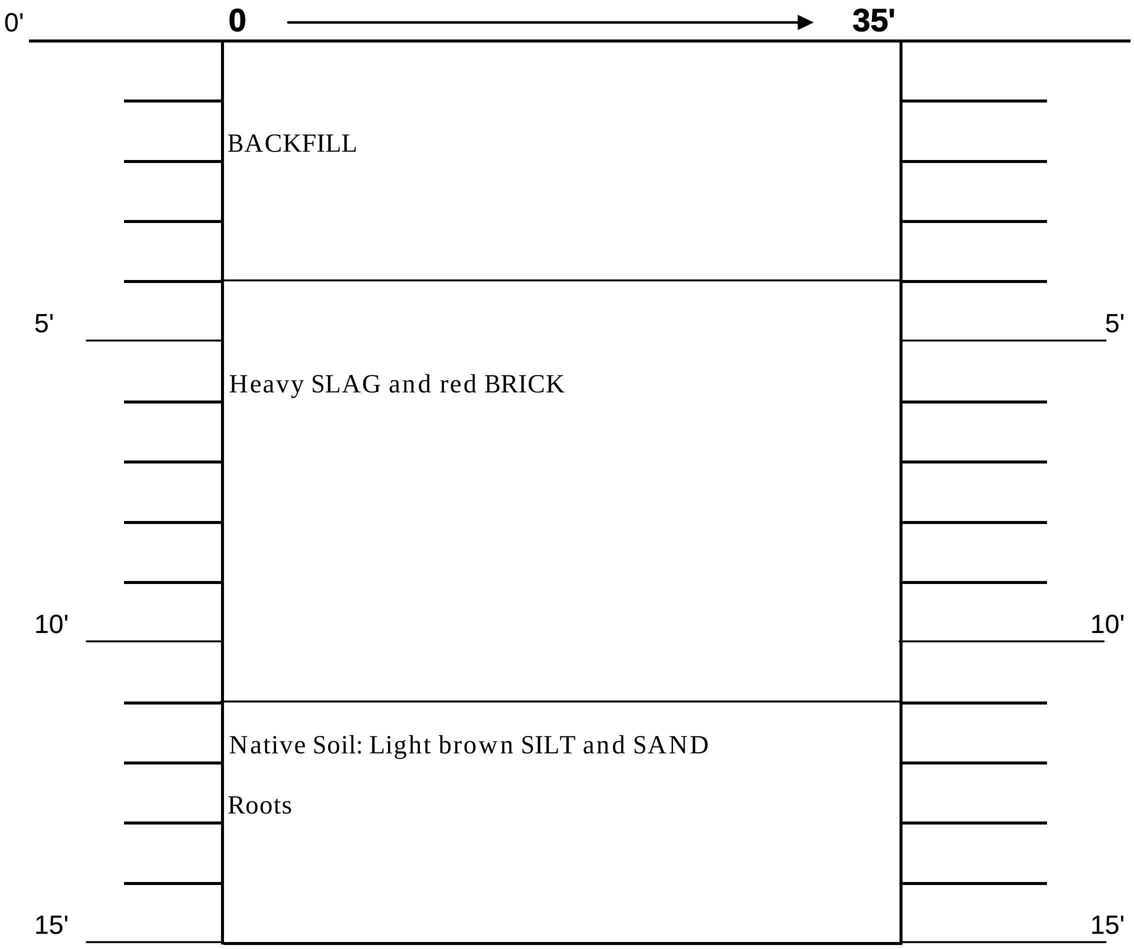
EQUIPMENT: Kobelco SK 200 LC
DATE: 9/20/2004

CTM TRENCH NO.7



TOTAL DEPTH: 12' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 35' long (east to west)

NOTES: Native soil at 11'-12' bgs consisted of brown SILT with Some Sand.
Trench started at east end.

TEST PIT LOG

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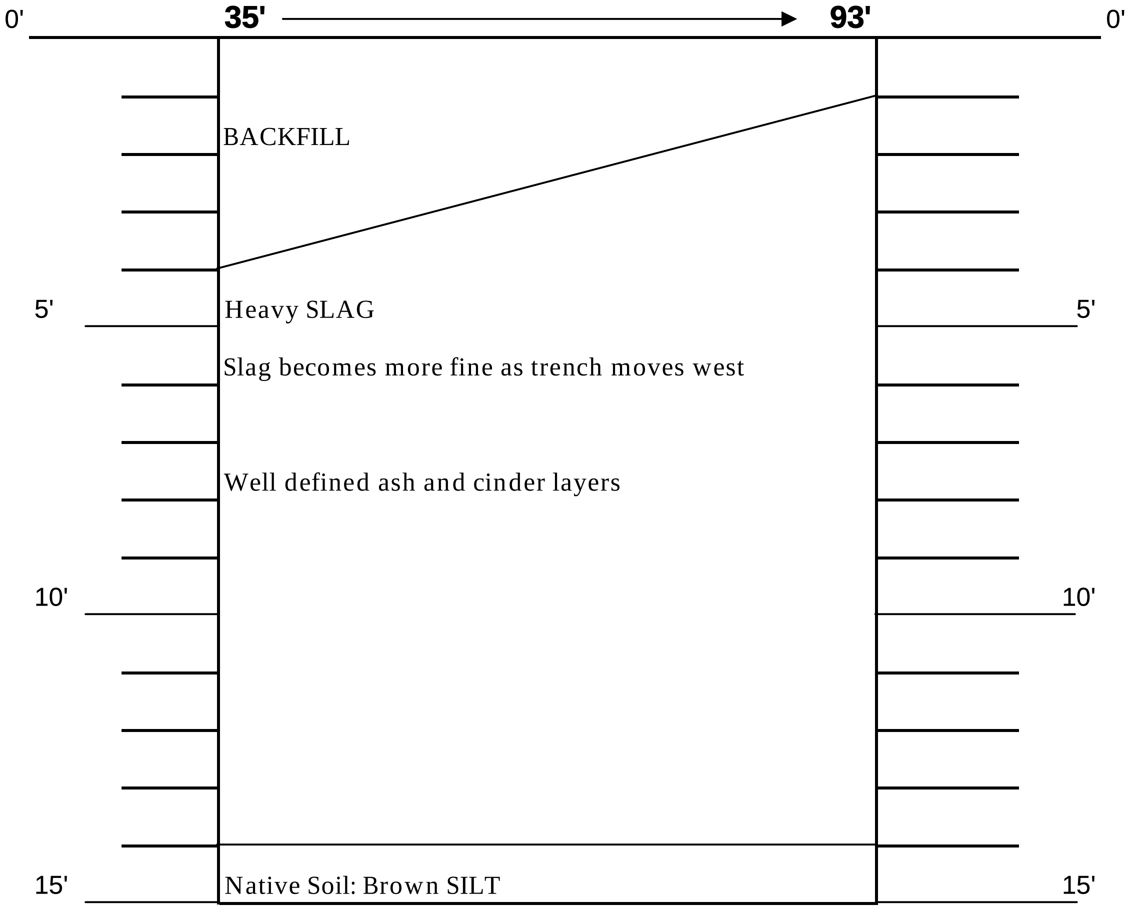
DATE: 9/20/2004

CTM TRENCH NO.7



BACKFILL

Heavy SLAG

Slag becomes more fine as trench moves west

Well defined ash and cinder layers

Native Soil: Brown SILT

TOTAL DEPTH: 15' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 58' long (east to west)

NOTES: At 52' from start of trench, hit refusal at 6' below grade. A fused slag layer was located in this area and the trench was moved back 10' to try and get below area of refusal (52'- 65' refusal).
As trench moved from east to west, slag becomes closer to surface and native material becomes deeper.

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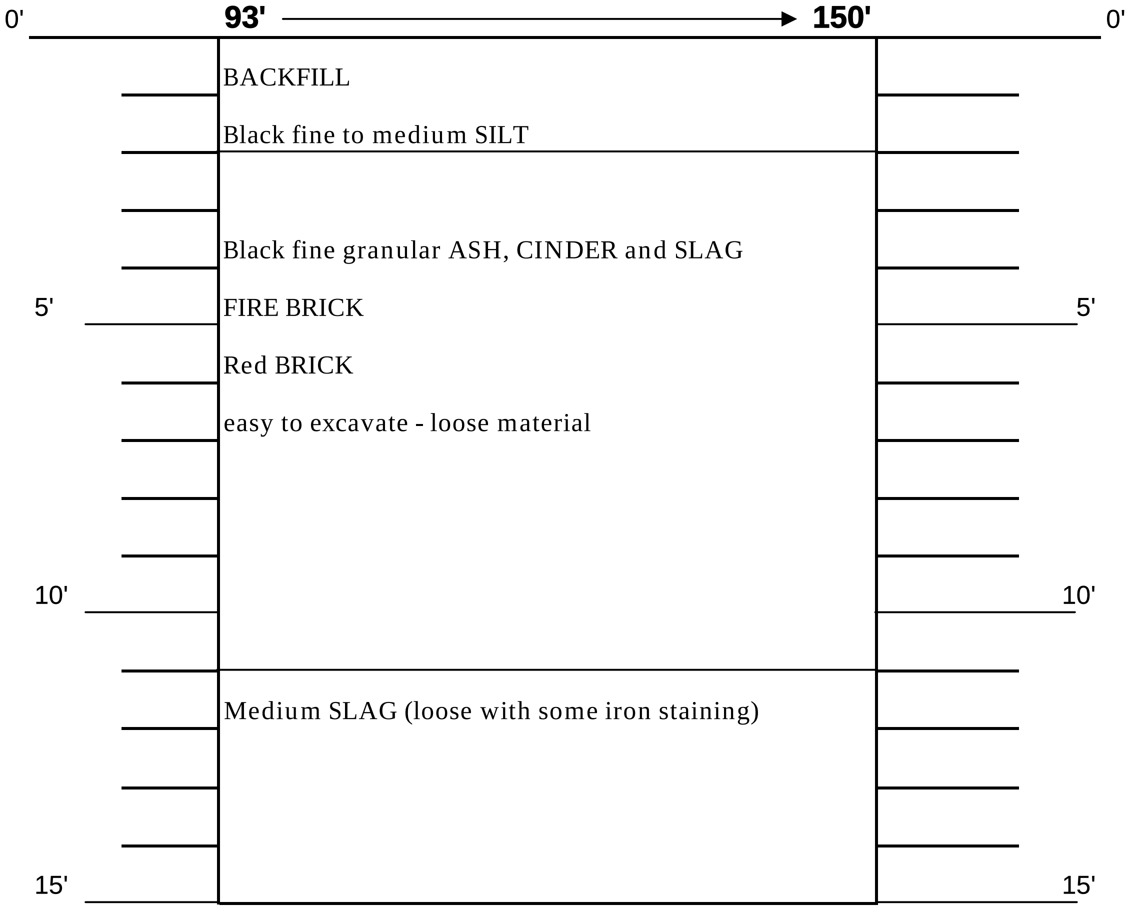
DATE: 9/21/2004

CTM TRENCH NO.7



BACKFILL
Black fine to medium SILT

Black fine granular ASH, CINDER and SLAG
FIRE BRICK
Red BRICK
easy to excavate - loose material

Medium SLAG (loose with some iron staining)

TOTAL DEPTH: 16' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 57' long (east to west)

NOTES: At 98', encountered native SILT at 16' bgs with some iron staining.
At 130', native material down to 17' bgs consisted of gray SILT with some iron staining.
Native material ranged from depths of 16' - 17' bgs throughout western section of the trench.
Easy excavating in this section, all fine to medium size SLAG and ASH.

TEST PIT LOG

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EXCAVATOR: Precision Environmental
EQUIPMENT: Kobelco SK 200 LC
DATE: 10/7/2004

TEST PIT NO. 1

0' 0'

TOPSOIL

Black CINDER and SILT

5' Native brown medium SAND and GRAVEL 5'

Native brown SILT and CLAY

10' 10'

Brown medium SAND and GRAVEL

Heavily stained and fuel oil odors

15' 15'

TOTAL DEPTH: 14' bgs
WATER AT: 12' bgs
SIZE OF TEST PIT: 10' long

NOTES: At 10.5' bgs, start of contaminated soil consisting of stained SILT and CLAY.
At 12' bgs, water and free product observed in excavation.
At 12', start of medium SAND and GRAVEL.
Clay pipe observed running east to west at 3' bgs.
8" clay pipe running north to south at 6' bgs.

TEST PIT LOG

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EXCAVATOR: Precision Environmental
EQUIPMENT: Kobelco SK 200 LC
DATE: 10/8/2004

TEST PIT NO. 2

0' 0'

Driveway GRAVEL and black CINDER

Medium brown SAND and GRAVEL (fill material)

5' 5'

Native brown SILT, Some Clay

10' 10'

Dark brown SILT, Some Clay

15' 15'

TOTAL DEPTH: 20' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 10' long

NOTES: At 16' bgs - becomes medium SAND and GRAVEL. (moist)
At 4' bgs, encounter old clay sewer pipe
No water encountered in base of test pit, but sandy gravel in last excavator bucket was saturated. (no odor)

TEST PIT LOG

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LOGGED BY: N. Freeman

EXCAVATOR: Precision Environmental
EQUIPMENT: Kobelco SK 200 LC
DATE: 10 / 8 / 2004

TEST PIT NO. 3

0'

TOPSOIL and black SILT
Roots

Grey ASH

Coarse SAND and GRAVEL on western side of test pit

Brown SILT and CLAY on eastern side of test pit

5'

10'

15'

TOTAL DEPTH: 5' bgs
WATER AT: 4' bgs
SIZE OF TEST PIT: 10' long

NOTES: Pearched water table at 4' bgs.
Old brick foundation running north to south at 2' bgs.
Coarse to medium SAND and GRAVEL observed at western side of test pit at 4' bgs.
Brown SILT and CLAY observed at eastern side of test pit at 4' bgs.

TEST PIT LOG

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EXCAVATOR: Precision Environmental
EQUIPMENT: Kobelco SK 200 LC
DATE: 10/8/2004

TEST PIT NO. 4

0' — 0'

Black CINDER and BRICKS

5' — 5'

Gray coarse ASH

Fused fine black SLAG

Gray native CLAY

10' — 10'

15' — 15'

TOTAL DEPTH: 19' bgs
WATER AT: Not encountered at depths explored
SIZE OF TEST PIT: 10' long

NOTES: Test pit moved 15' north of original staked position due to refusal at 3' below grade.
Test pit moved another 25' northwest due to refusal.
Last couple of bucket loads from 18-19' bgs consisted of gray CLAY that changed to SILT and CLAY

APPENDIX C

TEST PIT AND TEST TRENCH

ORGANIC VAPOR HEADSPACE ANALYSIS LOGS

a

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	South Troy Industrial Park		**PROJECT #:**	04.9138		**PAGE 1 OF 1**
CLIENT:	Rensselaer County					**DATE**
LOCATION:	Troy					**COLLECTED: 9/20/04**
INSTRUMENT USED:	Photovac	**LAMP**	10.6	**EV**		**DATE**
DATE INSTRUMENT CALIBRATED:	9/20/2004 Prior to Use		**BY:**	NF		**ANALYZED: 9/20/04**
TEMPERATURE OF Soil:	Ambient					**ANALYST: N. Freeman**

EXPLORATION	SAMPLE	DEPTH	SAMPLE	SAMPLE READING	BACKGROUND READING	
NUMBER	**NUMBER**	**(FT.)**	**TYPE**	**(PPM)****	**(PPM)****	**REMARKS**
Test Trench #7	1	12	Soil	0.2	0.0	15' west of trench start
Test Trench #7	2	12	Soil	0.4	0.0	* 35' west of trench start
Test Trench #7	3	13	Soil	0.2	0.0	40' west of trench start
Test Trench #7	4	6	Soil	0.5	0.0	75' west of trench start
Test Trench #7	5	15	Soil	0.8	0.0	75' west of trench start
Test Trench #7	6	15	Soil	0.8	0.0	93' west of trench start

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

* Indicates Soil sample location for laboratory analysis

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	South Troy Industrial Park	**PROJECT #:**	04.9138	**PAGE 1 OF 1**
CLIENT:	Rensselaer County			**DATE**
LOCATION:	Troy			**COLLECTED: 9/21/04**
INSTRUMENT USED:	Photovac	**LAMP** 10.6	**EV**	**DATE**
DATE INSTRUMENT CALIBRATED:	9/21/2004 Prior to Use	**BY:**	NF	**ANALYZED: 9/21/04**
TEMPERATURE OF Soil:	Ambient			**ANALYST: N. Freeman**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
Test Trench #7	1	6	Soil	0.3	0.0	98' W from start of trench
Test Trench #7	2	16	Soil	0.1	0.0	98' W from start of trench
Test Trench #7	3	16	Soil	0.1	0.0	* 114' W from start of trench
Test Trench #7	4	5	Soil	0.1	0.0	* 114' W from start of trench
Test Trench #7	5	17	Soil	0.0	0.0	130' W from start of trench
Test Trench #7	6	16	Soil	0.4	0.0	145' W: Silt (moist)
Test Trench #7	7	6	Fill	0.3	0.0	145' W: Ash and cinder
Test Trench #4	8	20	Soil	0.3	0.0	5' S from start of trench
Test Trench #4	9	5	Soil	0.2	0.0	5' S from start of trench
Test Trench #4	10	18	Soil	0.3	0.0	* 42' S: Gray silt
Test Trench #4	11	5	Fill	0.7	0.0	* 42' S: Shite crushed rock
Test Trench #4	12	18	Soil	0.2	0.0	54' S: Gray silt
Test Trench #4	13	5	Fill	0.8	0.0	54' S: Shite slag
Test Trench #4	14	6	Fill	0.8	0.0	80' S: Red slag
Test Trench #4	15	17	Fill	0.9	0.0	80' S: Black ash / silt
Test Trench #4	16	18	Fill	0.2	0.0	100' S: Black Set silt and slag

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

* Indicates Soil sample location for laboratory analysis

a

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: South Troy Industrial Park
PROJECT #: 04.9138
PAGE 1 OF 1
CLIENT: Rensselaer County
DATE COLLECTED: 9/22/04
LOCATION: Troy
INSTRUMENT USED: Photovac **LAMP** 10.6 **EV**
DATE ANALYZED: 9/22/04
DATE INSTRUMENT CALIBRATED: 9/22/2004 Prior to Use **BY:** NF
TEMPERATURE OF Soil: Ambient
ANALYST: N. Freeman

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
Test Trench #4	1	5	Fill	0.4	0.0	114' S: Coarse sand (iron rich)
Test Trench #4	2	5	Fill	1.2	0.0	120' S: White ash
Test Trench #4	3	16	Fill	2.2	0.0	120' S: Coarse black slag
Test Trench #4	4	19	Fill	2.3	0.0	* 125' S: Coarse black slag (wet)
Test Trench #4	5	6	Fill	1.3	0.0	* 125' S: White ash
Test Trench #4	6	14	Fill	5.2	0.0	130' S: Coarse black soot
Test Trench #4	7	16	Fill	4.6	0.2	135' S: Coarse black slag (wet)
Test Trench #4	8	15	Fill	5.2	0.2	145' S: Coal tar / solid - tar odor
Test Trench #4	9	15	Fill	2.4	0.2	145' S: Black slag and rock
Test Trench #4	10	5	Fill	1.8	0.2	145' S: Black cinder and ash
Test Trench #4	11	7	Fill	1.6	0.2	175' S: Brown silt above black slag
Test Trench #4	12	16	Fill	5.8	0.2	175' S: Wet coarse black slag
Test Trench #4	13	13	Fill	3.2	0.2	187' S: Coarse black granular slag
Test Trench #4	14	5	Fill	1.4	0.2	187' S: Black coarse cinder
Test Trench #4	15	17	Fill	2.8	0.2	200' S: Coarse black pieces of slag
Test Trench #4	16	7	Soil	1.3	0.2	200' S: Brown sand and silt
Test Trench #4	17	18	Fill	3.4	0.2	205' S: Black pieces of slag

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

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***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

* Indicates Soil sample location for laboratory analysis

a

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	South Troy Industrial Park	**PROJECT #:**	04.9138	**PAGE 1 OF 1**
CLIENT:	Rensselaer County			**DATE**
LOCATION:	Troy			**COLLECTED: 9/23/04**
INSTRUMENT USED:	Photovac	**LAMP**	10.6 **EV**	**DATE**
DATE INSTRUMENT CALIBRATED:	9/23/2004 Prior to Use	**BY:**	NF	**ANALYZED: 9/23/04**
TEMPERATURE OF Soil:	Ambient			**ANALYST: N. Freeman**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
Test Trench #4	1	14	Fill	0.4	0.0	210' S: Slag with sulfur odor
Test Trench #4	2	19	Fill	1.2	0.0	210' S: Coarse granular black slag
Test Trench #4	3	8	Soil	0.4	0.1	235' S: Brown silt
Test Trench #4	4	18	Fill	0.9	0.1	235' S: Coarse black slag
Test Trench #4	5	10	Fill	0.8	0.2	245' S: Coarse black cinder
Test Trench #4	6	19	Fill	2.2	0.2	245' S: Gray coarse slag (wet)
Test Trench #4	7	6	Soil	1.2	0.2	*258' S: Brown clay, medium gravel
Test Trench #4	8	20	Fill	1.2	0.2	*260' S: Coarse slag
Test Trench #4	9	7	Fill	0.4	0.2	280' S: Black medium cinder
Test Trench #4	10	17	Fill	1.6	0.2	280' S: Coarse grey wet slag
Test Trench #6	11	8	Soil	0.7	0.2	4' W: Brown fine sand, some silt
Test Trench #6	12	4	Fill	1.5	0.2	*18' W: Coarse slag (sulfur odor)
Test Trench #6	13	8	Soil	1.1	0.2	*18' W: Native brown silt
Test Trench #6	14	4	Fill	2.4	0.2	35' W: Slag (sulfur odor/iron stained)
Test Trench #6	15	8	Soil	1.6	0.2	35' W: Native brown silt
Test Trench #6	16	8	Soil	2.0	0.2	52' W: Native brown silt
Test Trench #6	17	4	Fill	4.5	0.2	52' W: Coarse white/grey slag
Test Trench #6	18	3	Fill	1.5	0.2	* 85' W: Black cinder layer
Test Trench #6	19	7	Soil	1.0	0.2	*85' W: Brown silt

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

* Indicates Soil sample location for laboratory analysis

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ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: South Troy Industrial Park	**PROJECT #:** 04.9138		**PAGE 1 OF 1**
CLIENT: Rensselaer County			**DATE**
LOCATION: Troy			**COLLECTED: 9/24/04**
INSTRUMENT USED: Photovac	**LAMP** 10.6 **EV**		**DATE**
DATE INSTRUMENT CALIBRATED: 9/24/2004 Prior to Use	**BY:** NF		**ANALYZED: 9/24/04**
TEMPERATURE OF Soil: Ambient			**ANALYST: N. Freeman**

EXPLORATION	**SAMPLE**	**DEPTH**	**SAMPLE**	**SAMPLE READING**	**BACKGROUND READING**	
NUMBER	**NUMBER**	**(FT.)**	**TYPE**	**(PPM)****	**(PPM)****	**REMARKS**
Test Trench #6	1	8	Soil	0.6	0.2	85' W: Brown clay
Test Trench #6	2	3	Fill	1.6	0.2	100' W: Black cinder
Test Trench #6	3	7	Soil	0.5	0.2	110' W: Brown silt, trace sand
Test Trench #6	4	4	Fill	0.8	0.2	110' W: Black soot overlying slag
Teat Trench #5	5	9	Soil	0.8	0.2	5' W: Brown native silt
Teat Trench #5	6	9	Soil	0.8	0.2	*20' W: Brown silt
Teat Trench #5	7	2	Soil	1.2	0.2	*20' W: Dark red silt above slag
Teat Trench #5	8	3	Fill	0.7	0.2	35' W: Black cinder and slag
Teat Trench #5	9	9	Soil	0.7	0.2	35' W: Brown silt with roots
Teat Trench #5	10	3	Fill	0.4	0.2	45' W: Black topSoil
Teat Trench #5	11	10	Soil	0.9	0.2	45' W: Brown silt
Teat Trench #5	12	4	Fill	0.8	0.2	60' W: Black cinder
Teat Trench #5	13	10	Soil	0.9	0.2	60' W: Brown wet silt
Teat Trench #5	14	2	Fill	0.4	0.2	70' W: Gray ash
Teat Trench #5	15	10	Soil	0.7	0.2	70' W: Brown silt
Teat Trench #5	16	9	Soil	0.6	0.2	* 75' W: Brown silt
Teat Trench #5	17	2	Fill	0.8	0.2	*90' W: White coarse ash
Teat Trench #5	18	10	Soil	0.7	0.2	105' W: Brown silt

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

* Indicates Soil sample location for laboratory analysis

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	South Troy Industrial Park		**PROJECT #:**	04.9138		**PAGE 1 OF 1**
CLIENT:	Rensselaer County					**DATE**
LOCATION:	Troy					**COLLECTED: 9/27/04**
INSTRUMENT USED:	Photovac	**LAMP**	10.6	**EV**		**DATE**
DATE INSTRUMENT CALIBRATED:	9/27/2004 Prior to Use		**BY:**	NF		**ANALYZED: 9/27/04**
TEMPERATURE OF Soil:	Ambient					**ANALYST: N. Freeman**

EXPLORATION	SAMPLE	DEPTH	SAMPLE	SAMPLE READING	BACKGROUND READING	
NUMBER	**NUMBER**	**(FT.)**	**TYPE**	**(PPM)****	**(PPM)****	**REMARKS**
Test Trench #3	1	2	Soil	0.1	0.0	5' N: Fine brown sand
Test Trench #3	2	13	Soil	0.4	0.1	5' N: Brown native silt
Test Trench #3	3	13	Soil	0.6	0.1	*25' N: Brown silt
Test Trench #3	4	3	Fill	0.7	0.1	*25' N: Black silt and cinder
Test Trench #3	5	12.5	Soil	0.8	0.1	50' N: Brown silt
Test Trench #3	6	3	Soil	1.0	0.1	50' N: Brown sand
Test Trench #3	7	4	Soil	1.2	0.0	60' N: Brown sand, some silt
Test Trench #3	8	13	Soil	1.6	0.1	60' N: Light brown silt
Test Trench #3	9	13	Soil	1.1	0.1	75' N: Brown silt
Test Trench #3	10	4	Fill	0.7	0.2	85' N: Black silt and cinder
Test Trench #3	11	10	Soil	1.0	0.2	88' N: Brown silt
Test Trench #3	12	10	Soil	0.8	0.2	100' N: Brown silt
Test Trench #3	13	4	Fill	3.0	0.2	110' N: Coarse black cinder
Test Trench #3	14	10	Soil	1.2	0.2	110' N: Brown silt
Test Trench #3	15	10	Soil	1.3	0.2	135' N: Brown silt
Test Trench #3	16	5	Fill	1.7	0.2	135' N: Black cinder
Test Trench #3	17	10	Soil	1.1	0.2	* 150' N: Brown silt
Test Trench #3	18	4	Fill	1.1	0.2	* 150' N: Black silt and cinder
Test Trench #3	19	4	Fill	1.0	0.2	170' N: Brown silt and black cinder
Test Trench #3	20	11	Soil	1.3	0.2	170' N: Brown native silt
Test Trench #3	21	10	Soil	1.1	0.2	200' N: Brown native silt
Test Trench #3	22	4	Fill	1.1	0.2	200' N: Black cinder and silt

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

* Indicates Soil sample location for laboratory analysis

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	South Troy Industrial Park	**PROJECT #:**	04.9138	**PAGE 1 OF 1**
CLIENT:	Rensselaer County			**DATE COLLECTED: 9/28/04**
LOCATION:	Troy			
INSTRUMENT USED:	Photovac	**LAMP**	10.6 **EV**	**DATE ANALYZED: 9/28/04**
DATE INSTRUMENT CALIBRATED:	9/28/2004 Prior to Use	**BY:**	NF	
TEMPERATURE OF SOIL:	Ambient			**ANALYST: N. Freeman**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
Test Trench #3	1	11	soil	0.2	0.0	215' N: Brown native silt
Test Trench #3	2	11	soil	0.3	0.0	225' N: Brown native silt
Test Trench #3	3	4	Fill	0.6	0.0	225' N: Black cinder
Test Trench #3	4	4	Fill	3.4	0.0	250' N: Black cinder
Test Trench #3	5	10	soil	0.6	0.0	250' N: Brown silt
Test Trench #3	6	5	Fill	0.8	0.0	275' N: Black cinder and gravel
Test Trench #3	7	10	soil	0.6	0.0	275' N: Brown silt
Test Trench #3	8	10	soil	0.4	0.0	*300' N:Native brown silt
Test Trench #3	9	4	Fill	0.4	0.0	*300' N: Black silt and cinder

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

* Indicates soil sample location for laboratory analysis

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	South Troy Industrial Park	**PROJECT #:**	04.9138	**PAGE 1 OF 1**
CLIENT:	Rensselaer County			**DATE**
LOCATION:	Troy			**COLLECTED: 9/29/04**
INSTRUMENT USED:	Photovac	**LAMP**	10.6 **EV**	**DATE**
DATE INSTRUMENT CALIBRATED:	9/29/2004 Prior to Use	**BY:**	NF	**ANALYZED: 9/29/04**
TEMPERATURE OF Soil:	Ambient			**ANALYST: N. Freeman**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
Test Trench #3	1	10	Soil	0.2	0.0	315' N: Native brown silt
Test Trench #3	2	2	Fill	0.6	0.0	315' N: Black cinder
Test Trench #3	3	4	Soil	0.2	0.0	330' brown sand
Test Trench #3	4	10	Soil	0.3	0.1	330' N: Brown native silt
Test Trench #3	5	4	Soil	0.4	0.1	345' N: Brown sand
Test Trench #3	6	11	Soil	0.3	0.1	345' N: Brown native silt
Test Trench #3	7	10	Soil	0.5	0.1	365' N: Brown native silt
Test Trench #2	8	8	Soil	0.5	0.1	10' N: Brown native silt
Test Trench #2	9	9.5	Soil	96.4	0.1	*28' N: Stained silt with fuel oil odor
Test Trench #2	10	8	Soil	42.2	0.5	*40' N: Brown silt (fuel oil odor)
Test Trench #2	11	1.5	Fill	1.8	0.8	*44' N: Black cinder and ash
Test Trench #2	12	8	Soil	1.1	0.5	50' N: Brown native silt
Test Trench #2	13	1.5	Fill	1.3	0.5	50' N: Black cinder and gray ash

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

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* Indicates Soil sample location for laboratory analysis

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: South Troy Industrial Park **PROJECT #:** 04.9138 **PAGE 1 OF 1**

CLIENT: Rensselaer County

LOCATION: Troy

DATE COLLECTED: 9/30/04

INSTRUMENT USED: Photovac **LAMP** 10.6 **EV**

DATE INSTRUMENT CALIBRATED: 9/30/2004 Prior to Use **BY:** NF

DATE ANALYZED: 9/30/04

TEMPERATURE OF Soil: Ambient

ANALYST: N. Freeman

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
Test Trench #2	1	9	Soil	0.6	0.0	62' N: Native brown silt
Test Trench #2	2	2	Fill	0.7	0.2	65' N: Black / grey cinder and ash
Test Trench #2	3	8	Soil	0.6	0.2	77' N: Native brown silt
Test Trench #2	4	5	Fill	13.9	0.4	90' N: White slag (sweet odor)
Test Trench #2	5	7	Fill	12.0	0.4	90' N: White slag (sweet odor)
Test Trench #2	6	8.5	Soil	2.9	0.8	*90' N: Native brown silt
Test Trench #2	7	7	Fill	20.2	0.8	92' N: Coarse white slag (sweet odor)
Test Trench #2	8	5	Fill	70.0	0.8	94' N: Medium / fine slag (strong sweet odor)
Test Trench #2	9	8.5	Soil	1.9	1.3	94' N: Native brown silt
Test Trench #2	10	5	Fill	15.2	1.3	100' N: Medium / coarse slag (sweet odor)
Test Trench #2	11	6-7	Fill	36.0	1.3	100' N: Medium / coarse slag (sweet odor)
Test Trench #2	12	5	Fill	4.6	1.3	105' N: Medium / coarse slag (sweet odor)
Test Trench #2	13	7	Fill	9.4	1.3	105' N: Medium / coarse slag (sweet odor)
Test Trench #2	14	4	Fill	0.9	0.8	112' N: Medium to coarse slag
Test Trench #2	15	7	Fill	1.4	0.8	112' N: Medium to coarse slag (sulfur odor)
Test Trench #2	16	8	Soil	0.8	0.8	112' N: Native brown silt
Test Trench #2	17	5	Fill	0.9	0.7	122' N: Fine / medium slag (sulfur odor)
Test Trench #2	18	8	Soil	0.8	0.7	122' N: Native brown silt
Test Trench #2	19	5	Fill	0.8	0.6	142' N: Coarse slag (sulfur odor)
Test Trench #2	20	9	Soil	0.6	0.5	150' N: Native brown silt
Test Trench #2	21	8	Soil	0.8	0.5	*160' N: Native brown silt
Test Trench #2	22	4	Fill	2.2	0.5	* 160' black cinder and ash
Test Trench #2	23	4	Fill	0.8	0.4	180' N: Loose slag (sulfur odor)
Test Trench #2	24	9	Soil	0.8	0.5	180' N: Native brown silt

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

* Indicates Soil sample location for laboratory analysis

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	South Troy Industrial Park	**PROJECT #:**	04.9138	**PAGE 1 OF 1**	
CLIENT:	Rensselaer County			**DATE COLLECTED: 10/1/04**	
LOCATION:	Troy				
INSTRUMENT USED:	Photovac	**LAMP**	10.6 **EV**	**DATE ANALYZED: 10/1/04**	
DATE INSTRUMENT CALIBRATED:	10/1/2004 Prior to Use	**BY:**	NF		
TEMPERATURE OF SOIL:	Ambient			**ANALYST: N. Freeman**	

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
Test Trench #2	1	8	soil	0.4	0.0	200' N: Native fine brown silt
Test Trench #2	2	8	soil	0.3	0.0	220' N: Native fine brown silt
Test Trench #2	3	4	Fill	2.5	0.1	220' N: Slag (strong sulfur odor)
Test Trench #2	4	8	soil	0.3	0.1	240' N: Native fine brown silt
Test Trench #2	5	6	Fill	6.4	0.1	250' N: Slag (strong sulfur odor)
Test Trench #2	6	8	soil	0.2	0.1	250' N: Native fine brown silt
Test Trench #2	7	8	soil	0.4	0.1	275' N: Native fine brown silt
Test Trench #2	8	4	Fill	0.4	0.1	275' N: Coarse slag
Test Trench #2	9	8	soil	0.6	0.1	* 308' N: Native sand, trace silt
Test Trench #2	10	3	Fill	0.9	0.2	* 312' N: White coarse ash
Test Trench #2	11	3	Fill	1.2	0.2	330' N: White coarse ash
Test Trench #2	12	8	soil	0.6	0.2	330' N: Native brown silt
Test Trench #2	13	8	soil	0.4	0.2	350' N: Native brown silt

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

* Indicates soil sample location for laboratory analysis

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: South Troy Industrial Park **PROJECT #:** 04.9138 **PAGE 1 OF 1**

CLIENT: Rensselaer County

LOCATION: Troy

DATE COLLECTED: 10/4/04

INSTRUMENT USED: Photovac **LAMP** 10.6 **EV**

DATE INSTRUMENT CALIBRATED: 10/4/2004 Prior to Use **BY:** NF

DATE ANALYZED: 10/4/04

TEMPERATURE OF SOIL: Ambient

ANALYST: N. Freeman

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
Test Trench #1	1	6	Fill	0.4	0.1	At 35' N: Coarse Slag
Test Trench #1	2	17	soil	0.4	0.2	At 35' N: Native fine brown sand
Test Trench #1	3	17	soil	0.8	0.2	At 40' N: Native fine brown sand
Test Trench #1	4	2.5	soil	0.5	0.2	* At 8' N: Brown silt - small gravel
Test Trench #1	5	15.5	soil	0.6	0.2	* At 8' N: Brown sand trace silt
Test Trench #1	6	16	soil	0.4	0.2	15' N: Brown native sand
Test Trench #1	7	5	Fill	0.8	0.2	15' N: Coarse slag (sulfur odor)
Test Trench #1	8	6	soil	0.2	0.2	50' N: Brown silt
Test Trench #1	9	19	soil	0.4	0.2	50' N: Brown native sand
Test Trench #1	10	5	soil	0.4	0.2	64' N: Brown silt and gravel
Test Trench #1	11	19	soil	0.7	0.2	64' N: Sand and gravel (native soil)
Test Trench #1	12	18	Fill	4.2	0.2	74' N: Slag (sweet odor)
Test Trench #1	13	19	soil	1.0	0.6	74' N: Brown native sand
Test Trench #1	14	17	Fill	17.4	0.6	78' N: Slag (stained and sweet odor)
Test Trench #1	15	10	Fill	0.8	0.4	80' N: Coarse slag (no odor)

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

* Indicates soil sample location for laboratory analysis

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: South Troy Industrial Park		**PROJECT #:** 04.9138		**PAGE 1 OF 1**
CLIENT: Rensselaer County				**DATE**
LOCATION: Troy				**COLLECTED: 10/5/04**
INSTRUMENT USED: Photovac	**LAMP** 10.6 **EV**			**DATE**
DATE INSTRUMENT CALIBRATED: 10/5/2004 Prior to Use		**BY:** NF		**ANALYZED: 10/5/04**
TEMPERATURE OF SOIL: Ambient				**ANALYST: N. Freeman**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
Test Trench #1	1	6	Fill	0.4	0.1	* 90' N: Black cinder and brown silt
Test Trench #1	2	20	soil	0.9	0.1	* 90' N: Sand and gravel (native)
Test Trench #1	3	6	Fill	0.3	0.1	100' N: Black cinder and silt
Test Trench #1	4	16	Fill	0.6	0.1	100' N: Coarse slag (sulfur odor)
Test Trench #1	5	20	Fill	0.4	0.1	100' N: Coarse slag
Test Trench #1	6	9	Fill	0.4	0.1	104' N: Black cinder
Test Trench #1	7	18	Fill	0.8	0.2	108' N: Coarse slag (sulfur odor)
Test Trench #1	8	14	Fill	0.6	0.2	160' N: Coarse slag
Test Trench #1	9	10	Fill	0.4	0.2	168' N: Black cinder
Test Trench #1	10	10	Fill	1.6	0.2	180' N: Cinder, silt and large rock
Test Trench #1	11	14	Fill	1.0	0.2	200' N: Coarse slag (sulfur odor)
Test Trench #1	12	5	soil	0.6	0.2	202' N: Black silt

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

* Indicates soil sample location for laboratory analysis

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: South Troy Industrial Park
PROJECT #: 04.9138
PAGE 1 OF 2
CLIENT: Rensselaer County
DATE COLLECTED: 10/6/04
LOCATION: Troy
INSTRUMENT USED: Photovac **LAMP** 10.6 **EV**
DATE ANALYZED: 10/6/04
DATE INSTRUMENT CALIBRATED: 10/6/2004 Prior to Use **BY:** NF
TEMPERATURE OF SOIL: Ambient
ANALYST: N. Freeman

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
Test Trench #1	1	16	Fill	0.9	0.1	220' N: Black cinder and grey ash
Test Trench #1	2	17	Fill	26.4	0.2	* 228' N: Cinder and ash (fuel odor)
Test Trench #1	3	6	Fill	1.4	0.9	* 235' N: Gray ash and cinder
Test Trench #1	4	20	Fill	12.6	0.6	228' N: Cinder and slag (sweet odor)
Test Trench #1	5	13	Fill	4.0	0.8	235' N: Slag and cinder (sweet odor)
Test Trench #1	6	15	Fill	3.6	0.8	235' N: Slag and cinder (sweet odor)
Test Trench #1	7	17	Fill	42.0	0.8	235' N: Slag and cinder (sweet odor)
Test Trench #1	8	19	Fill	36.0	0.8	235' N: Slag and cinder (sweet odor)
Test Trench #1	9	16	Fill	50.0	1.0	240' N: Slag (sweet odor and stained)
Test Trench #1	10	19-20	Fill	52.4	1.2	240' N: Slag (sweet odor and stained)
Test Trench #1	11	6	Fill	1.0	0.6	248' N: Gray ash and cinder
Test Trench #1	12	11	Fill	22.0	0.6	248' N: Slag and cinder (sweet odor / stained)
Test Trench #1	13	14	Fill	10-20	0.6	254' N: Coarse slag and cinder
Test Trench #1	14	20	soil	3.5	0.6	* 260' N: Sand and gravel (sweet odor)
Test Trench #1	15	20	Fill	15-20	0.6	272' N: Coarse slag (sweet odor)
Test Trench #1	16	6	Fill	0.8	0.6	282' N: Black cinder
Test Trench #1	17	14	Fill	8.0	0.6	282' N: Coarse slag and ash
Test Trench #1	18	18	Fill	5.0	0.6	282' N: Coarse medium slag

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

* Indicates soil sample location for laboratory analysis

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ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: South Troy Industrial Park **PROJECT #:** 04.9138 **PAGE 2 OF 2**

CLIENT: Rensselaer County **DATE COLLECTED: 10/6/04**

LOCATION: Troy

INSTRUMENT USED: Photovac **LAMP** 10.6 **EV** **DATE ANALYZED: 10/6/04**

DATE INSTRUMENT CALIBRATED: 10/6/2004 Prior to Use **BY:** NF

TEMPERATURE OF SOIL: Ambient **ANALYST: N. Freeman**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
Test Trench #1	19	8	Fill	0.8	0.6	298' N: Black cinder
Test Trench #1	20	19	Fill	25.0	0.6	295' N: Coarse slag (wet-kerosene odor)
Test Trench #1	21	14	Fill	5.0	0.6	305' N: Coarse slag
Test Trench #1	22	20	soil	5.0	0.6	305' N: Native wet sand
Test Trench #1	23	19	Fill	4.0	0.6	312' N: Coarse wet slag
Test Trench #1	24	5	Fill	0.9	0.6	320' N: Black cinder
Test Trench #1	25	19	Fill	2.2	0.6	320' N: Coarse wet slag
Test Trench #1	26	19	Fill	60.0	0.6	330' N: Coarse wet slag (kerosene odor)
Test Trench #1	27	8	Fill	0.8	0.6	340' N: Black cinder
Test Trench #1	28	14	Fill	0.8	0.6	340' N: Coarse slag and cinder
Test Trench #1	29	19	Fill	8.0	0.6	340' N: Coarse wet slag (kerosene odor)
Test Trench #1	30	8	Fill	20.0	0.6	350' N: Brick and ash
Test Trench #1	31	19	Fill	0.8	0.6	350' N: Coarse wet slag and gray sand

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

* Indicates soil sample location for laboratory analysis

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	South Troy Industrial Park	**PROJECT #:**	04.9138	**PAGE 1 OF 1**
CLIENT:	Rensselaer County			**DATE**
LOCATION:	Troy			**COLLECTED: 10/7/04**
INSTRUMENT USED:	Photovac	**LAMP**	10.6 **EV**	**DATE**
DATE INSTRUMENT CALIBRATED:	10/7/2004 Prior to Use	**BY:**	NF	**ANALYZED: 10/7/04**
TEMPERATURE OF SOIL:	Ambient			**ANALYST: N. Freeman**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
Test Pit #1	1	2	Fill	0.6	0.3	* Black cinder and silt
Test Pit #1	2	4	soil	0.8	0.3	* Medium native sand and gravel
Test Pit #1	3	6	soil	0.9	0.3	Native silt and clay
Test Pit #1	4	10.5	soil	75.0	0.3	Native silt and clay
Test Pit #1	5	12-14	soil	175.0	1.0	Native sand and gravel. Stained with free product

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

* Indicates soil sample location for laboratory analysis

a

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	South Troy Industrial Park	**PROJECT #:**	04.9138	**PAGE 1 OF 1**
CLIENT:	Rensselaer County			**DATE**
LOCATION:	Troy			**COLLECTED: 10/8/04**
INSTRUMENT USED:	Photovac	**LAMP**	10.6 **EV**	**DATE**
DATE INSTRUMENT CALIBRATED:	10/7/2004 Prior to Use	**BY:**	NF	**ANALYZED: 10/8/04**
TEMPERATURE OF SOIL:	Ambient			**ANALYST: N. Freeman**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
Test Pit #2	1	4	soil	0.5	0.3	* Brown sand and gravel
Test Pit #2	2	10	soil	0.4	0.3	Native silt and clay
Test Pit #2	3	13	soil	0.4	0.3	Native silt and clay
Test Pit #2	4	20	soil	0.5	0.3	* Brown sand and gravel (wet)
Test Pit #3	5	2	Fill	0.8	0.5	* Coarse gray ash
Test Pit #3	6	5	soil	0.8	0.5	* Silt and clay (native)
Test Pit #4	7	4	Fill	0.6	0.5	Black coarse cinder
Test Pit #4	8	7	Fill	0.9	0.5	* Black coarse cinder
Test Pit #4	9	10	soil	0.5	0.5	Gray clay (native)
Test Pit #4	10	14	soil	0.5	0.5	Gray clay (native)
Test Pit #4	11	19	soil	0.8	0.5	Gray silt and clay (native)

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

* Indicates soil sample location for laboratory analysis

a

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: South Troy Industrial Park **PROJECT #:** 04.9138 **PAGE 1 OF 1**
CLIENT: Rensselaer County **DATE COLLECTED: 10/12/04**
LOCATION: Troy
INSTRUMENT USED: Photovac **LAMP** 10.6 **EV** **DATE ANALYZED: 10/12/04**
DATE INSTRUMENT CALIBRATED: 10/12/2004 Prior to Use **BY:** NF
TEMPERATURE OF SOIL: Ambient **ANALYST: N. Freeman**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
ERD 2	1	9	soil	0.4	0.0	Coarse slag
ERD 2	2	12.5	soil	6.2	0.0	Coarse slag
ERD 2	3	14	soil	0.3	0.0	Coarse slag
ERD 2	4	16	soil	0.5	0.0	Brownish gray silt (native)
ERD 2	5	12-13	soil	52.0	0.0	Stained wet slag (paint odor)

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

* Indicates soil sample location for laboratory analysis

APPENDIX D

SUBSURFACE EXPLORATION LOGS WITH PID READINGS

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: CTM-1
ELEV.: 21.33' **DATUM: USGS**
START DATE: 11/2/04 **FINISH DATE: 11/2/04**
SHEET 1 OF 1

PROJECT: South Troy Industrial Park CTM PROJECT NO.: 04.9138
LOCATION: Troy , NY CTM INSPECTOR: N. Freeman

	SAMPLE		BLOWS ON SAMPLER							
DEPTH (FT.)	TYPE	NO.	0/6	6/12	12/18	18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
		1	1	3	3	4	6	0.5	Black CINDER and coarse SLAG	PID = 0.7
		2	4	3	5	6	8	0.7		PID = 1.2
5		3	9	6	5	4	11	0.0	No recovery	
		4	2	3	3	5	6	0.4	Black CINDER, coarse SLAG and red BRICK	PID = 0.7
									Continuous sampling not conducted from	
10									the 8 to 15 foot depth interval	
15										
		5	1	1	1	2	2	1.0	Gray SILT, Some Sand (WET)	Paint odor PID = 144.0*
		6	1	3	4	5	7	2.0		Paint odor and sheen PID = 56.0
20		7	WR	1	1	3	2	1.8	Fine SAND, trace silt and fine gravel	Paint odor PID = 72.0
		8	4	6	6	8	12	1.2	Organic Gray SILT, Some Sand, little	PID = 24.0
									roots and fine gravel	
		9	3	5	3	6	8	1.8	Becomes trace organic peat	PID = 1.4
25										
		10	16	12	16	12	28	1.2	Gray SAND and coarse GRAVEL (Wet)	PID = 0.8
		11	5	7	9	12	16	0.8		PID = 0.6
30									Boring Terminated at ± 29' bgs	2" PVC well installed at ± 29' bgs

* Laboratory Sample Collection

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: SJB Services Inc. DRILL RIG TYPE: Acker Soil Max

METHOD OF INVESTIGATION: 4 1/4" Hollow Stem Auger

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZAT ON TIME

SAMPLE CLASSIFICATION BY:
N. Freeman

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: CTM-1S
ELEV.: 21.60' **DATUM: USGS**
START DATE: 11/3/04 **FINISH DATE: 11/3/04**
SHEET 1 OF 1

PROJECT: South Troy Industrial Park
LOCATION: Troy , NY
CTM PROJECT NO.: 04.9138
CTM INSPECTOR: N. Freeman

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
									No samples collected from 0 to 9.5' bgs	
									(see CTM-1)	
5										
10										
		1	5	4	6	10	10	0.9	Black CINDER and coarse SLAG	PID = 13.1
		2	5	6	5	11	11	0.7	Becomes coarse Brown SLAG (Wet at 12.5')	PID = 2.4
15		3	8	8	6	4	14	0.8	Brown SILT and Coarse SLAG (Wet)	Strong Paint odor PID = 380.0
		4	3	4	6	9	10	2.0	Gray SILT, Some Sand	Paint odor PID = 212.0
									Boring Terminated at ± 17' bgs	2" PVC well installed at ± 17' bgs
20										
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: SJB Services Inc.

DRILL RIG TYPE: Acker Soil Max

METHOD OF INVESTIGATION: 4 1/4" Hollow Stem Auger

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

SAMPLE CLASSIFICATION BY:
N. Freeman

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: CTM-2
ELEV.: 33.92' **DATUM: USGS**
START DATE: 10/26/04 **FINISH DATE: 10/26/04**
SHEET 1 OF 2

PROJECT: South Troy Industrial Park
LOCATION: Troy , NY
CTM PROJECT NO.: 04.9138
CTM INSPECTOR: N. Freeman

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	10	13	15	28	28	1.2	0-0.4': TOPSOIL	PID = 0.3
									Blue and green SLAG	
		2	22	32	22	22	54	0.8	Crushed Red BRICK and blue and green SLAG	PID = 0.2
5		3	23	33	17	14	50	0.9	Red brown CINDER and blue green SLAG	Sulfur odor PID = 0.4
		4	10	10	10	8	20	1.4		PID = 4.0*
		5	12	100/0.4				0.5	White and black SLAG	Sulfur odor PID = 1.1
10										
		6	1	2	2	11	4	0.6	Red crushed BRICK and gray SLAG	PID = 0.5
		7	24	6	6	24	12	0.6		PID = 5.2
15		8	15	12	6	8	18	0.7	Blue green SLAG	Sulfur odor PID = 1.1
		9	14	12	14	18	26	0.5		PID = 0.8
		10	4	7	7	18	14	1.1		PID = 0.8
20										
		11	55	44	30	100/0.4		0.6		PID = 1.2
		12	14	43	100/0.4			1.4		PID = 0.9
25		13	100/0.4					0.3	White pulverized SLAG	PID = 0.4
		14	100/0.3						No recovery	PID =
		15	2	4	6	14	10	0.3	White Coarse SLAG	Sulfur odor PID = 0.8
30										

* Laboratory Sample Collection

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services Inc.
DRILL RIG TYPE: Acker Soil Max
METHOD OF INVESTIGATION: 4 1/4" Hollow Stem Auger

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
N. Freeman

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: CTM- 2
ELEV.: 33.92' **DATUM: USGS**
START DATE: 10/26/04 **FINISH DATE: 10/26/04**
SHEET 2 OF 2

PROJECT: South Troy Industrial Park
CTM PROJECT NO.: 04.9138
LOCATION: Troy , NY
CTM INSPECTOR: N. Freeman

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		16	7	14	4	24	18	1.0	Coarse wet blue SLAG	Strong sulfur odor, Wet PID = 1.4
		17	20	25	20	19	45	1.2	Gray medium SAND and GRAVEL	PID = 1.3
35		18	8	12	13	10	25	1.0	Gray medium to coarse SAND and GRAVEL	PID = 0.9
		19	11	14	16	12	30	1.7	Gray medium SAND, Some Gravel	PID = 0.8
		20	12	18	8	13	26	1.3		PID = 0.6
40										
									Boring Terminated at ± 40' bgs	2" PVC well installed at ± 38' bgs
45										
50										
55										
60										

* Laboratory Sample Collection

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: SJB Services Inc.
DRILL RIG TYPE: Acker Soil Max
METHOD OF INVESTIGATION: 4 1/4" Hollow Stem Auger

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

SAMPLE CLASSIFICATION BY:
N. Freeman

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: CTM- 3
ELEV.: 22.29' **DATUM: USGS**
START DATE: 10/18/04 **FINISH DATE: 10/18/04**
SHEET 1 OF 1

PROJECT: South Troy Industrial Park
CTM PROJECT NO.: 04.9138
LOCATION: Troy , NY
CTM INSPECTOR: N. Freeman

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES	
	TYPE	NO.	0/6	6/12	12/18	18/24	N				
		1	4	10	31	42	41	0.9	Topsoil to SLAG		PID = 0.6
		2	11	11	13	7	24	0.5	Black cinder and slag in tip	Sulfur and fuel oil odor	PID = 11.2
5		3	7	9	10	11	19	0.5	Coarse SLAG	Sulfur odor	PID = 0.7
		4	17	22	25	15	47	0.5		Strong Sulfur odor	PID = 0.8
		5	3	3	4	6	7	0.2	No recovery		
10											
		6	2	3	3	4	6	1.2	Brown fine SAND and SILT		PID = 0.5*
		7	5	5	5	5	10	1.7			PID = 0.3
15		8	3	3	4	5	7	1.5	Brown fine to medium SAND		PID = 0.4
		9	3	6	8	23	14	1.0			PID = 0.5
		10	27	24	25	21	49	1.0	Brown medium SAND and medium to large GRAVEL (Moist)		PID = 0.5
20											
		11	7	12	16	14	28	1.0	Iron stained (Wet)		PID = 0.4
		12	16	18	16	16	34	1.2			PID = 0.6
25		13	5	7	3	5	10	0.8			PID = 0.4
		14	9	13	10	10	23	1.1			PID = 0.4
									Boring Terminated at ± 28' bgs	2" PVC well installed at ± 25' bgs	
30											

* Laboratory Sample Collection

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: SJB Services Inc.
DRILL RIG TYPE: Acker Soil Max
METHOD OF INVESTIGATION: 4 1/4" Hollow Stem Auger

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

SAMPLE CLASSIFICATION BY:
N. Freeman

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: CTM-5
ELEV.: 23.73' **DATUM: USGS**
START DATE: 10/20/04 **FINISH DATE: 10/20/04**
SHEET 1 OF 1

PROJECT: South Troy Industrial Park
CTM PROJECT NO.: 04.9138
LOCATION: Troy , NY
CTM INSPECTOR: N. Freeman

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	5	19	42	93	61	0.8	TOPSOIL over SLAG and BRICK	PID = 0.0
		2	79	55	31	35	86	0.8	Black CINDER and coarse SLAG	PID = 0.3
5		3	36	57	33	27	90	1.0		PID = 0.6
		4	22	16	15	23	31	0.9		PID = 0.1
		5	16	13	11	5	24	1.0	Brown SILT	PID = 0.2
10										
		6	3	2	4	7	6	1.3	Dark brown SILT with trace sand	PID = 0.2*
		7	8	8	9	11	17	0.8		PID = 0.2
15		8	1	2	3	8	5	1.5	Grading to light brown medium SAND (Moist)	PID = 0.2
		9	18	35	36	44	71	0.5		PID = 0.1
		10	27	53	28	19	81	1.3	Coarse SAND and GRAVEL	PID = 0.3
20										
		11	14	30	22	33	52	1.4	(Wet at 21.5')	PID = 0.2
		12	11	22	19	21	41	1.2		PID = 0.2
25		13	19	14	6	6	20	1.5	Coarse SAND and GRAVEL grades to medium	PID = 0.2
									Sand (Wet)	
		14	13	12	10	12	22	1.6	Medium SAND lens becomes medium to large	PID = 0.3
									sand and gravel	
		15	12	13	7	5	20		No Recovery	
30										

* Laboratory Sample Collection

Boring Terminated at ± 30' bgs

2" PVC well installed at ± 28' bgs

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: SJB Services Inc.
DRILL RIG TYPE: Acker Soil Max
METHOD OF INVESTIGATION: 4 1/4" Hollow Stem Auger

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

SAMPLE CLASSIFICATION BY:
N. Freeman

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: CTM-6
ELEV.: 23.62 **DATUM: USGS**
START DATE: 10/19/04 **FINISH DATE: 10/19/04**
SHEET 1 OF 1

PROJECT: South Troy Industrial Park
CTM PROJECT NO.: 04.9138
LOCATION: Troy , NY
CTM INSPECTOR: N. Freeman

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	5	7	6	8	13	0.9	Black SILT and SAND, Some Gravel	PID = 1.7
		2	29	19	29	21	48	0.5	CINDER and Brown SILT with slag in spoon tip	PID = 0.4
5		3	31	14	24	26	38	0.6		PID = 0.6
		4	19	11	9	18	20	0.0	Pushed a piece of slag	Sulfur odor
		5	7	19	9	10	28	1.2	Gray SILT and SAND	PID = 0.8*
10										
		6	2	26	12	4	38	1.4	Gray SILT, trace clay (tight)	PID = 0.4
		7	5	8	12	20	20	1.2		PID = 0.5
15		8	6	11	16	21	27	1.4		PID = 0.5
		9	19	42	33	46	75	1.4	becomes grey / brown in color (tight)	PID = 0.4
		10	6	12	18	27	30	1.7		PID = 0.6
20										
		11	5	11	14	26	25	2.0	Becomes brown SILT, trace clay	PID = 0.4
		12	20	20	16	17	36	2.0	Fine brown SILT, trace sand (Wet)	PID = 0.4
25		13	1	1	2	2	3	2.0	Brown fine SAND, trace silt (Wet)	PID = 0.4
		14	2	1	2	3	3	2.0	Brown fine to medium SAND	PID = 0.3
		15	WH	3	4	6	7	1.8		PID = 0.3
30										

* Laboratory Sample Collection
Boring Terminated at ± 30' bgs
2" PVC well installed at ± 28' bgs

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services Inc.
DRILL RIG TYPE: Acker Soil Max
METHOD OF INVESTIGATION: 4 1/4" Hollow Stem Auger

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
N. Freeman

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: CTM-7
ELEV.: 23.79 **DATUM: USGS**
START DATE: 11/2/04 **FINISH DATE: 11/2/04**
SHEET 1 OF 1

PROJECT: South Troy Industrial Park
CTM PROJECT NO.: 04.9138
LOCATION: Troy , NY
CTM INSPECTOR: N. Freeman

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	3	10	22	28	32	1.3	TOPSOIL, Black CINDER, ASH and Red BRICK	PID = 0.3
		2	30	21	16	17	37	1.3	Becomes Meduim brown SAND and GRAVEL	PID = 0.5*
5		3	22	17	8	11	25	1.1	Brown SILT and CLAY	PID = 0.8
		4	7	8	12	11	20	0.8		PID = 0.8
10		5	1	4	4	5	8	1.5	Gray SILT and CLAY	PID = 0.7
		6	2	2	3	4	5	1.6		PID = 0.6
		7	5	5	5	6	10	1.8		PID = 0.8
15		8	1	3	4	5	7	1.7		PID = 0.7
		9	7	7	9	11	16	2.0	Gray SILT (Tight)	PID = 0.7
20		10	4	5	7	8	12	2.0	Similar with trace sand	PID = 0.6
		11	1	3	4	7	7	1.8	Gray fine SAND, trace silt	PID = 0.6
		12	5	6	5	7	11	2.0	Light brown medium SAND, trace silt (wet)	PID = 0.7
25		13	2	1	2	2	3	1.8	Brown fine SAND and SILT (wet)	PID = 0.4
		14	3	8	19	22	27	1.2	Coarse GRAVEL, Some brown medium Sand	PID = 0.7
30		15	6	18	18	17	36	0.9		PID = 0.6

* Laboratory Sample Collection

Boring Terminated at ± 30' bgs

2" PVC well installed at ± 30' bgs

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: SJB Services Inc.

DRILL RIG TYPE: Acker Soil Max

METHOD OF INVESTIGATION: 4 1/4" Hollow Stem Auger

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
N. Freeman

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: CTM-8
ELEV.: 24.20' **DATUM: USGS**
START DATE: 10/27/04 **FINISH DATE: 10/29/04**
SHEET 1 OF 1

PROJECT: South Troy Industrial Park
CTM PROJECT NO.: 04.9138
LOCATION: Troy , NY
CTM INSPECTOR: N. Freeman

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	6	8	13	24	21	1.3	Black CINDER and BRICK	PID = 0.4
		2	52	100 / 0.4				0.8	Red BRICK	PID = 0.4
5		3	3	4	3	5	7	1.5	Crushed SLAG becoming brown SILT and CLAY Gray CLAY	Perched water PID = 0.3*
		4	1	1	4	6	5	1.3		PID = 0.5
10		5	3	5	6	8	11	1.0	Gray / Brown SILT and CLAY (tight)	Sheen on spoon PID = 1.3
		6	3	4	4	6	8	1.3		PID = 0.8
		7	5	5	6	7	11	2.0		PID = 0.6
15		8	2	2	4	6	6	1.8	Gray SILT, trace sand	PID = 0.5
		9	4	7	6	8	13	1.8		PID = 0.4
20		10	1	2	4	4	6	2.0		PID = 0.4
		11	3	5	7	12	12	1.2	Gray SILT and CLAY	PID = 0.2
		12	4	7	13	21	20	1.3	Brown medium SAND and medium to coarse GRAVEL (Wet)	PID = 0.4
25		13	3	9	17	20	26	1.3		PID = 0.4
		14	5	13	20	18	33	0.8	Brown coarse GRAVEL and medium SAND (Wet)	PID = 0.4
30		15	4	12	13	14	25	1.0		PID = 0.3

* Laboratory Sample Collection

Boring Terminated at ± 30' bgs

2" PVC well installed at ± 30' bgs

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: SJB Services Inc.
DRILL RIG TYPE: Acker Soil Max
METHOD OF INVESTIGATION: 4 1 / 4" Hollow Stem Auger

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
N. Freeman

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: CTM-9
ELEV.: 23.54' **DATUM: USGS**
START DATE: 11/1/04 **FINISH DATE: 11/1/04**
SHEET 1 OF 1

PROJECT: South Troy Industrial Park
CTM PROJECT NO.: 04.9138
LOCATION: Troy , NY
CTM INSPECTOR: N. Freeman

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	4	8	59	20	67	1.2	Black SAND, GRAVEL and BRICK	PID = 0.2
		2	13	9	5	8	14	1.4	Black fine CINDERS	PID = 0.1
5		3	10	13	21	28	34	1.4	Brown medium SAND and GRAVEL	PID = 0.2*
									Red Brick noted	
		4	20	28	37	28	65	1.5	Brown medium SAND and GRAVEL	PID = 0.2*
		5	14	14	12	12	26	1.2		PID = 0.5
10										
		6	11	16	15	16	31	1.1		PID = 0.6
		7	13	10	13	15	23	1.1	Becomes Wet	PID = 0.8
15		8	18	9	7	4	16	1.2	Gray medium SAND becoming gray SILT,	Slight fuel oil odor PID = 2.2
									trace sand	
		9	4	7	6	8	13	1.8	Gray SILT	PID = 1.5
									Boring Terminated at ± 18' bgs	2" PVC well installed at ± 18' bgs
20										
25										
30										

* Laboratory Sample Collection

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: SJB Services Inc.
DRILL RIG TYPE: Acker Soil Max
METHOD OF INVESTIGATION: 4 1/4" Hollow Stem Auger

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STAB LIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS

SAMPLE CLASSIFICATION BY:
N. Freeman

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: CTM-10
ELEV.: 26.97 **DATUM: USGS**
START DATE: 10/21/04 **FINISH DATE: 10/22/04**
SHEET 1 OF 2

PROJECT: South Troy Industrial Park
CTM PROJECT NO.: 04.9138
LOCATION: Troy , NY
CTM INSPECTOR: N. Freeman

DEPTH (FT.)	SAMPLE TYPE	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES	
		1	3	3	5	13	8	0.5	0-0.1': TOPSOIL		PID = 0.4
									Yellow BRICK and SLAG		
		2	10	14	22	32	36	0.8	SLAG and Gray ASH	no noticable odor	PID = 8.2 *
5		3	8	77	100 / 0.1			0.4	SLAG and Black CINDER		PID = 4.2
		4	7	7	19	18	26	1.3	Similar with white brick		PID = 1.4
		5	10	6	3	3	9	1.1	Black CINDER and ASH		PID = 1.3
10											
		6	6	4	6	4	10	0.6			PID = 0.4
		7	3	4	4	5	8	1.0	Similar with Some Slag		PID = 1.0
15		8	6	4	5	3	9	0.7	Black CINDER and SLAG	Sulfur odor	PID = 1.1
		9	6	5	3	13	8	1.2			PID = 0.5
		10	9	5	7	2	12	0.0	Pushed a piece of slag in tip of spoon		PID = 0.3
20											
		11	17	55	27	18	82	0.3	SLAG and CINDER		PID = 0.4
		12	17	22	16	17	38	0.0	No Recovery		PID =
25		13	11	6	4	5	10	0.8	SLAG and GRAVEL	Wet	PID = 1.0
		14	8	4	6	4	10	1.0			PID = 0.5
		15	5	8	6	5	14	0.7	Gray fine SAND, Some Silt and Gravel		PID = 1.0
30											

* Laboratory Sample Collection

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: SJB Services Inc.
DRILL RIG TYPE: Acker Soil Max
METHOD OF INVESTIGATION: 4 1/4" Hollow Stem Auger

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME	

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
N. Freeman

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: CTM-10
ELEV.: 26.97' **DATUM: USGS**
START DATE: 10/21/04 **FINISH DATE: 10/22/04**
SHEET 2 OF 2

PROJECT: South Troy Industrial Park
CTM PROJECT NO.: 04.9138
LOCATION: Troy , NY
CTM INSPECTOR: N. Freeman

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		16	19	29	74	100 / 0.2	103	1.3	Medium SAND becomes Weathered SHALE	PID = 0.4
									Boring Terminated at ± 32' bgs	2" PVC well installed at ± 30' bgs
35										
40										
45										
50										
55										
60										

* Laboratory Sample Collection

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: SJB Services Inc.
DRILL RIG TYPE: Acker Soil Max
METHOD OF INVESTIGATION: 4 1/4" Hollow Stem Auger

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
N. Freeman

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: CTM-11
ELEV.: 22.47' **DATUM: USGS**
START DATE: 10/20/04 **FINISH DATE: 10/21/04**
SHEET 1 OF 1

PROJECT: South Troy Industrial Park
CTM PROJECT NO.: 04.9138
LOCATION: Troy , NY
CTM INSPECTOR: N. Freeman

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	4	43	99	100/0.1	142	1.2	Black CINDER and SLAG	Fuel oil odor PID = 17.8
		2	9	9	10	17	19	1.1	Blue, Green and Black SLAG	PID = 7.0
5		3	7	5	12	10	17	0.7		Sulfur odor PID = 0.8
		4	12	7	5	3	12	0.3		Sulfur odor PID = 1.4
		5	2	1	2	4	3	1.8	Brown SILT	Fuel oil odor and PID = 102*
10										heavily stained
		6	2	2	3	3	5	2.0		Fuel oil odor and PID = 98.4
										heavily stained
		7	2	3	3	3	6	1.6	Becomes trace sand	Fuel oil odor and PID = 97.3
										heavily stained
15		8	2	14	29	28	43	0.6	Gray fine SAND, trace silt and gravel	Fuel oil odor and PID = 82.4
										heavily stained
		9	19	24	21	28	45	1.0	Gray coarse SAND and GRAVEL	Fuel oil odor and PID = 96.8
										heavily stained
		10	18	38	29	33	67	1.3		Fuel oil odor and PID = 81.5
20										heavily stained
		11	13	11	20	42	31	0.7	(Wet)	Fuel oil odor and PID = 67.2
										heavily stained
		12	7	12	13	10	25	0.7		Fuel oil odor PID = 21.4
25		13	8	6	12	18	18	1.3		Fuel oil odor PID = 14.5
									Boring Terminated at ± 26' bgs	2" PVC well installed at ± 24' bgs
30										

* Laboratory Sample Collection

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: SJB Services Inc.
DRILL RIG TYPE: Acker Soil Max
METHOD OF INVESTIGATION: 4 1/4" Hollow Stem Auger

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
N. Freeman

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: CTM-13
ELEV.: 29.45' **DATUM: USGS**
START DATE: 10/25/04 **FINISH DATE: 10/25/04**
SHEET 1 OF 2

PROJECT: South Troy Industrial Park
CTM PROJECT NO.: 04.9138
LOCATION: Troy , NY
CTM INSPECTOR: N. Freeman

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES	
	TYPE	NO.	0/6	6/12	12/18	18/24	N				
		1	2	6	30	28	36	1.5	0-0.8' GRAVEL and TOPSOIL becoming white		PID = 0.2
									SLAG		
		2	3	10	40	40	50	0.5			PID = 0.2
5		3	13	48	24	18	72	1.0	Red crushed BRICK and white SLAG		PID = 0.5
		4	12	12	8	18	20	1.2	Crushed CONCRETE, SAND and GRAVEL		PID = 0.3
		5	31	100/0.2				0.5	White SLAG		PID = 0.4
10											
		6	12	75	100/0.3			0.9	Crushed white, blue and green SLAG		PID = 0.5
		7	18	9	7	12	16	1.2	Black SLAG - heavy iron content		PID = 0.9
15		8	4	18	20	63	38	1.1	Blue green SLAG	Sulfur odor	PID = 3.3*
		9	64	24	18	9	42	0.8			PID = 1.2
		10	21	75	100/0.2			1.0	White and blue coarse SLAG		PID = 0.7
20											
		11	100/0.2								
		12	100	100/0.3							
25		13	5	7	8	18	15	0.6	Coarse SLAG	Wet	PID = 2.2
		14	15	10	11	11	21	0.9	Grey SILT, trace sand		PID = 1.3
		15	13	12	15	16	27	1.3	Grey medium to coarse SAND and GRAVEL		PID = 0.7
30											

* Laboratory Sample Collection

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: SJB Services Inc.
DRILL RIG TYPE: Acker Soil Max
METHOD OF INVESTIGATION: 4 1/4" Hollow Stem Auger

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
N. Freeman

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: CTM-13
ELEV.: 29.45' **DATUM: USGS**
START DATE: 10/25/04 **FINISH DATE: 10/25/04**
SHEET 2 OF 2

PROJECT: South Troy Industrial Park
CTM PROJECT NO.: 04.9138
LOCATION: Troy , NY
CTM INSPECTOR: N. Freeman

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		16	4	6	17	21	23	1.1	Grey medium to coarse SAND and GRAVEL	PID = 1.1
									Boring Terminated at ± 32' bgs	2" PVC well installed at ± 30' bgs
35										
40										
45										
50										
55										
60										

* Laboratory Sample Collection

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: SJB Services Inc.

DRILL RIG TYPE: Acker Soil Max

METHOD OF INVESTIGATION: 4 1/4" Hollow Stem Auger

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
N. Freeman

APPENDIX E

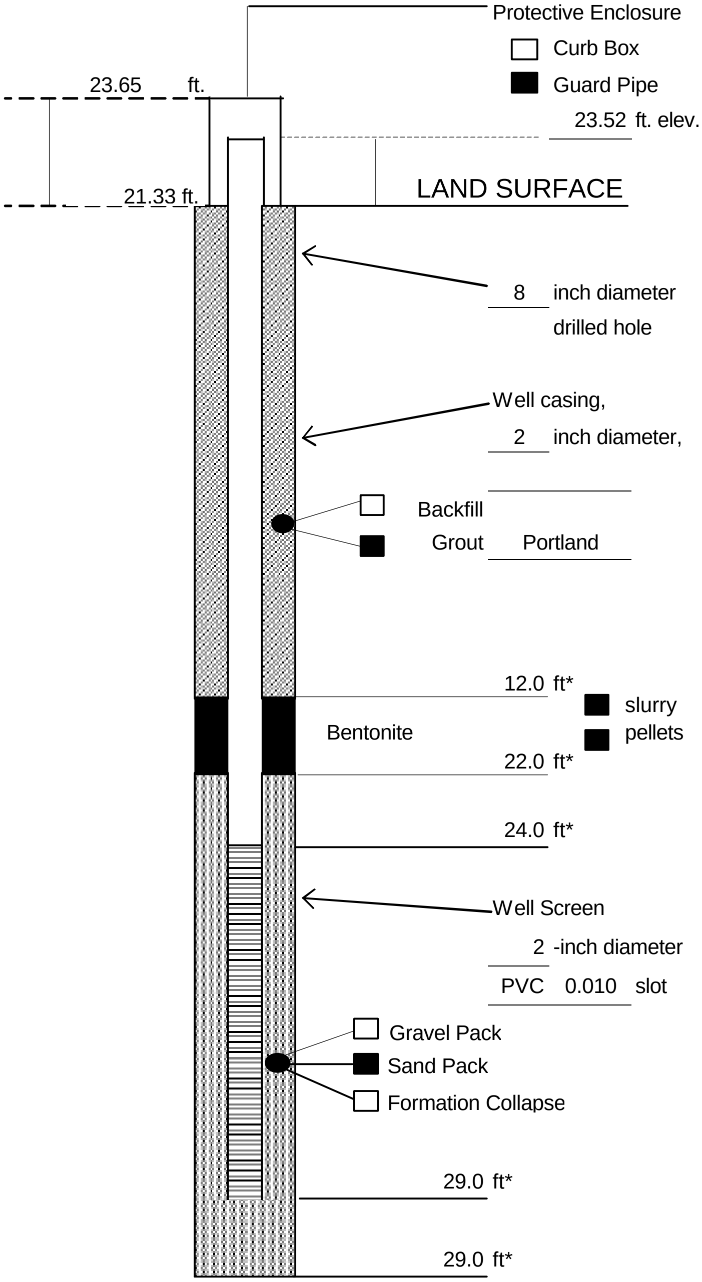
MONITORING WELL CONSTRUCTION LOGS

(CTM-1 to CTM-13)

Well No. **CTM-1**

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number 04.9138

Project Name South Troy Industrial Park

Well No. CTM-1 Boring No. CTM-1

Town/City Troy

County Rensselaer State NY

Installation Date(s) 11/3/04

Drilling Contractor SJB Services, Inc.

Drilling Method 4.25-inch Hollow Stem Augers

Water Depth From Top of Riser 20.09 ft 1/31/05 Date

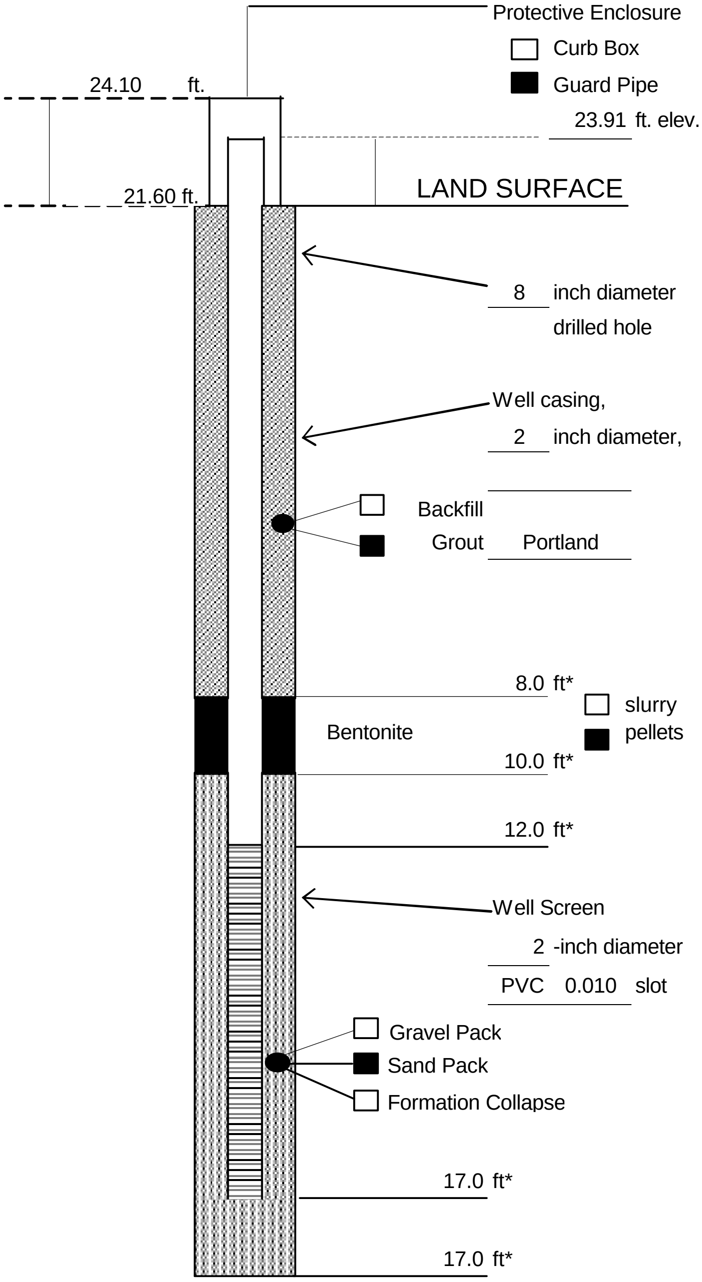
C.T. Male Observer N. Freeman

Notes: When setting well, sand was placed from 29 to 22 feet bgs followed by the addition of bentonite. The bentonite pellets bridged, thus leaving a void space between the top of the sand pack and the bentonite pellets. This was corrected by the addition of a slurry; which filled in the void spaces.

Well No. CTM-1S

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number 04.9138

Project Name South Troy Industrial Park

Well No. CTM-1S Boring No. CTM-1S

Town/City Troy

County Rensselaer State NY

Installation Date(s) 11/3/04

Drilling Contractor SJB Services, Inc.

Drilling Method 4.25-inch Hollow Stem Augers

Water Depth From Top of Riser 16.23 ft 1/31/05
Date

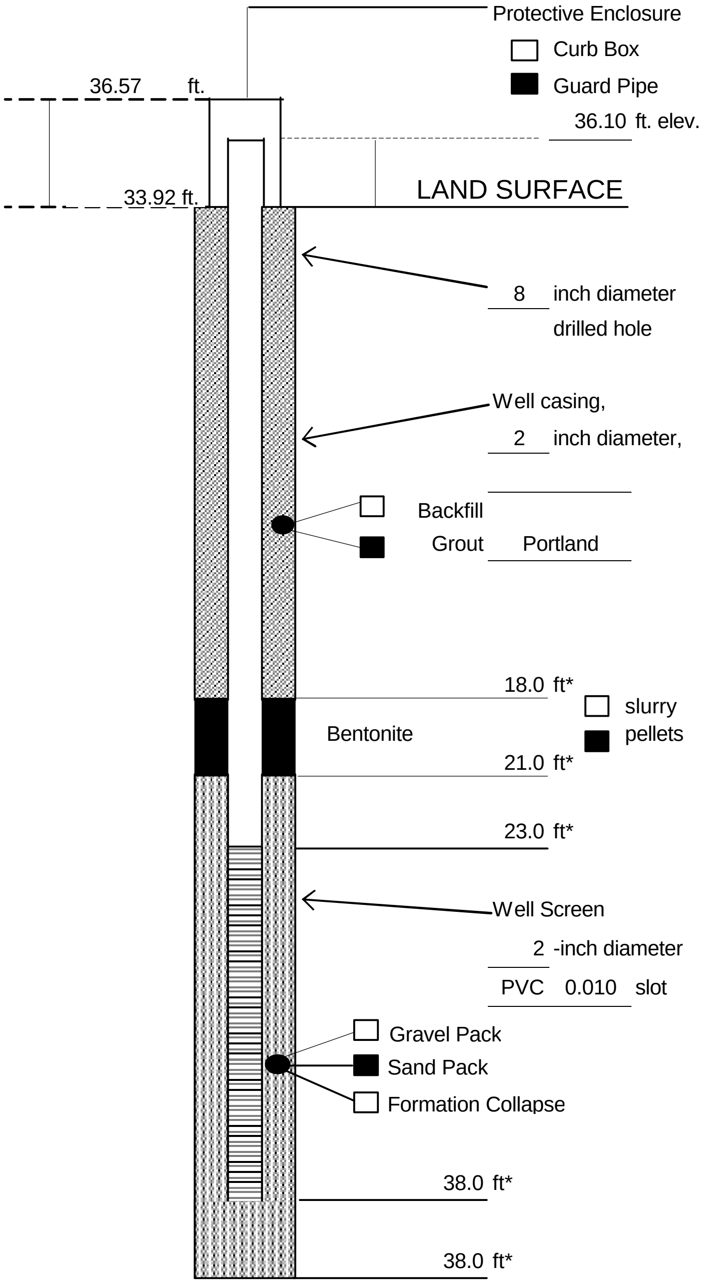
C.T. Male Observer N. Freeman

Notes:

Well No. CTM-2

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number 04.9138

Project Name South Troy Industrial Park

Well No. CTM-2 Boring No. CTM-2

Town/City Troy

County Rensselaer State NY

Installation Date(s) 10/26/04 to 10/27/04

Drilling Contractor SJB Services, Inc.

Drilling Method 4.25-inch Hollow Stem Augers

Water Depth From Top of Riser 33.14 ft 1/31/05 Date

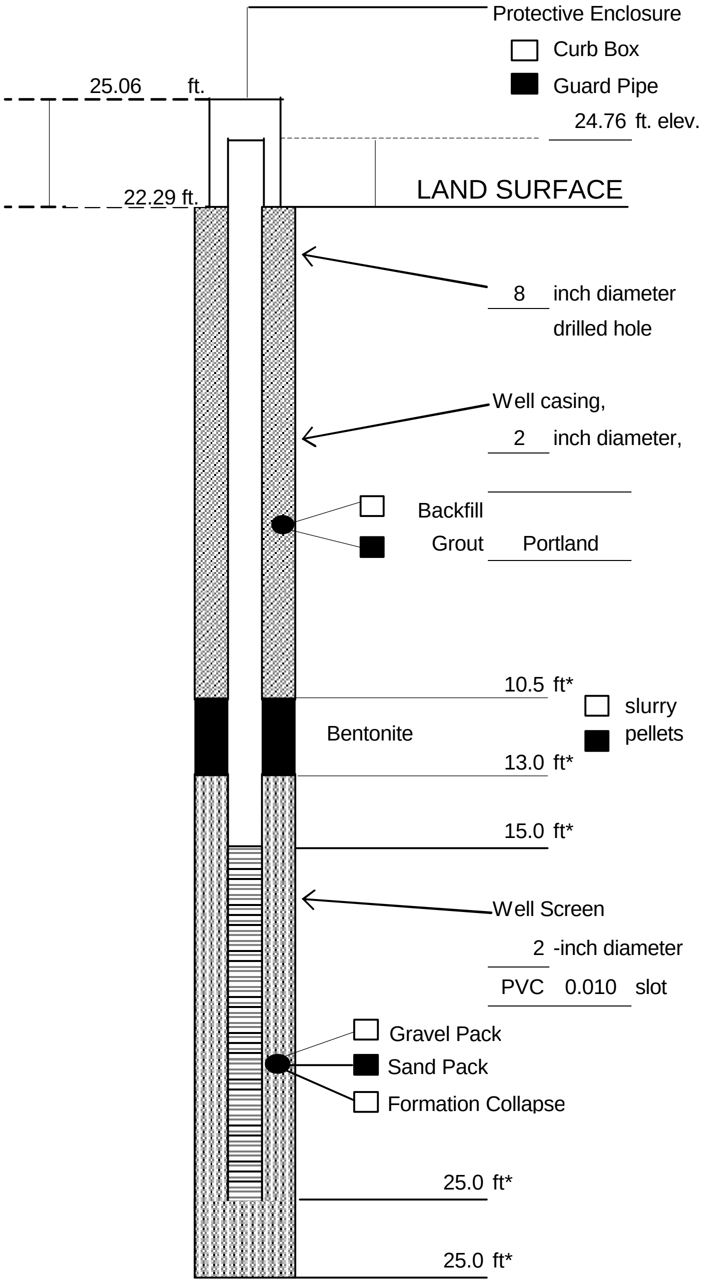
C.T. Male Observer N. Freeman

Notes:

Well No. CTM-3

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



Protective Enclosure

☐ Curb Box

■ Guard Pipe

25.06 ft.

24.76 ft. elev.

22.29 ft.

LAND SURFACE

8 inch diameter drilled hole

Well casing, 2 inch diameter,

☐ Backfill

■ Grout Portland

10.5 ft*

Bentonite ☐ slurry ■ pellets

13.0 ft*

15.0 ft*

Well Screen 2 -inch diameter PVC 0.010 slot

☐ Gravel Pack

■ Sand Pack

☐ Formation Collapse

25.0 ft*

25.0 ft*

* Depth below land surface.

Project Number 04.9138

Project Name South Troy Industrial Park

Well No. CTM-3 Boring No. CTM-3

Town/City Troy

County Rensselaer State NY

Installation Date(s) 10/18/04

Drilling Contractor SJB Services, Inc.

Drilling Method 4.25-inch Hollow Stem Augers

Water Depth From Top of Riser 21.41 ft 1/31/05 Date

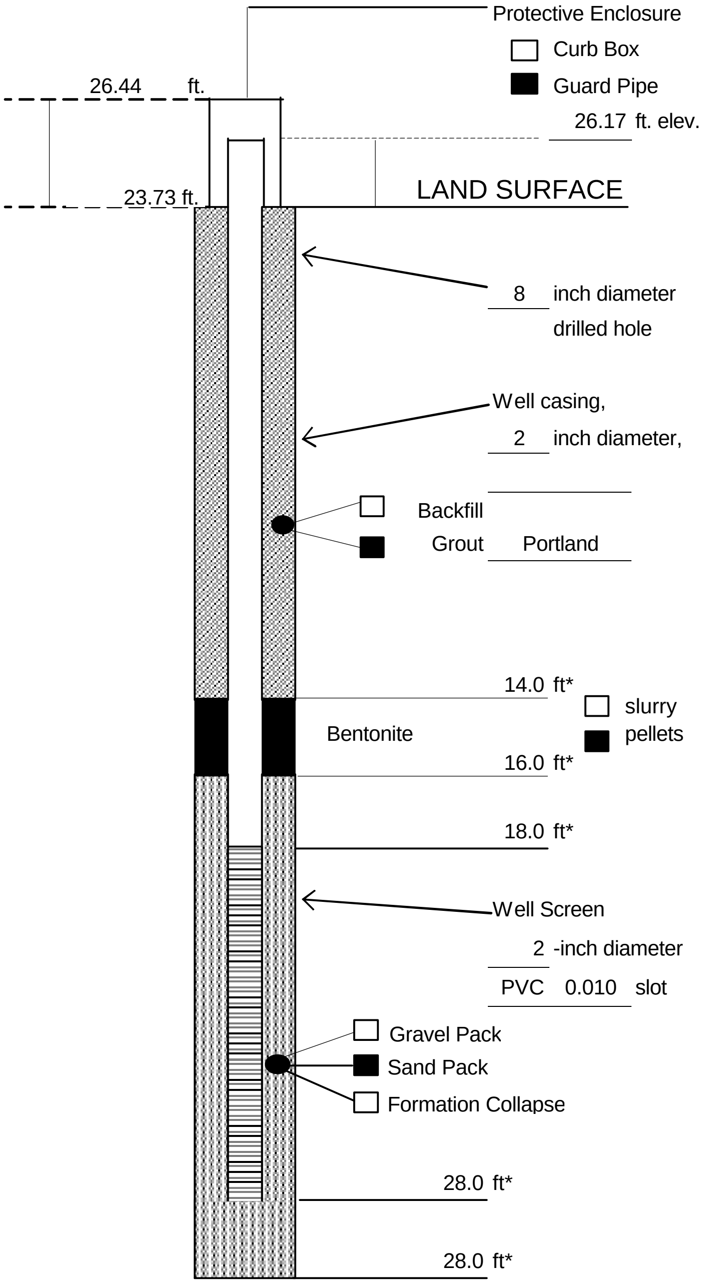
C.T. Male Observer N. Freeman

Notes:

Well No. CTM-5

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number 04.9138

Project Name South Troy Industrial Park

Well No. CTM-5 Boring No. CTM-5

Town/City Troy

County Rensselaer State NY

Installation Date(s) 10/20/04

Drilling Contractor SJB Services, Inc.

Drilling Method 4.25-inch Hollow Stem Augers

Water Depth From Top of Riser 22.90 ft 1/31/05 Date

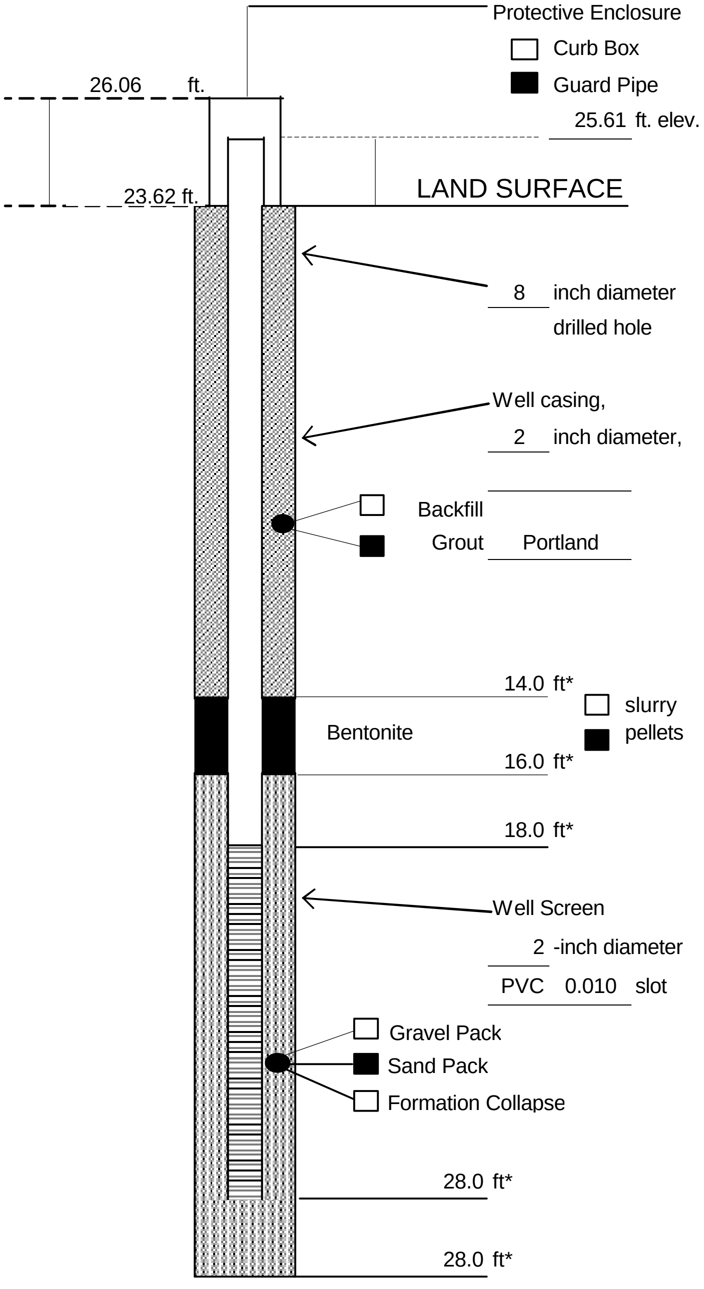
C.T. Male Observer N. Freeman

Notes:

Well No. CTM-6

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number 04.9138

Project Name South Troy Industrial Park

Well No. CTM-6 Boring No. CTM-6

Town/City Troy

County Rensselaer State NY

Installation Date(s) 10/19/04

Drilling Contractor SJB Services, Inc.

Drilling Method 4.25-inch Hollow Stem Augers

Water Depth From Top of Riser 22.38 ft 1/31/05
Date

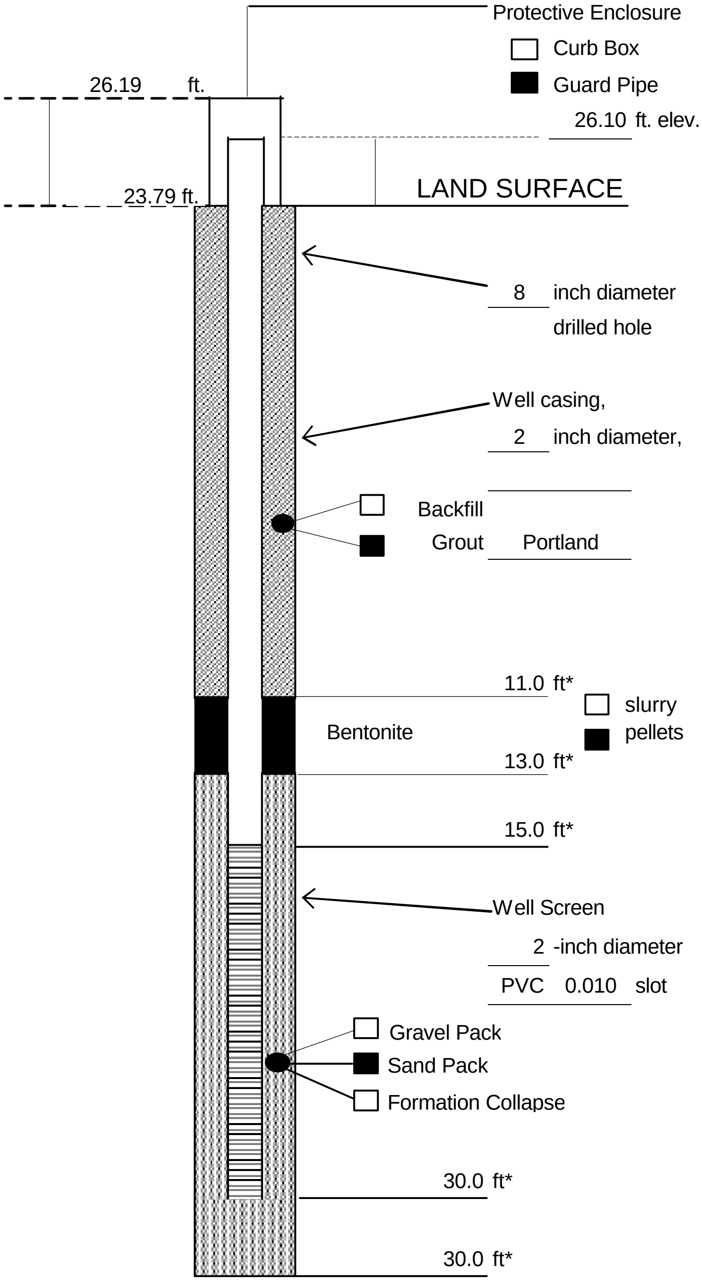
C.T. Male Observer N. Freeman

Notes:

Well No. CTM-7

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number 04.9138

Project Name South Troy Industrial Park

Well No. CTM-7 Boring No. CTM-7

Town/City Troy

County Rensselaer State NY

Installation Date(s) 11/2/04

Drilling Contractor SJB Services, Inc.

Drilling Method 4.25-inch Hollow Stem Augers

Water Depth From Top of Riser 22.78 ft 1/31/05 Date

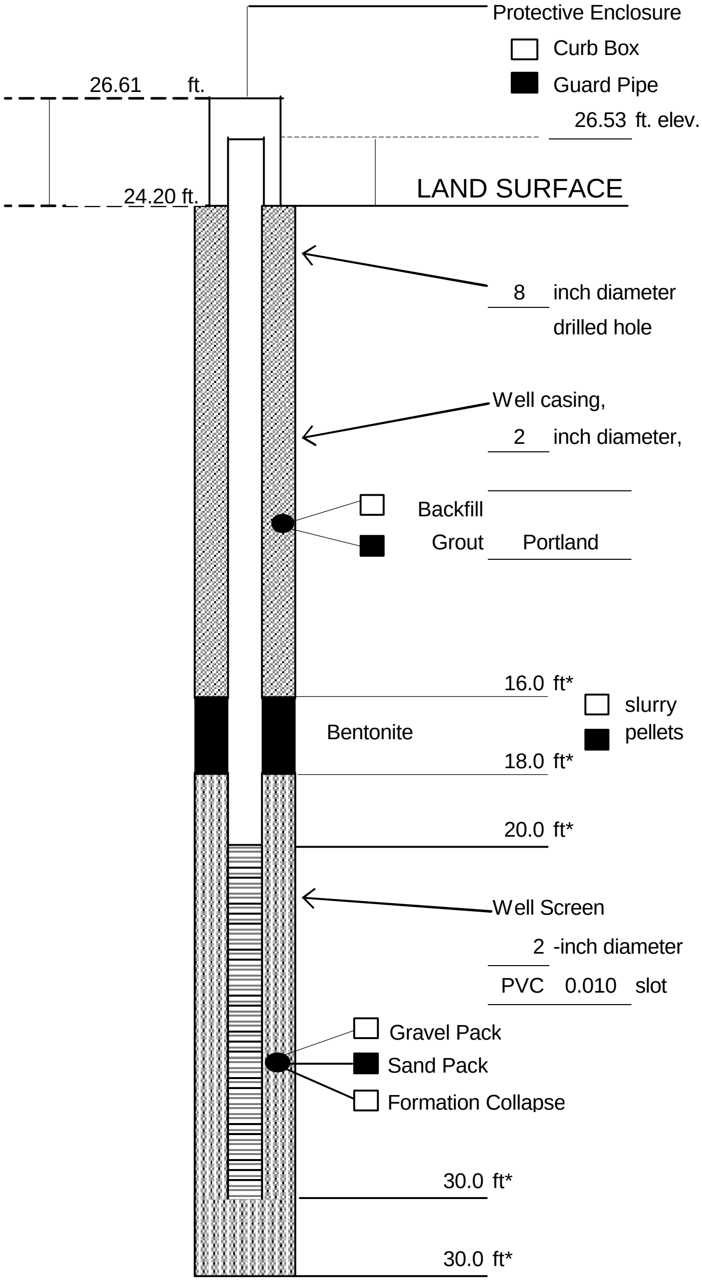
C.T. Male Observer N. Freeman

Notes:

Well No. **CTM-8**

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



Protective Enclosure

☐ Curb Box

■ Guard Pipe

26.61 ft.

26.53 ft. elev.

24.20 ft.

LAND SURFACE

8 inch diameter drilled hole

Well casing, 2 inch diameter,

☐ Backfill

■ Grout Portland

16.0 ft*

Bentonite ☐ slurry ■ pellets

18.0 ft*

20.0 ft*

Well Screen 2 -inch diameter

PVC 0.010 slot

☐ Gravel Pack

■ Sand Pack

☐ Formation Collapse

30.0 ft*

30.0 ft*

* Depth below land surface.

Project Number 04.9138

Project Name South Troy Industrial Park

Well No. CTM-8 Boring No. CTM-8

Town/City Troy

County Rensselaer State NY

Installation Date(s) 10/29/04

Drilling Contractor SJB Services, Inc.

Drilling Method 4.25-inch Hollow Stem Augers

Water Depth From Top of Riser 23.12 ft 1/31/05 Date

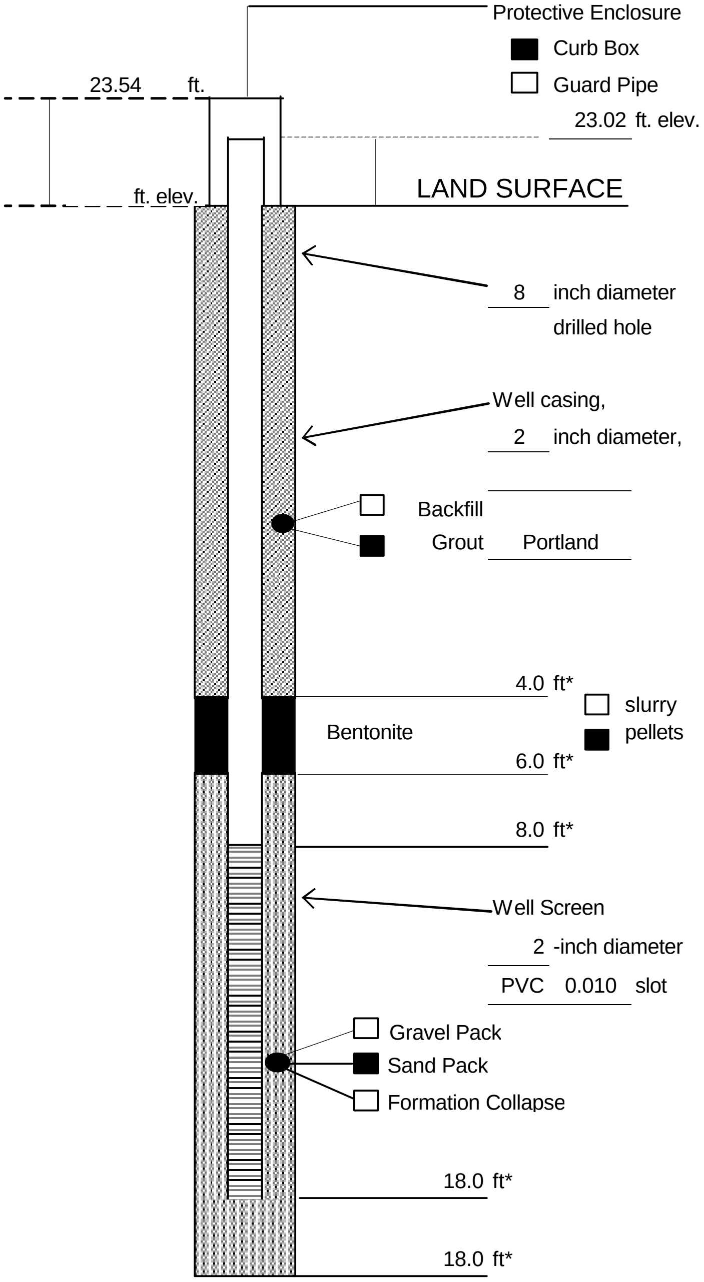
C.T. Male Observer N. Freeman

Notes:

Well No. **CTM-9**

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number 04.9138

Project Name South Troy Industrial Park

Well No. CTM-9 Boring No. CTM-9

Town/City Troy

County Rensselaer State NY

Installation Date(s) 11/1/04

Drilling Contractor SJB Services, Inc.

Drilling Method 4.25-inch Hollow Stem Augers

Water Depth From Top of Riser 10.11 ft 1/31/05
Date

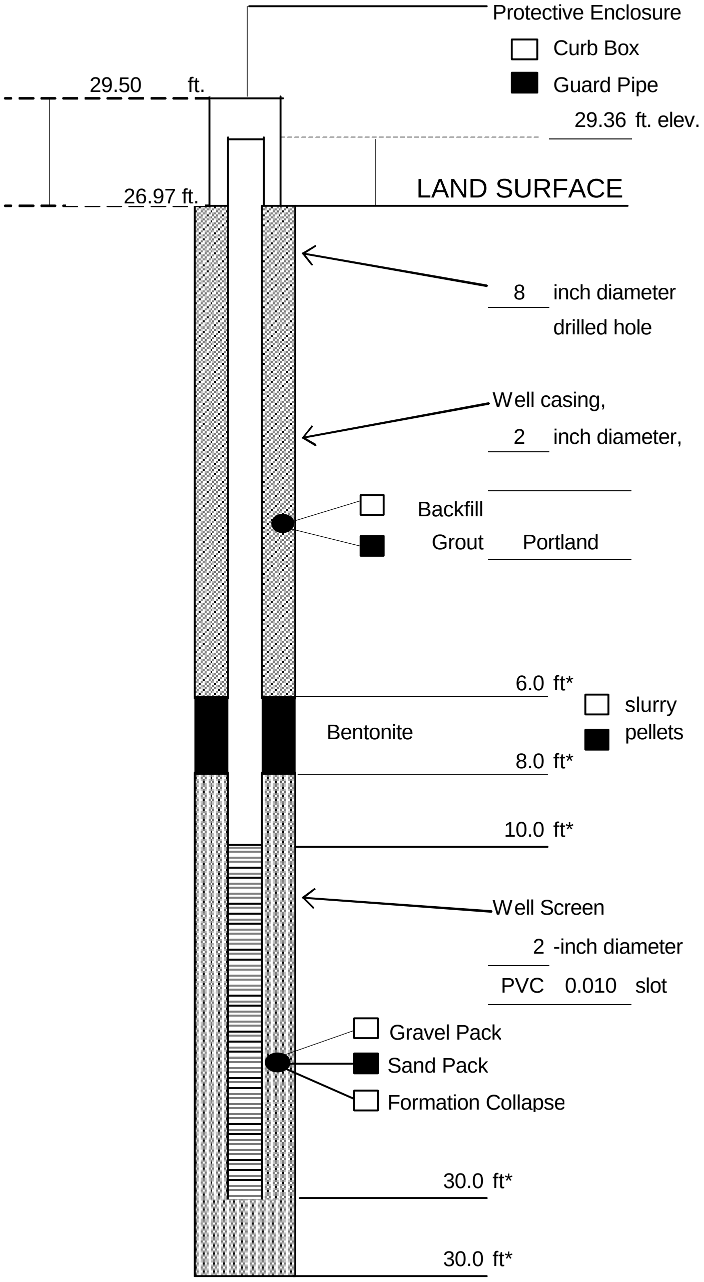
C.T. Male Observer N. Freeman

Notes:

Well No. **CTM-10**

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



Protective Enclosure

☐ Curb Box

■ Guard Pipe

29.50 ft.

29.36 ft. elev.

26.97 ft.

LAND SURFACE

8 inch diameter drilled hole

Well casing, 2 inch diameter,

☐ Backfill

■ Grout Portland

6.0 ft*

Bentonite ☐ slurry ■ pellets

8.0 ft*

10.0 ft*

Well Screen 2 -inch diameter PVC 0.010 slot

☐ Gravel Pack

■ Sand Pack

☐ Formation Collapse

30.0 ft*

30.0 ft*

* Depth below land surface.

Project Number 04.9138

Project Name South Troy Industrial Park

Well No. CTM-10 Boring No. CTM-10

Town/City Troy

County Rensselaer State NY

Installation Date(s) 10/22/04

Drilling Contractor SJB Services, Inc.

Drilling Method 4.25-inch Hollow Stem Augers

Water Depth From Top of Riser 26.72 ft 1/31/05 Date

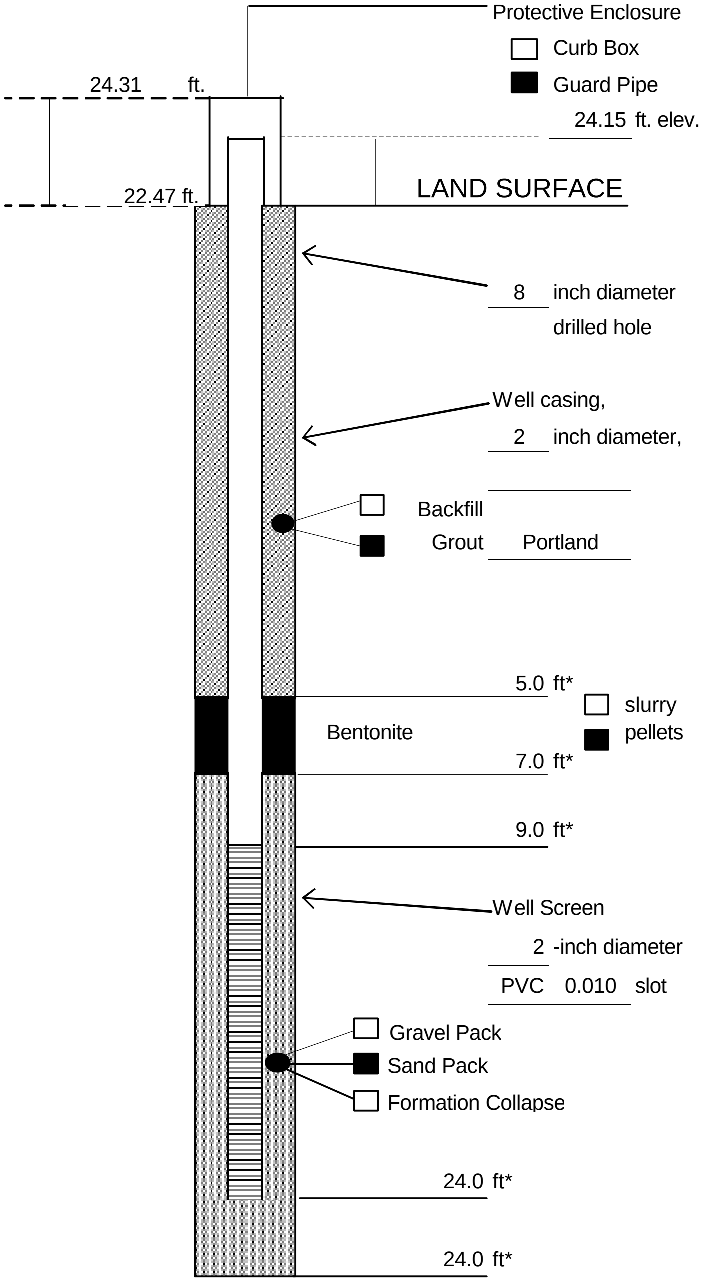
C.T. Male Observer N. Freeman

Notes:

Well No. **CTM-11**

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number 04.9138

Project Name South Troy Industrial Park

Well No. CTM-11 Boring No. CTM-11

Town/City Troy

County Rensselaer State NY

Installation Date(s) 10/21/04

Drilling Contractor SJB Services, Inc.

Drilling Method 4.25-inch Hollow Stem Augers

Water Depth From Top of Riser 20.92 ft 1/31/05 Date

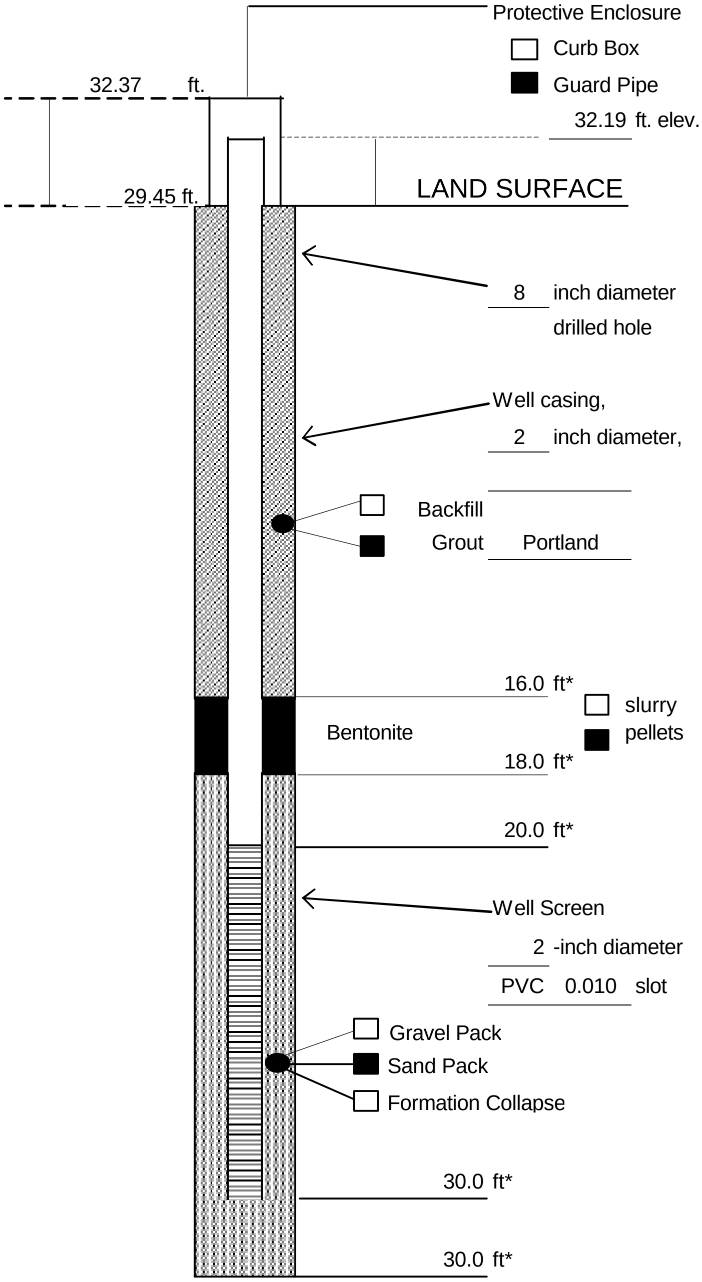
C.T. Male Observer N. Freeman

Notes:

Well No. CTM-13

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



Protective Enclosure

☐ Curb Box

■ Guard Pipe

32.37 ft.

32.19 ft. elev.

29.45 ft.

LAND SURFACE

8 inch diameter drilled hole

Well casing, 2 inch diameter,

☐ Backfill

■ Grout Portland

16.0 ft*

Bentonite

☐ slurry

■ pellets

18.0 ft*

20.0 ft*

Well Screen

2 -inch diameter

PVC 0.010 slot

☐ Gravel Pack

■ Sand Pack

☐ Formation Collapse

30.0 ft*

30.0 ft*

* Depth below land surface.

Project Number 04.9138

Project Name South Troy Industrial Park

Well No. CTM-13 Boring No. CTM-13

Town/City Troy

County Rensselaer State NY

Installation Date(s) 10/21/04

Drilling Contractor SJB Services, Inc.

Drilling Method 4.25-inch Hollow Stem Augers

Water Depth From Top of Riser 29.28 ft 1/31/05 Date

C.T. Male Observer N. Freeman

Notes:

APPENDIX F

ORGANIC VAPOR HEADSPACE ANALYSIS LOGS

IRM SUPPLEMENTAL INVESTIGATION

(CTM-1OO to CTM-105S)

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ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: STIP Supplemental Investigation (Parcel 1) **PROJECT #:** 04.9138 **PAGE 1 OF 1**

CLIENT: RCIDA

LOCATION: Troy, New York

DATE COLLECTED: 8/15/05

INSTRUMENT USED: MiniRae 2000 **LAMP** 10.6 **eV**

DATE INSTRUMENT CALIBRATED: 8/15/2005 **BY:** S. Bieber

DATE ANALYZED: 8/15/05

TEMPERATURE OF SOIL: Ambient

ANALYST: S. Bieber

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-100	1	0-2	Soil/Fill	0	0	
SB-100	2	2-4	Soil/Fill	0	0	
SB-100	3	4-6	Soil/Fill	0	0	
SB-100	4	6-8	Soil/Fill	0	0	
SB-100	5	8-10	NA	NA	NA	No recovery
SB-100	6	10-12	Soil/Fill	0	0	
SB-100	7	12-14	Soil/Fill	0	0	
SB-100	8	14-16	Soil	0	0	
SB-100	9	16-18	Soil	0	0	
SB-100	10	18-20	Soil	0	0	
SB-100	11	20-22	Soil	0	0	
SB-100	12	22-24	Soil	0	0	
SB-100	13	24-26	Soil	0	0	
SB-100	14	26-28	Soil	0	0	
SB-100	15	28-30	Soil	0	0	

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: STIP Supplemental Investigation (Parcel 1)
PROJECT #: 04.9138
PAGE 1 OF 1
CLIENT: RCIDA
LOCATION: Troy, New York
DATE COLLECTED: 8/16/05
INSTRUMENT USED: MiniRae 2000 **LAMP** 10.6 **eV**
DATE INSTRUMENT CALIBRATED: 8/16/2005 **BY:** S. Bieber
DATE ANALYZED: 8/16/05
TEMPERATURE OF SOIL: Ambient
ANALYST: S. Bieber

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-101	1	0-2	Soil/Fill	0	0	
SB-101	2	2-4	Soil/Fill	0	0	
SB-101	3	4-6	Soil/Fill	0	0	
SB-101	4	6-8	Soil/Fill	0	0	
SB-101	5	8-10	Soil/Fill	0	0	
SB-101	6	10-12	Soil/Fill	0	0	
SB-101	7	12-14	Soil/Fill	0	0	
SB-101	8	14-16	Soil/Fill	0	0	
SB-101	9	16-18	Soil/Fill	0	0	
SB-101	10	18-20	Soil	0	0	
SB-101	11	20-22	NA	NA	NA	No recovery
SB-101	12	22-24	Soil	0	0	
SB-101	13	24-26	Soil	0	0	
SB-101	14	26-28	Soil	0	0	
SB-101	15	28-30	Soil	0	0	
SB-101	16	30-32	NA	NA	NA	No recovery

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.
**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.
***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

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ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: STIP Supplemental Investigation (Parcel 1)	**PROJECT #:** 04.9138	**PAGE 1 OF 1**
CLIENT: RCIDA		**DATE COLLECTED:** 8/17/05
LOCATION: Troy, New York		
INSTRUMENT USED: MiniRae 2000	**LAMP** 10.6 **eV**	**DATE ANALYZED:** 8/17/05
DATE INSTRUMENT CALIBRATED: 8/17/2005	**BY:** S. Bieber	
TEMPERATURE OF SOIL: Ambient		**ANALYST:** S. Bieber

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-101S	1	15-17	Soil / Fill	0	0	
SB-102	1	0-2	Soil / Fill	0	0	
SB-102	2	2-4	Soil / Fill	0	0	
SB-102	3	4-6	Soil / Fill	0	0	
SB-102	4	6-8	Soil / Fill	0	0	
SB-102	5	8-10	Soil / Fill	0	0	
SB-102	6	10-12	Soil / Fill	0	0	
SB-102	7	12-14	Soil / Fill	0	0	
SB-102	8	14-16	Soil / Fill	0	0	
SB-102	9	16-18	Soil	0	0	
SB-102	10	18-20	NA	NA	NA	No recovery
SB-102	11	20-22	Soil	0	0	
SB-102	12	22-24	Soil	0	0	
SB-102	13	24-26	Soil	0	0	
SB-102	14	26-28	Soil	0	0	
SB-102	15	28-30	Soil	0	0	

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: STIP Supplemental Investigation (Parcel 1)	**PROJECT #:** 04.9138	**PAGE 1 OF 1**
CLIENT: RCIDA		**DATE COLLECTED:** 8/18/05
LOCATION: Troy, New York		
INSTRUMENT USED: MiniRae 2000	**LAMP** 10.6 **eV**	**DATE ANALYZED:** 8/26/05
DATE INSTRUMENT CALIBRATED: 8/26/2005	**BY:** S. Bieber	
TEMPERATURE OF SOIL: Ambient		**ANALYST:** S. Bieber

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-103	1	0-2	Soil / Fill	2.1	1.4	
SB-103	2	2-4	Soil / Fill	1.5	1.2	
SB-103	3	4-6	Soil / Fill	1.2	1.1	
SB-103	4	6-8	Soil / Fill	1.0	0.8	
SB-103	5	8-10	Soil / Fill	1.2	0.8	
SB-103	6	10-12	Soil / Fill	0.8	0.8	
SB-103	7	12-14	Soil / Fill	0.9	0.7	
SB-103	8	14-16	Soil	0.7	0.6	
SB-103	9	16-18	Soil	0.8	0.7	
SB-103	10	18-20	Soil	0.6	0.6	
SB-103	11	20-22	Soil	0.8	0.6	
SB-103	12	22-24	Soil	0.6	0.5	
SB-103	13	24-26	Soil	0.7	0.5	
SB-104	1	13-15	Soil / Fill	0.7	0.5	

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

a

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: STIP Supplemental Investigation (Parcel 1)	**PROJECT #:** 04.9138	**PAGE 1 OF 1**
CLIENT: RCIDA		**DATE COLLECTED:** 8/18/05
LOCATION: Troy, New York		
INSTRUMENT USED: MiniRae 2000	**LAMP** 10.6 **eV**	**DATE ANALYZED:** 8/26/05
DATE INSTRUMENT CALIBRATED: 8/26/2005	**BY:** S. Bieber	
TEMPERATURE OF SOIL: Ambient		**ANALYST:** S. Bieber

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-105	1	0-2	Soil/Fill	0.5	0.2	
SB-105	2	2-4	Soil/Fill	0.4	0.4	
SB-105	3	4-6	Soil/Fill	0.5	0.5	
SB-105	4	6-8	Soil/Fill	0.6	0.5	
SB-105	5	8-10	Soil/Fill	0.6	0.5	
SB-105	6	10-12	NA	NA	NA	No recovery
SB-105	7	12-14	Soil/Fill	0.5	0.3	
SB-105	8	14-16	NA	NA	NA	No recovery
SB-105	9	16-18	Soil	0.5	0.3	
SB-105	10	18-20	Soil	0.5	0.2	
SB-105	11	20-22	Soil	0.5	0.4	
SB-105	12	22-24	Soil	0.4	0.3	
SB-105	13	24-26	NA	NA	NA	No recovery
SB-105	14	26-28	Soil	0.4	0.1	
SB-105	15	28-30	Soil	0.8	0.5	
SB-105S	1	14-Dec	Soil/Fill	0.4	0.3	
SB-105S	2	14-16	Soil/Fill	0.5	0.3	
SB-105S	3	17-19	Soil/Fill	0.4	0.4	

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

APPENDIX G

SUBSURFACE EXPLORATION LOGS
IRM SUPPLEMENTAL INVESTIGATION
(CTM-1OO to CTM-105S)

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-100
ELEV.: 22.66' DATUM: USGS
START DATE: 8/15/05 FINISH DATE: 8/15/05
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 1)
CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York
CTM INSPECTOR: S. Bieber

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	2	6	6	7	12	1.5	Dark Gray fine to medium SAND and	(damp)
									GRAVEL, little red brick and cinder	
		2	3	4	4	4	8	0.8	Same with Some Red Brick and Cinder	(damp)
5		3	4	5	14	8	19	0.7	Same (rock in sampler shoe)	(damp)
		4	9	4	1	2	5	1.2	Same with Some Slag	(damp)
		5	3	6	10	9	16	0.0	No Recovery	
10										
		6	5	4	2	1	6	1.6	Dark Gray SILT, SAND and GRAVEL,	(damp)
									Some Red Brick, Cinder & Slag, little glass	
		7	3	2	2	4	4	1.4	Dark Gray SAND and GRAVEL, Some	(damp)
									Red Brick, Cinder and Slag	
15		8	4	3	1	2	4	1.2	Gray / Brown SILT, trace clay and gravel	(damp)
		9	2	2	2	2	4	2.0	Same. Changes to Brown SILT, little	(little moist)
									clay at ± 17.6' bgs.	
		10	5	1	1	1	2	1.5	Brow Silt, Some Clay	(little moist)
20										
		11	2	1	1	2	2	1.2	Gray SILT, SAND and GRAVEL	(wet)
		12	5	8	9	10	17	1.8	Changes to Gray fine to coarse SAND	(little moist)
									and GRAVEL, little wood at ± 23.5' bgs	
25		13	8	13	10	6	23	0.9	Gray fine to coarse SAND and GRAVEL	(wet)
		14	8	19	18	6	37	0.9	Same	(wet)
		15	14	20	16	18	36	0.7	Same	(wet)
30									Boring Terminated at ± 30' bgs	2" PVC well installed at ± 27' bgs

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc.
DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: Continuous 2' split spoon sampling

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

a

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-101
ELEV.: 22.72' **DATUM: USGS**
START DATE: 8/16/05 **FINISH DATE: 8/16/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 1) CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York CTM INSPECTOR: S. Bieber

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	3	6	9	10	15	1.0	Dark Gray fine to coarse SAND and GRAVEL,	(damp)
									trace red brick and slag	
		2	5	9	10	10	19	0.1	Dark Gray fine to coarse SAND, little	(damp)
									gravel and slag	
5		3	6	8	6	4	14	0.1	Dark Gray fine to coarse SAND, little	(damp)
									gravel, trace slag	rock in sampler shoe
		4	2	3	3	4	6	0.5	Dark Gray fine to coarse SAND and GRAVEL,	((damp)
									Some Cinder, little slag, trace red brick	
		5	2	3	4	4	7	0.3	Same	(damp)
10										
		6	2	5	4	3	9	0.1	Same	(damp)
		7	4	1	1	1	2	0.4	Dark Gray fine to coarse SAND and GRAVEL,	(little moist)
									little slag, cinder and red brick	
15		8	1	3	3	4	6	0.9	Dark Gray fine to coarse SAND, GRAVEL	(moist to wet)
									and SLAG, trace cinder	
		9	4	1	2	2	3	1.8	Gray SILT, little fine sand	(moist)
		10	3	1	WH	WH	1	1.5	Gray SILT, Some Clay	(moist)
20										
		11	1	1	1	2	1	0.0		No recovery
		12	4	3	3	4	6	2.0	Gray SAND and GRAVEL, trace silt and brick	(damp)
									Gray SAND, little silt, trace wood	(damp)
25		13	5	9	9	10	18	0.1	Gray fine SAND and GRAVEL	(wet) (rock in shoe)
		14	4	9	11	12	20	1.1	Gray fine to coarse SAND and GRAVEL	(wet)
		15	4	9	13	4	22	0.6	Same	(wet)
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc. DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: Continuous 2' split spoon sampling

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-101
ELEV.: 22.72' **DATUM: USGS**
START DATE: 8/16/05 **FINISH DATE: 8/16/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 1) CTM PROJECT NO.: 04.9138

LOCATION: Troy, New York CTM INSPECTOR: S. Bieber

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		16	16	16	22	26	38	0.0		No Recovery
									Boring Terminated at ± 32' bgs	2" PVC well installed at ± 32' bgs
35										
40										
45										
50										
55										
60										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: SJB Services, Inc. DRILL RIG TYPE: CME 75

METHOD OF INVESTIGATION: Continuous 2' split spoon sampling

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-101S
ELEV.: 22.74' **DATUM: USGS**
START DATE: 8/16/05 **FINISH DATE: 8/17/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 1)
CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York
CTM INSPECTOR: S. Bieber

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
										SB-101S converted to a shallow well alongside SB-101. Soils sampled at 15 to 17' bgs interval to confirm the presence of groundwater
5										
10										
15		1	2	1	1	2	2	1.8	Dark Gray SAND, GRAVEL and SLAG	(little wet)
									Dark Gray SILT, little clay	(moist)
									Boring Terminated at ± 17' bgs	2" PVC well installed at ± 17' bgs
20										
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc.
DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: Continuous 2' split spoon sampling

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-102
ELEV.: NA **DATUM: NA**
START DATE: 8/17/05 **FINISH DATE: 8/17/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 1)
CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York
CTM INSPECTOR: S. Bieber

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	51	8	7	5	15	0.9	Dark Gray fine to coarse SAND and GRAVEL,	(damp)
									Some Cinder, little slag	
		2	12	7	7	7	14	0.9	Same	(damp)
5		3	12	8	6	7	14	1.4	Dark Gray fine to coarse SAND and GRAVEL,	(damp)
									Some Slag, trace cinder and red brick	
		4	5	3	2	3	5	0.8	Same	(damp)
		5	2	2	2	3	4	1.1	Same	(damp)
10										
		6	5	2	2	1	4	0.7	Same	(little moist)
		7	3	1	2	1	3	1.0	Same with trace wood	(little wet)
15		8	4	4	2	2	6	0.8	Same to 15.5'	(little wet)
									Gray SILT, little fine sand and clay	(little moist)
		9	3	1	2	1	3	0.9	Same to 17.8'	
									Gray SILT and f. to m. SAND & GRAVEL	(damp)
		10	4	1	2	3	3	0.0		No recovery
20										
		11	1	1	1	1	2	1.6	Gray SILT and fine SAND, trace gravel	(little moist)
		12	2	2	4	7	6	1.1	Gray fine to coarse SAND and GRAVEL,	(little wet)
									trace silt and red brick	
25		13	4	7	7	7	14	0.7	Same	(wet)
		14	4	6	6	5	12	2.0	Bray/Brown fine to coarse SAND and	(wet)
									GRAVEL, trace silt	
		15	6	14	18	26	32	0.5	Same	(wet
30										

Boring Terminated at ± 30' bgs

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc.
DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: Continuous 2' split spoon sampling

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-103
ELEV.: NA **DATUM: NA**
START DATE: 8/18/05 FINISH DATE: 8/18/05
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 1)
CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York
CTM INSPECTOR: S. Bieber

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	4	4	6	5	10	1.3	Dark Brown fine to coarse SAND and	(damp)
									GRAVEL, Some Slag, little cinder	
		2	5	5	5	7	10	1.3	Same with trace red brick	(damp)
5		3	3	4	1	2	5	1.2	Same	(damp)
		4	3	2	2	4	4	0.9	Same	(little moist)
		5	2	2	1	2	3	0.8	Same	(moist)
10										
		6	2	2	1	2	3	0.9	Same	(moist)
		7	3	3	4	5	7	1.0	Same to 13.8'	(moist)
									Brown SILT, Some Clay and Gravel	(moist)
15		8	2	1	1	1	2	1.3	Gray SILT and fine SAND, little gravel	(moist)
		9	WH	WH	WH	1	WH	2.0	Gray SILT, little fine sand and clay	(little moist)
		10	1	1	WH	1	1	1.6	Gray SILT, Some Clay, little fine sand	(little moist)
20										
		11	2	1	2	5	3	2.0	Gray/Brown SILT and fine SAND, trace	(little moist)
									wood and gravel	
		12	2	2	5	4	7	0.7	Gray fine to coarse SAND and GRAVEL,	(little wet)
									trace silt	(becomes wet at ± 23.8')
25		13	9	8	7	11	15	1.2	Same	(wet)
									Boring Terminated at ± 26' bgs	
		14								
		15								
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc.
DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: Continuous 2' split spoon sampling

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-104
ELEV.: 22.36' **DATUM: USGS**
START DATE: 8/18/05 **FINISH DATE: 8/18/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 1)
CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York
CTM INSPECTOR: S. Bieber

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
										SB-104 converted to a shallow well alongside SB-103. Soils sampled at 13 to 15' bgs interval to confirm the presence of groundwater
5										
10										
		1	3	2	2	2	4	1.5	Dark Gray SAND and GRAVEL, Some Slag	(little wet)
									Brown Silt, Some Clay and Gravel	(moist)
15									Boring Terminated at ± 15' bgs	2" PVC well installed at ± 15' bgs
20										
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc.
DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: Continuous 2' split spoon sampling

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-105
ELEV.: 22.62' **DATUM: USGS**
START DATE: 8/18/05 **FINISH DATE: 8/19/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 1)
CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York
CTM INSPECTOR: S. Bieber

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	1	6	7	5	13	1.2	Dark Gray fine to coarse SAND and GRAVEL,	(damp)
									Some Slag and Cinder, little red brick	
		2	5	9	4	3	12	0.7	Same	(damp)
5		3	3	3	6	5	9	0.6	Same	(damp)
		4	3	1	3	4	4	0.6	Same	(damp)
		5	3	3	6	6	9	1.1	Same	(little moist)
10										
		6	2	2	1	2	3	0.0		No recovery
		7	2	2	1	3	3	0.4	Same	(moist to a little wet)
15		8	6	4	5	5	9	0.0		No recovery
		9	2	2	2	2	4	2.0	Gray / Brown SILT, Some fine Sand, trace	(little moist)
									fine gravel	
		10	4	2	2	1	4	0.2	Gray SILT, little fine sand, trace clay	(little moist)
20										
		11	1	1	1	1	2	2.0	Same	(little moist)
		12	2	2	4	1	6	2.0	Gray / Brown SILT, Some fine Sand, trace	(little moist)
									fine gravel and wood	
25		13	2	4	4	3	8	0.0		No recovery
		14	4	4	8	9	12	1.4	Brown / Gray fine to coarse SAND and	(wet)
									GRAVEL, trace silt	
		15	11	10	9	11	19	0.4	Gray fine to coarse SAND and GRAVEL,	(wet)
30									trace silt	

Boring Terminated at ± 30' bgs

2" PVC well installed at ± 30' bgs

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: SJB Services, Inc.
DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: Continuous 2' split spoon sampling

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-105S
ELEV.: 22.52' **DATUM: USGS**
START DATE: 8/19/05 **FINISH DATE: 8/19/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 1)
CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York
CTM INSPECTOR: S. Bieber

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
										SB-105S converted to a shallow well alongside SB-105. Soils sampled at 12 to 17' bgs intervals to confirm the presence of groundwater
5										
10										
		1	3	4	5	6	9	0.2	Gray fine to coarse SAND, GRAVEL and SLAG, trace red brick	(moist)
		2	3	4	3	5	7	0.6	Same to 15.7'	(little wet)
15									Gray SILT, little fine sand, trace clay and gravel	(moist)
		3	1	WH	WH	1	WH	2.0	Gray SILT, little fine sand and clay, trace gravel	(moist)
20									Boring Terminated at ± 19' bgs	2" PVC well installed at ± 17' bgs
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc.
DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: Continuous 2' split spoon sampling

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
S. Bieber

APPENDIX H

MONITORING WELL CONSTRUCTION LOGS

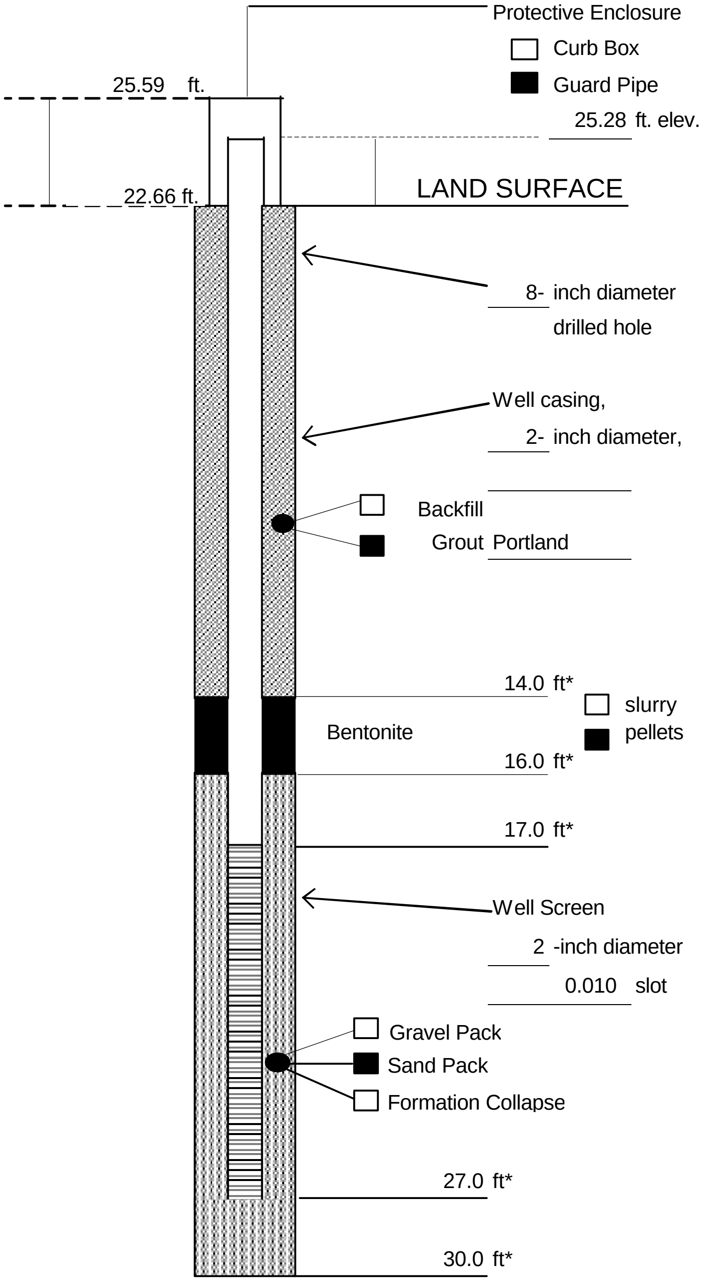
IRM SUPPLEMENTAL INVESTIGATION

(CTM-1OO to CTM-105S)

Well No. **CTM-100**

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number 04.9138

Project Name STIP Supplemental Investigation (Par

Well No. CTM-100 Boring No. SB-100

Town/City Troy

County Rensselaer State NY

Installation Date(s) 8/15/2005

Drilling Contractor SJB Services, Inc

Drilling Method 4.25- inch HSA

Water Depth From Top of Riser 23.02 ft 9/9/05 Date

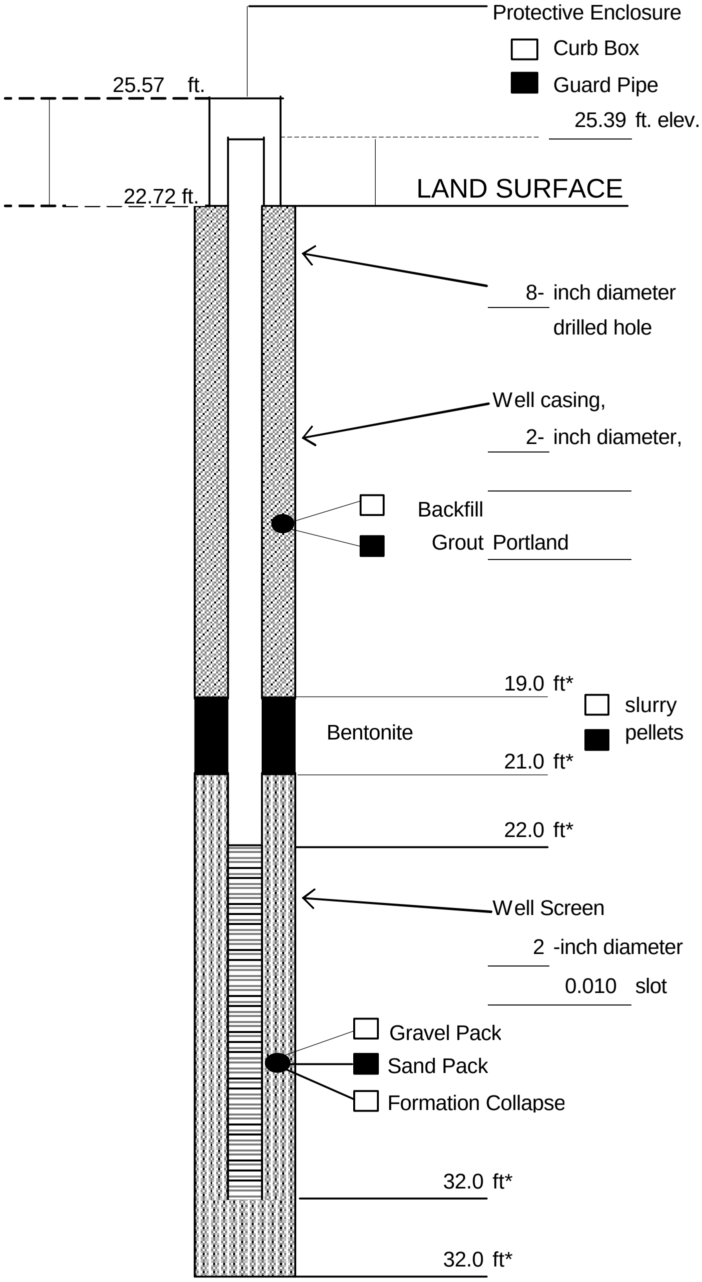
C.T. Male Observer S. Bieber

Notes:

Well No. CTM-101

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number 04.9138

Project Name STIP Supplemental Investigation (Par

Well No. CTM-101 Boring No. SB-101

Town/City Troy

County Rensselaer State NY

Installation Date(s) 8/16/2005

Drilling Contractor SJB Services, Inc

Drilling Method 4.25- inch HSA

Water Depth From Top of Riser 23.09 ft 9/9/05 Date

C.T. Male Observer S. Bieber

Notes:

Well No. **CTM-101S**

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.

Project Number 04.9138

Project Name STIP Supplemental Investigation (Par

Well No. CTM-101S Boring No. SB-101S

Town/City Troy

County Rensselaer State NY

Installation Date(s) 8/17/2005

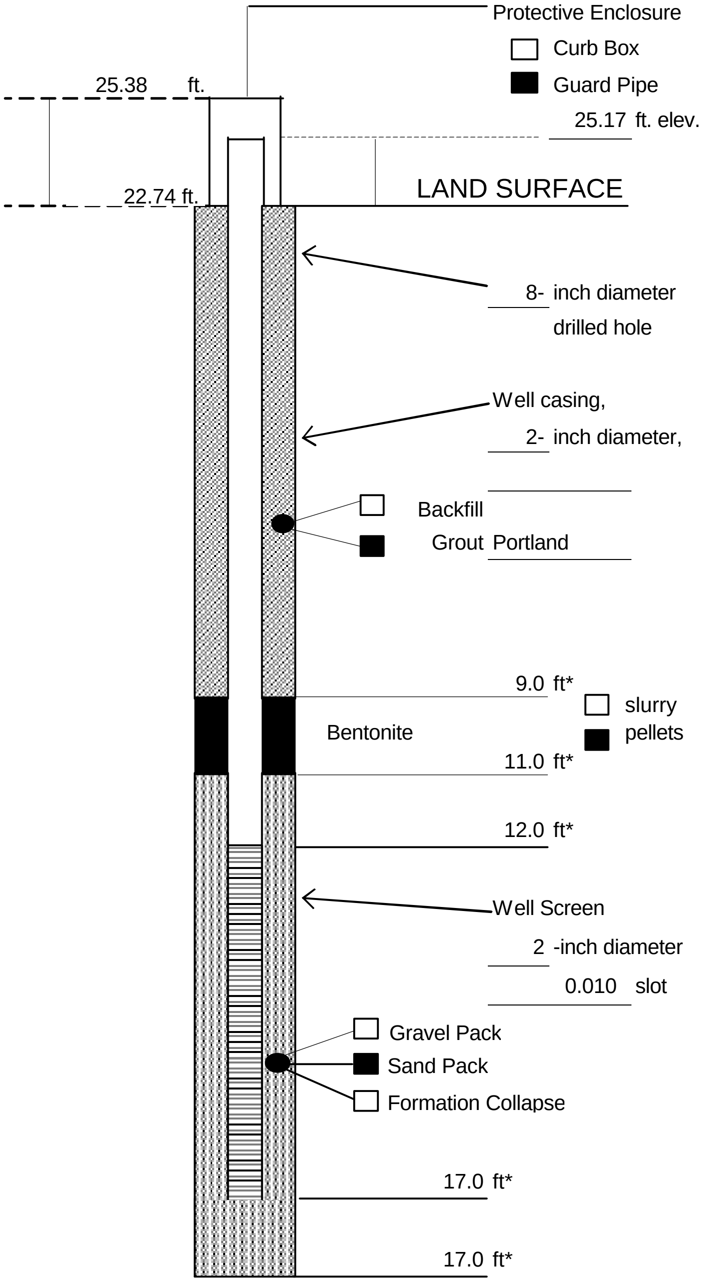
Drilling Contractor SJB Services, Inc

Drilling Method 4.25- inch HSA

Water Depth From Top of Riser Dry ft 9/9/05
Date

C.T. Male Observer S. Bieber

Notes:

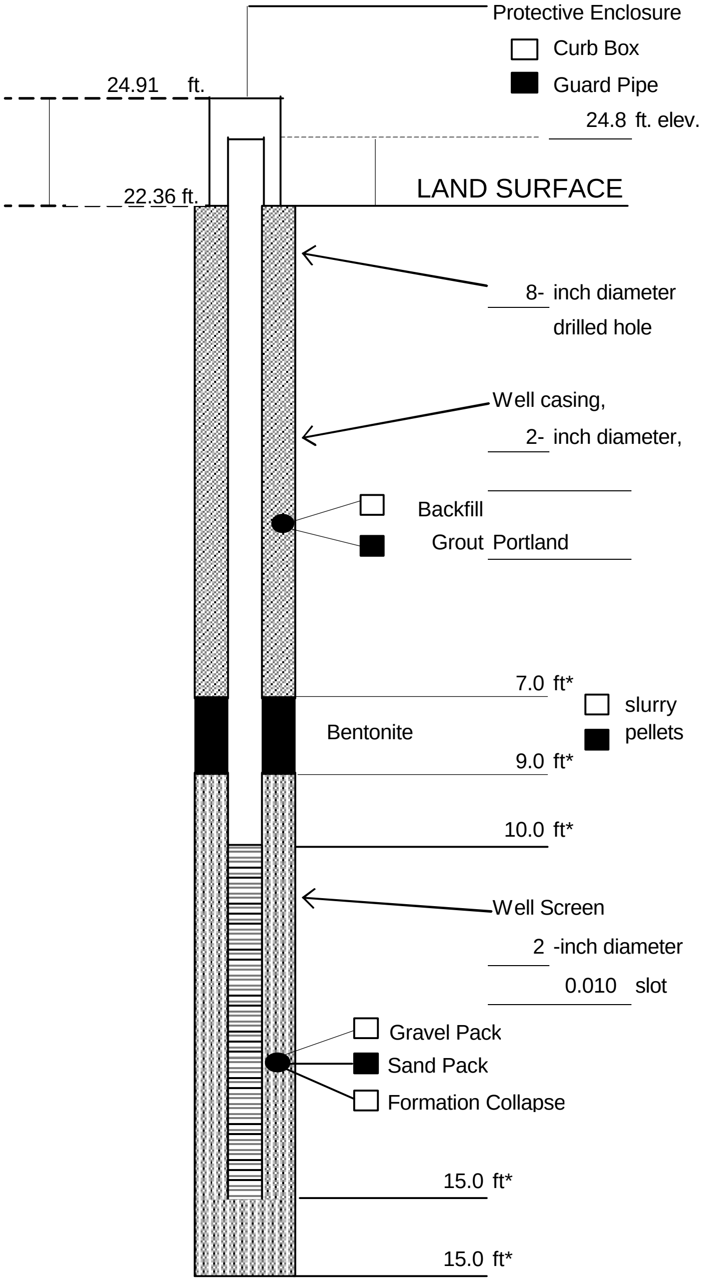


* Depth below land surface.

Well No. CTM-104

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



Protective Enclosure
☐ Curb Box
■ Guard Pipe

24.91 ft.
24.8 ft. elev.
22.36 ft.

8- inch diameter drilled hole

Well casing, 2- inch diameter,

☐ Backfill
■ Grout Portland

7.0 ft*
Bentonite ☐ slurry ■ pellets
9.0 ft*

10.0 ft*

Well Screen
2 -inch diameter
0.010 slot

☐ Gravel Pack
■ Sand Pack
☐ Formation Collapse

15.0 ft*

15.0 ft*

* Depth below land surface.

Project Number 04.9138

Project Name STIP Supplemental Investigation (Par

Well No. CTM-104 Boring No. SB-104

Town/City Troy

County Rensselaer State NY

Installation Date(s) 8/18/2005

Drilling Contractor SJB Services, Inc

Drilling Method 4.25- inch HSA

Water Depth From Top of Riser Dry ft 9/9/05
Date

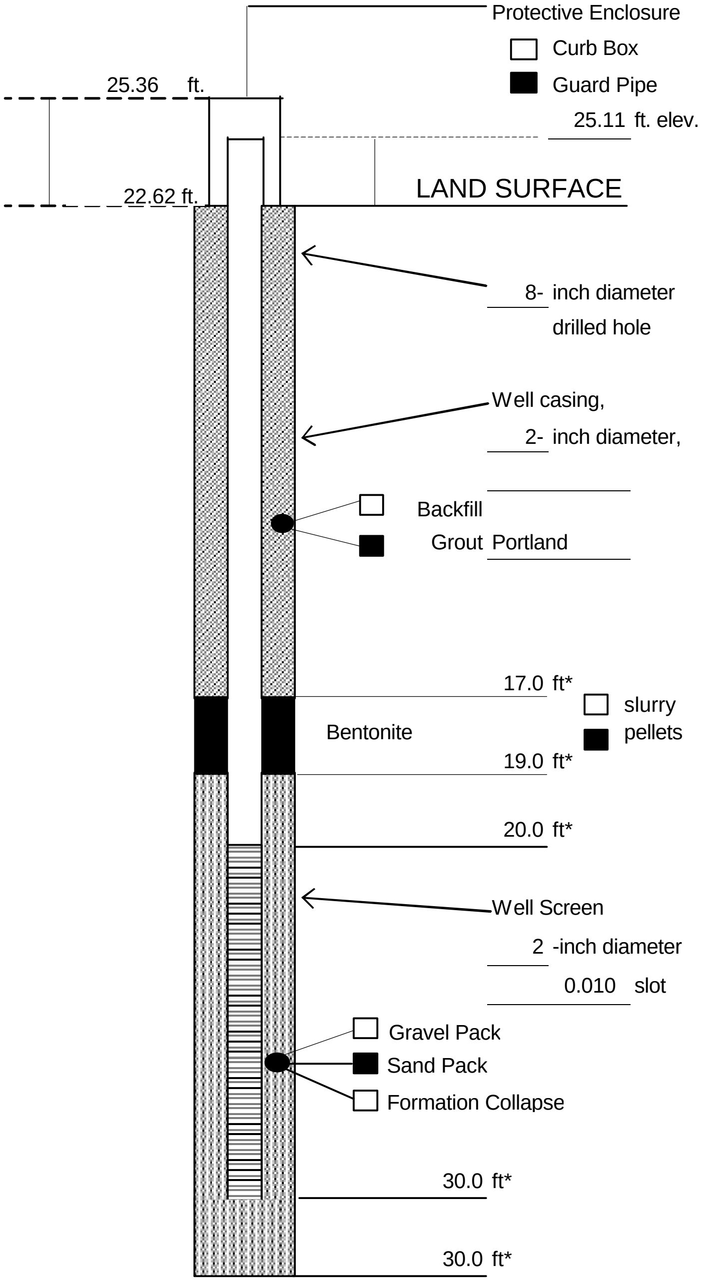
C.T. Male Observer S. Bieber

Notes:

Well No. **CTM-105**

C.T. MALE ASSOCIATES, P.C.

MONITORING WELL CONSTRUCTION LOG



* Depth below land surface.

Project Number 04.9138

Project Name STIP Supplemental Investigation (Par

Well No. CTM-105 Boring No. SB-105

Town/City Troy

County Rensselaer State NY

Installation Date(s) 8/19/2005

Drilling Contractor SJB Services, Inc

Drilling Method 4.25- inch HSA

Water Depth From Top of Riser 22.75 ft 9/9/05 Date

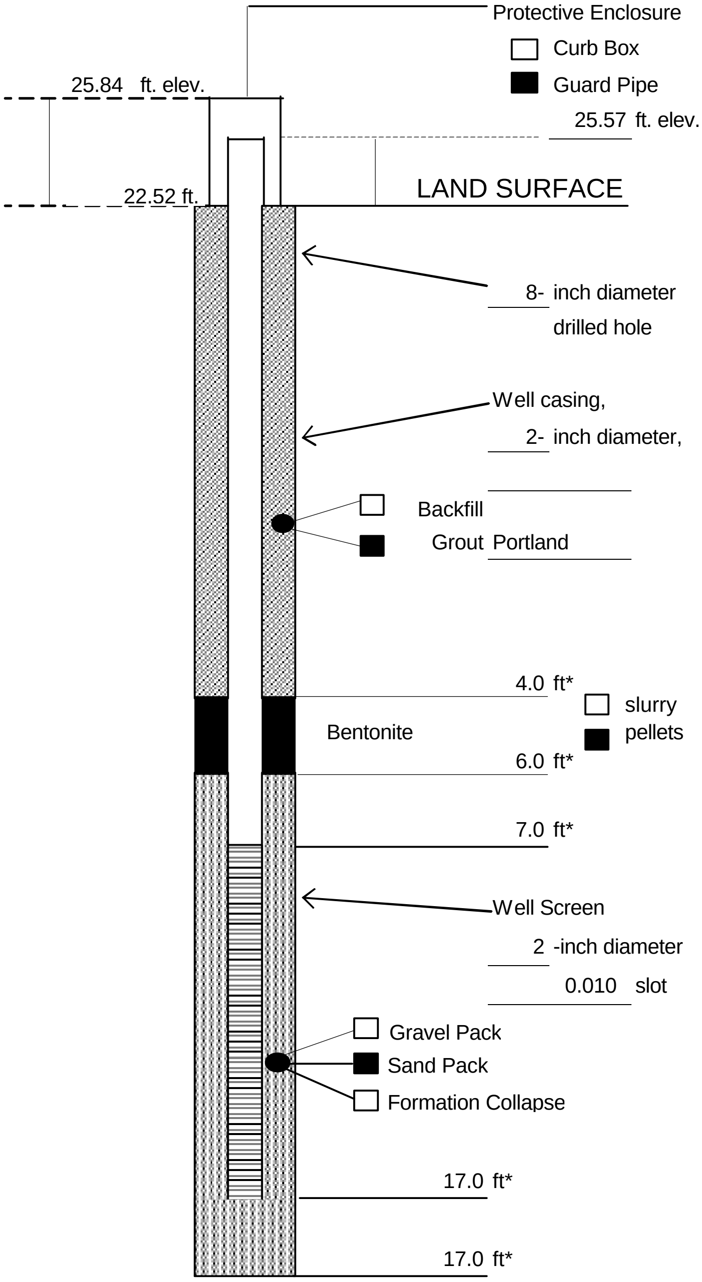
C.T. Male Observer S. Bieber

Notes:

Well No. CTM-105S

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number 04.9138

Project Name STIP Supplemental Investigation (Par

Well No. CTM-105S Boring No. SB-105S

Town/City Troy

County Rensselaer State NY

Installation Date(s) 8/19/2005

Drilling Contractor SJB Services, Inc

Drilling Method 4.25- inch HSA

Water Depth From Top of Riser 19.89 ft 9/9/05 Date

C.T. Male Observer S. Bieber

Notes:

APPENDIX I

ORGANIC VAPOR HEADSPACE ANALYSIS LOGS

PARCEL 2 SUPPLEMENTAL INVESTIGATION

(CTM-2OO to CTM-216)

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: STIP Supplemental Investigation (Parcel 2)
PROJECT #: 04.9138
PAGE 1 OF 1
CLIENT: Rensselaer County Industrial Development Authority
DATE COLLECTED: 8/22/05
LOCATION: Troy, New York
INSTRUMENT USED: MiniRae 2000 **LAMP** 10.6 **eV**
DATE ANALYZED: 8/26/05
DATE INSTRUMENT CALIBRATED: 8/26/2005 **BY:** S. Bieber
TEMPERATURE OF SOIL: Ambient
ANALYST: S. Bieber

EXPLORATION	SAMPLE	DEPTH	SAMPLE	SAMPLE READING	BACKGROUND READING	
NUMBER	NUMBER	(FT.)***	TYPE	(PPM)**	(PPM)**	REMARKS
SB-200	1	0-2	Soil	0.8	0.5	No Odor/Staining
SB-200	2	2-4	Soil	1.1	0.5	No Odor/Staining
SB-200	3	4-6	Soil	0.9	0.4	No Odor/Staining
SB-200	4	6-8	Soil	0.8	0.3	No Odor/Staining
SB-200	5	8-10	Soil	0.6	0.6	No Odor/Staining
SB-200	6	10-12	Soil	0.7	0.5	No Odor/Staining
SB-200	7	12-14	Soil	0.9	0.5	No Odor/Staining
SB-200	8	14-16	Soil	23.1	0.5	Petro Odor/Staining @ 16' bgs
SB-200	9	16-20	Soil	6.4	2.4	Slight Petro Odor/Staining
SB-200	10	20-24	Soil	7.3	1	Petro Odor/Staining
SB-200	11	25-28	Soil	1.9	0.6	Slight Petro Odor/ No Staining
SB-201	1	0-2	Soil	0.7	0.7	No Odor/Staining
SB-201	2	2-4	Soil	0.7	0.6	No Odor/Staining
SB-201	3	4-6	Soil	0.8	0.5	No Odor/Staining
SB-201	4	6-8	Soil	0.7	0.5	No Odor/Staining
SB-201	5	8-10	Soil	0.6	0.5	No Odor/Staining
SB-201	6	10-12	Soil	0.7	0.4	No Odor/Staining
SB-201	7	12-14	Soil	0.6	0.3	No Odor/Staining
SB-201	8	14-16	Soil	0.5	0.4	No Odor/Staining
SB-201	9	16-20	Soil	0.7	0.4	No Odor/Staining

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

a

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: STIP Supplemental Investigation (Parcel 2)
PROJECT #: 04.9138
PAGE 1 OF 1
CLIENT: Rensselaer County Industrial Development Authority
LOCATION: Troy, New York
DATE COLLECTED: 8/22/05
INSTRUMENT USED: MiniRae 2000 **LAMP** 10.6 **eV**
DATE INSTRUMENT CALIBRATED: 8/26/2005 **BY:** S. Bieber
DATE ANALYZED: 8/26/05
TEMPERATURE OF SOIL: Ambient
ANALYST: S. Bieber

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-201	10	18-20	Soil	0.9	0.4	No Odor/Staining
SB-201	11	20-22	Soil	0.9	0.6	No Odor/Staining
SB-201	12	22-24	Soil	0.5	0.5	No Odor/Staining
SB-201	13	24-26	Soil	0.6	0.1	No Odor/Staining
SB-201	14	26-28	Soil	0.7	0.5	No Odor/Staining
SB-202	1	0-2	Soil	0.5	0.2	No Odor/Staining
SB-202	2	2-4	Soil	0.5	0.5	No Odor/Staining
SB-202	3	4-6	Soil	0.5	0.4	No Odor/Staining
SB-202	4	6-8	Soil	1	0.7	No Odor/Staining
SB-202	5	8-10	Soil	0.5	0.6	No Odor/Staining
SB-202	6	10-12	Soil	0.9	0.5	No Odor/Staining
SB-202	7	12-14	Soil	0.6	0.3	No Odor/Staining
SB-202	8	14-16	Soil	0.7	0.5	No Odor/Staining
SB-202	9	16-18	Soil	0.4	0.4	No Odor/Staining
SB-202	10	18-20	Soil	0.6	0.4	No Odor/Staining
SB-202	11	20-22	Soil	5.5	0.4	Petro Odor/Some Staining
SB-202	12	22-24	Soil	1.3	1.1	No Odor/Staining
SB-202	13	24-26	Soil	1	0.6	No Odor/Staining
SB-202	14	26-28	Soil	0.9	0.9	No Odor/Staining

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

a

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: STIP Supplemental Investigation (Parcel 2)
PROJECT #: 04.9138
PAGE 1 OF 1
CLIENT: Rensselaer County Industrial Development Authority
LOCATION: Troy, New York
DATE COLLECTED: 8/22/05
INSTRUMENT USED: MiniRae 2000 **LAMP** 10.6 **eV**
DATE INSTRUMENT CALIBRATED: 8/26/2005 **BY:** S. Bieber
DATE ANALYZED: 8/26/05
TEMPERATURE OF SOIL: Ambient
ANALYST: S. Bieber

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-203	1	0-2	Soil	1.2	0.5	No Odor/Staining
SB-203	2	2-4	Soil	1.1	1	No Odor/Staining
SB-203	3	4-6	Soil	1.1	0.9	No Odor/Staining
SB-203	4	6-8	Soil	1.3	0.9	No Odor/Staining
SB-203	5	8-10	Soil	1	0.9	No Odor/Staining
SB-203	6	10-12	Soil	1.2	0.9	No Odor/Staining
SB-203	7	12-14	Soil	1	0.9	No Odor/Staining
SB-203	8	14-16	Soil	4.2	0.9	Slight Petro Odor
SB-203	9	16-18	Soil	5.8	1.2	Slight Petro Odor
SB-203	10	18-20	Soil	1.7	1.1	No Odor/Staining
SB-203	11	20-22	Soil	NA	NA	Not enough sample
SB-203	12	22-24	Soil	NA	NA	Not enough sample
SB-203	13	24-26	Soil	5.4	0.9	No Odor/Staining
SB-203	14	26-28	Soil	1.3	1.0	No Odor/Staining
SB-203	15	28-30	Soil	1.6	1	No Odor/Staining
SB-203	16	30-32	Soil	1.2	0.8	No Odor/Staining

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.
**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.
***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: STIP Supplemental Investigation (Parcel 2)	**PROJECT #:** 04.9138	**PAGE 1 OF 1**
CLIENT: Rensselaer County Industrial Development Authority		**DATE COLLECTED:** 8/23/05
LOCATION: Troy, New York		
INSTRUMENT USED: MiniRae 2000	**LAMP** 10.6 **eV**	**DATE ANALYZED:** 8/23/05
DATE INSTRUMENT CALIBRATED: 8/26/2005	**BY:** S. Bieber	
TEMPERATURE OF SOIL: Ambient		**ANALYST:** S. Bieber

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-204	1	0-2	Soil	7.2	0	Musty Odor
SB-204	2	2-4	Soil	0.1	0	No Odor/Staining
SB-204	3	4-6	Soil	0.1	0	No Odor/Staining
SB-204	4	6-8	Soil	0.1	0	No Odor/Staining
SB-204	5	8-10	Soil	0	0	No Odor/Staining
SB-205	1	0-2	Soil	0.6	0	Musty Odor
SB-205	2	2-4	Soil	0.1	0	No Odor/Staining
SB-205	3	4-6	Soil	2.6	0	No Odor/Staining
SB-205	4	6-8	Soil	1.5	0	No Odor/Staining
SB-205	5	8-10	Soil	4.4	0	No Odor/Staining
SB-205	6	10-12	Soil	5.4	0	No Odor/Staining
SB-205	7	12-14	Soil	1.2	0	No Odor/Staining
SB-205	8	14-16	Soil	3.2	0	No Odor/Staining
SB-205	9	16-18	Soil	3.5	0	No Odor/Staining
SB-205	10	18-20	Soil	3.1	0	No Odor/Staining
SB-205	11	20-22	Soil	4.1	0	No Odor/Staining
SB-205	12	22-24	Soil	3.8	0	No Odor/Staining
SB-205	13	24-26	Soil	2.6	0	No Odor/Staining
SB-205	14	26-28	Soil	1.1	0	No Odor/Staining
SB-205	15	28-30	Soil	1	0	No Odor/Staining

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: STIP Supplemental Investigation (Parcel 2)	**PROJECT #:** 04.9138	**PAGE 1 OF 1**
CLIENT: Rensselaer County Industrial Development Authority		**DATE COLLECTED:** 8/23/05
LOCATION: Troy, New York		
INSTRUMENT USED: MiniRae 2000	**LAMP** 10.6 **eV**	**DATE ANALYZED:** 8/23-24/05
DATE INSTRUMENT CALIBRATED: 8/26/2005	**BY:** S. Bieber	
TEMPERATURE OF SOIL: Ambient		**ANALYST:** S. Bieber

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-206	1	0-2	Soil	4.2	0	No Odor/Staining
SB-206	2	2-4	Soil	2.3	0	No Odor/Staining
SB-206	3	4-6	Soil	3.2	0	No Odor/Staining
SB-206	4	6-8	Soil	17.9	0	No Odor/Staining
SB-206	5	8-10	Soil	5.4	0	No Odor/Staining
SB-206	6	10-12	Soil	12.7	0	No Odor/Staining
SB-206	7	12-14	Soil	0.4	0.2	No Odor/Staining
SB-206	8	14-16	Soil	0.4	0.1	No Odor/Staining
SB-206	9	16-18	Soil	0.3	0.1	No Odor/Staining
SB-206	10	18-20	Soil	0.4	0	No Odor/Staining
SB-206	11	20-22	Soil	0.5	0.1	No Odor/Staining
SB-206	12	22-24	Soil	0.5	0	No Odor/Staining
SB-206	13	24-26	Soil	0.7	0	No Odor/Staining
SB-206	14	26-28	Soil	0.7	0.2	No Odor/Staining
SB-207	1	0-2	Soil	0.7	0.2	No Odor/Staining
SB-207	2	2-4	Soil	0.7	0.4	No Odor/Staining
SB-207	3	4-6	Soil	0.4	0.3	No Odor/Staining
SB-207	4	6-8	Soil	0.4	0.3	No Odor/Staining
SB-207	5	8-10	Soil	0.4	0.2	No Odor/Staining
SB-207	6	10-12	Soil	0.4	0.3	No Odor/Staining

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: STIP Supplemental Investigation (Parcel 2)
PROJECT #: 04.9138
PAGE 1 OF 1
CLIENT: Rensselaer County Industrial Development Authority
LOCATION: Troy, New York
DATE COLLECTED: 8/23/05
INSTRUMENT USED: MiniRae 2000 **LAMP** 10.6 **eV**
DATE INSTRUMENT CALIBRATED: 8/26/2005 **BY:** S. Bieber
DATE ANALYZED: 8/24/05
TEMPERATURE OF SOIL: Ambient
ANALYST: S. Bieber

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-207	7	12-14	Soil	0.4	0.2	No Odor/Staining
SB-207	8	14-16	Soil	0.6	0.3	No Odor/Staining
SB-207	9	16-18	Soil	0.4	0.3	No Odor/Staining
SB-207	10	18-20	Soil	0.4	0.2	No Odor/Staining
SB-207	11	20-22	Soil	0.4	0.2	No Odor/Staining
SB-207	12	22-24	Soil	0.3	0.1	No Odor/Staining
SB-207	13	24-26	Soil	0.4	0.1	No Odor/Staining
SB-207	14	26-28	Soil	0.5	0.3	No Odor/Staining
SB-208	1	0-2	Soil	0.7	0.2	No Odor/Staining
SB-208	2	2-4	Soil	0.6	0.2	No Odor/Staining
SB-208	3	4-6	Soil	1	0.2	No Odor/Staining
SB-208	4	6-8	Soil	0.4	0.2	No Odor/Staining
SB-208	5	8-10	Soil	0.6	0.2	No Odor/Staining
SB-208	6	10-12	Soil	0.5	0.3	No Odor/Staining
SB-208	7	12-16	Soil	0.6	0.3	No Odor/Staining

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.
**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.
***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: STIP Supplemental Investigation (Parcel 2) **PROJECT #:** 04.9138 **PAGE 1 OF 1**

CLIENT: Rensselaer County Industrial Development Authority

LOCATION: Troy, New York

DATE COLLECTED: 8/24/05

INSTRUMENT USED: MiniRae 2000 **LAMP** 10.6 **eV**

DATE INSTRUMENT CALIBRATED: 8/26/2005 **BY:** S. Bieber

DATE ANALYZED: 8/24/05

TEMPERATURE OF SOIL: Ambient

ANALYST: S. Bieber

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-209	1	0-2	Soil	3.2	0.2	No Odor/Staining
SB-209	2	2-4	Soil	0.7	0.4	No Odor/Staining
SB-209	3	4-6	Soil	0.7	0.3	No Odor/Staining
SB-209	4	6-8	Soil	0.5	0.4	No Odor/Staining
SB-209	5	8-10	Soil	0.6	0.4	No Odor/Staining
SB-209	6	10-12	Soil	0.8	0.4	No Odor/Staining
SB-209	7	12-14	Soil	0.5	0.4	No Odor/Staining
SB-209	8	14-16	Soil	0.6	0.3	No Odor/Staining
SB-210	1	0-2	Soil	1.3	0.4	No Odor/Staining
SB-210	2	2-4	Soil	0.6	0.3	No Odor/Staining
SB-210	3	4-6	Soil	0.7	0.3	No Odor/Staining
SB-210	4	6-8	Soil	0.6	0.2	No Odor/Staining
SB-210	5	8-12	Soil	0.6	0	No Odor/Staining
SB-210	6	12-14	Soil	0.6	0.4	No Odor/Staining
SB-210	7	14-16	Soil	0.6	0.4	No Odor/Staining
SB-210	8	16-18	Soil	0.7	0.4	No Odor/Staining
SB-210	9	18-20	Soil	0.6	0.4	No Odor/Staining
SB-210	10	20-22	Soil	0.6	0.4	No Odor/Staining
SB-210	11	22-24	Soil	0.6	0.4	No Odor/Staining
SB-210	12	24-26	Soil	0.5	0.4	No Odor/Staining
SB-210	13	26-28	Soil	0.5	0.2	No Odor/Staining

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: STIP Supplemental Investigation (Parcel 2)	**PROJECT #:** 04.9138	**PAGE 1 OF 1**
CLIENT: Rensselaer County Industrial Development Authority		**DATE COLLECTED:** 8/24/05
LOCATION: Troy, New York		
INSTRUMENT USED: MiniRae 2000	**LAMP** 10.6 **eV**	**DATE ANALYZED:** 8/24/05
DATE INSTRUMENT CALIBRATED: 8/26/2005	**BY:** S. Bieber	
TEMPERATURE OF SOIL: Ambient		**ANALYST:** S. Bieber

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-211	1	0-2	Soil	0.8	0.2	No Odor/Staining
SB-211	2	2-4	Soil	16.7	0.2	Slight Petro Odor/Staining
SB-211	3	4-4.5	Soil	11.3	0.3	Slight Petro Odor/Staining
SB-211 (1)	1	0-2	Soil	0.5	0.2	Musty Odor
SB-211 (1)	2	2-4	Soil	0.6	0.2	No Odor/Staining
SB-211 (1)	3	4-6	Soil	0.7	0.2	No Odor/Staining
SB-211 (1)	4	6-8	Soil	0.4	0.3	No Odor/Staining
SB-211 (2)	1	0-2	Soil	0.9	0.2	Musty Odor
SB-211 (2)	2	2-4	Soil	0.8	0.3	No Odor/Staining
SB-211 (2)	3	4-6.3	Soil	1.1	0.2	No Odor/Staining

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: STIP Supplemental Investigation (Parcel 2)	**PROJECT #:** 04.9138	**PAGE 1 OF 1**
CLIENT: Rensselaer County Industrial Development Authority		**DATE COLLECTED:** 9/29/05
LOCATION: Troy, New York		
INSTRUMENT USED: MiniRae 2000	**LAMP** 10.6 **eV**	**DATE ANALYZED:** 9/29/05
DATE INSTRUMENT CALIBRATED: 9/29/2005	**BY:** J. Favreau	
TEMPERATURE OF SOIL: Ambient		**ANALYST:** J. Favreau

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-212	1	0-2	Soil	12.1	2.5	
SB-212	2	2-4	Soil	7.8	2.4	
SB-212	3	4-6	Soil	4.2	2.1	
SB-212	4	6-8	Soil	6.5	2.5	
SB-212	5	8-10	Soil	NA	NA	No recovery
SB-212	6	10-12	Soil	13.4	3.1	Submitted for lab analyses
SB-212	7	12-14	Soil	11.5	2.8	
SB-212	8	14-15.5	Soil	13.2	3.5	
SB-212	9	15.5-16	Soil	22.5	2.1	
SB-212	10	16-18	Soil	28.1	2.5	
SB-212	11	18-20	Soil	20.5	2.3	
SB-212	12	20-22	Soil	6.4	2.1	
SB-213	1	5-7	Soil	3.2	1.8	
SB-213	2	10-12	Soil	4.3	1.8	
SB-213	3	15-17	Soil	4.7	1.2	
SB-213	4	17-19	Soil	2.7	0.5	
SB-213	5	19-21	Soil	NA	NA	Wash material
SB-213	6	20-22	Soil	NA	NA	No recovery

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: STIP Supplemental Investigation (Parcel 2)
PROJECT #: 04.9138
PAGE 1 OF 1
CLIENT: Rensselaer County Industrial Development Authority
DATE COLLECTED: 9/30/05
LOCATION: Troy, New York
INSTRUMENT USED: MiniRae 2000 **LAMP** 10.6 **eV**
DATE ANALYZED: 9/30/05
DATE INSTRUMENT CALIBRATED: 9/30/2005 **BY:** J. Favreau
TEMPERATURE OF SOIL: Ambient
ANALYST: J. Favreau

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-214	1	0-2	Soil	5.6	0.2	
SB-214	2	2-4	Soil	219	0.2	Submitted for lab analyses
SB-214	3	4-6	Soil	12.5	0.6	
SB-214	4	6-8	Soil	7.4	0.6	
SB-214	5	8-10	Soil	109.3	0.8	
SB-214	6	10-12	Soil	65.4	0	
SB-214	7	12-14	Soil	63.2	0.8	
SB-214	8	14-16	Soil	44.5	1.1	
SB-214	9	16-18	Soil	11.2	0.9	
SB-214	10	18-20	Soil	6.3	0.9	
SB-215	1	5-7	Soil	3.6	0.1	
SB-215	2	10-12	Soil	4.3	0.1	
SB-215	3	15-17	Soil	4.9	0	
SB-215	4	18-20	Soil	0.7	0	
SB-215	5	20-22	Soil	5	0	
SB-215	6	25-27	Soil	2.6	0	

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: STIP Supplemental Investigation (Parcel 2)
PROJECT #: 04.9138
PAGE 1 OF 1
CLIENT: Rensselaer County Industrial Development Authority
DATE COLLECTED: 10/3/05
LOCATION: Troy, New York
INSTRUMENT USED: MiniRae 2000 **LAMP** 10.6 **eV**
DATE ANALYZED: 10/3/05
DATE INSTRUMENT CALIBRATED: 10/3/2005 **BY:** J. Favreau
TEMPERATURE OF SOIL: Ambient
ANALYST: J. Favreau

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-216	1	0-2	Soil	0.7	0.6	
SB-216	2	2-4	Soil	0.9	0.6	
SB-216	3	4-6	Soil	0.7	0.6	
SB-216	4	6-8	Soil	0.9	0.6	
SB-216	5	8-10	Soil	0.8	0.6	
SB-216	6	10-12	Soil	NA	NA	No Recovery
SB-216	7	12-14	Soil	0.8	0.7	
SB-216	8	14-16	Soil	0.8	0.7	
SB-216	9	16-18	Soil	0.9	0.7	
SB-216	10	18-20	Soil	0.9	0.6	
SB-216	11	20-22	Soil	0.9	0.7	

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

APPENDIX J

SUBSURFACE EXPLORATION LOGS

PARCEL 2 SUPPLEMENTAL INVESTIGATION

(CTM-2OO to CTM-216)

C.T. MALE ASSOCIATES, P.C.

GEOPROBE SUBSURFACE EXPLORATION LOG

BORING NO.: SB-200
ELEV.: NA **DATUM: NA**
START DATE: 8/22/05 **FINISH DATE: 8/22/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 2) CTM PROJECT NO.: 04.9138

LOCATION: Troy, New York CTM OBSERVER: S. Bieber

DEPTH (FT.)	SAMPLE			SAMPLE CLASSIFICATION	NOTES
	INTERVAL	NO.	RECOVERY (FT)		
		1	2.8	Dark Brown fine to coarse SAND and GRAVEL, little red brick, trace concrete, cinder and organics	(damp)
4					
		2	3.1	Dark Brown fine to coarse SAND and GRAVEL, trace red brick. Lense of black cinder at ± 5.2 to 5.4' bgs.	(damp)
8					
		3	1.6	Brown fine to coarse SAND and GRAVEL, trace red brick	(damp)
12					
		4	1.1	Same to ± 15.9' bgs	
16				Coarse GRAVEL (Petro odor and stained)	(little wet)
		5	0.2	Black fine to medium SAND and GRAVEL, little silt	(little wet) (strong petro odor and stained)
20					
		6	0.7	Same with Some Silt	
24					
		7	4	24' to 24.7': Gray fine to coarse SAND and GRAVEL	(petro odor/stained and wet)
				24.7' to 25': Same with Some Silt	(moist)
				25 to 27.5': Gray SILT and CLAY	(little moist)
28				27.5 to 30': Gray SILT, Some fine Sand and Clay	(damp)
				Boring Terminated at ± 28' bgs	1" PVC well installed at ± 25' bgs

DRILLING CONTRACTOR: SJB Services, Inc. GEOPROBE TYPE: Truck Mounted Model 540 U

METHOD OF SAMPLING: Direct Push Percussion Hammer 4' Macro Core Sampler with Acetate Liner

GROUNDWATER LEVEL READINGS

DATE	LEVEL	REFERENCE MEASURING POINT

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE ASSESSMENT PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

GEOPROBE SUBSURFACE EXPLORATION LOG

BORING NO.: SB-201
ELEV.: NA **DATUM: NA**
START DATE: 8/22/05 **FINISH DATE: 8/22/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 2) CTM PROJECT NO.: 04.9138

LOCATION: Troy, New York CTM OBSERVER: S. Bieber

DEPTH (FT.)	SAMPLE			SAMPLE CLASSIFICATION	NOTES
	INTERVAL	NO.	RECOVERY (FT)		
		1	2.6	Dark Brown and Gray fine to coarse SAND and GRAVEL, Some Red Brick, trace organics	(damp)
4					
		2	3.0	Brown fine to coarse SAND, GRAVEL and RED BRICK	(damp)
				Brown SILT, Some Clay, little fine sand	(little moist)
8					
		3	1.6	Same to ± 11.1' bgs	(little moist)
				11.1 to 11.6': Gray SILT, Some Clay	(damp)
12				Gray / Brown SILT, Some Clay	(damp)
		4	2.6	Same to ± 15.3' with layer of Gray fine to coarse SAND and fine GRAVEL, little silt at ± 14.6 to 14.9' bgs.	(damp)
16				Dark Brown SILT, little clay, trace fine sand	(damp)
		5	3.0	16 to 18': Gray / Green SILT, Some Clay, trace fine sand	(damp)
				18 to 19.8': Gray SILT, fine to coarse SAND and GRAVEL, little clay	(damp)
20				Brown fine to medium SAND, little silt	(damp)
		6	3.0	Brown fine to medium SAND, little silt	(little wet)
24				Gray fine to medium SAND, trace silt	(little wet)
		7	3.6	24 to 25': Green / Gray SILT, Some Clay	(damp)
				25 to 26.5': Gray / Brown SILT, little clay, trace fine sand	(damp)
				26.5 to 27.3': Brown SILT, little fine sand	(moist)
28				Brown / Gray fine to medium SAND and GRAVEL	(little wet)
				Boring Terminated at ± 28' bgs	

DRILLING CONTRACTOR: SJB Services, Inc. GEOPROBE TYPE: Truck Mounted Model 540 U

METHOD OF SAMPLING: Direct Push Percussion Hammer 4' Macro Core Sampler with Acetate Liner

GROUNDWATER LEVEL READINGS

DATE	LEVEL	REFERENCE MEASURING POINT

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

GEOPROBE SUBSURFACE EXPLORATION LOG

BORING NO.: SB-202
ELEV.: NA **DATUM: NA**
START DATE: 8/22/05 **FINISH DATE: 8/22/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 2)
CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York
CTM OBSERVER: S. Bieber

DEPTH (FT.)	SAMPLE			SAMPLE CLASSIFICATION	NOTES
	INTERVAL	NO.	RECOVERY (FT)		
		1	1.6	0 to 0.5': Concrete	
				Dark Brown fine to coarse SAND and GRAVEL, little red brick, trace cinder	(damp)
4		2	1.7	Same to ± 7' bgs	
8				Brown fine to coarse SAND and GRAVEL, trace red brick	(damp)
		3	2.7	8 to 10.6': Gray fine to coarse SAND and GRAVEL, trace red brick	(damp)
				10.6 to 11.8': Brown fine to coarse SAND and GRAVEL	(damp)
12				Brown SILT, fine SAND and GRAVEL	(little wet)
		4	1.5	12 to 13.9': Brown fine to coarse SAND and GRAVEL	(little moist)
16				Gray fine to coarse SAND and GRAVEL, little silt, trace red brick	(moist)
		5	3.4	16 to 18.6': Gray fine to coarse SAND and GRAVEL, little silt	(little wet)
				18.6 to 19.8': Gray SILT, Some Clay, trace fine sand	(little moist)
20				Gray SILT and fine SAND	(moist)
		6	4.0	20 to 20.9': Dark Brown fine to coarse SAND and GRAVEL, trace silt	(moist) petro odor and staining at ± 20.9 to 21.1' bgs
				21.1 to 21.3': Gray SILT and CLAY, little fine sand	
24				Gray / Brown fine to coarse SAND & GRAVEL, trace silt	(wet)
		7	2.8	Same	(wet)
28					
				Boring Terminated at ± 28' bgs	

DRILLING CONTRACTOR: SJB Services, Inc.
GEOPROBE TYPE: Truck Mounted Model 540 U
METHOD OF SAMPLING: Direct Push Percussion Hammer 4' Macro Core Sampler with Acetate Liner

GROUNDWATER LEVEL READINGS

DATE	LEVEL	REFERENCE MEASURING POINT

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

GEOPROBE SUBSURFACE EXPLORATION LOG

BORING NO.: SB-203
ELEV.: 23.92' **DATUM: USGS**
START DATE: 8/22/05 **FINISH DATE: 8/23/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 2)
CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York
CTM OBSERVER: S. Bieber

DEPTH (FT.)	SAMPLE			SAMPLE CLASSIFICATION	NOTES
	INTERVAL	NO.	RECOVERY (FT)		
		1	2.6	0 to 2.7': Fill: SAND, GRAVEL, ASH, CINDER and RED BRICK	(damp)
				Brown fine to coarse SAND and GRAVEL	(damp)
4					
		2	1.8	Brown fine to coarse SAND and GRAVEL, trace red brick, cinder and ash	(damp)
8				becomes a little moist at ± 7.8' bgs	
		3	3.3	Same	(little moist)
12					
		4	1.4	Same to ± 15.9' bgs	(damp)
16				Gray GRAVEL, Some fine sand	(wet) petro odor and stained
		5	4.0	16 to 17.3': Gray fine to coarse SAND and GRAVEL	(wet) petro odor and stained
				Gray SILT and CLAY, trace fine sand	(little moist)
20					
		6	0.0	No recovery	
24					
		7	2.2	24 to 25.8': Gray fine to coarse SAND and GRAVEL	(wet) Petro odor from overwash
				25.8 to 26.3': Gray / Brown SILT, Some Clay, trace fine sand	(little moist)
				26.3 to 26.7': Gray fine to coarse SAND & Gravel, little silt	(little wet)
28				Gray SILT, little clay and fine sand	(little moist)

DRILLING CONTRACTOR: SJB Services, Inc.
GEOPROBE TYPE: Truck Mounted Model 540 U
METHOD OF SAMPLING: Direct Push Percussion Hammer 4' Macro Core Sampler with Acetate Liner

GROUNDWATER LEVEL READINGS

DATE	LEVEL	REFERENCE MEASURING POINT

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE ASSESSMENT PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

GEOPROBE SUBSURFACE EXPLORATION LOG

BORING NO.: SB-203 (cont'd)
ELEV.: 23.92' **DATUM: USGS**
START DATE: 8/22/05 **FINISH DATE: 8/23/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 2)
CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York
CTM OBSERVER: S. Bieber

DEPTH (FT.)	SAMPLE INTERVAL	SAMPLE NO.	SAMPLE RECOVERY (FT)	SAMPLE CLASSIFICATION	NOTES
32		8	2.6	Same to ± 28.8' bgs, then Brown fine to coarse SAND and GRAVEL, trace silt	(wet) Petro odor from overwash
36				Boring Terminated at ± 32' bgs	1" PVC well installed at ± 20' bgs
40					
44					
48					
52					
56					

DRILLING CONTRACTOR: SJB Services, Inc.
GEOPROBE TYPE: Truck Mounted Model 540 U
METHOD OF SAMPLING: Direct Push Percussion Hammer 4' Macro Core Sampler with Acetate Liner

GROUNDWATER LEVEL READINGS

DATE	LEVEL	REFERENCE MEASURING POINT

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE ASSESSMENT PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

GEOPROBE SUBSURFACE EXPLORATION LOG

BORING NO.: SB-204
ELEV.: NA **DATUM: NA**
START DATE: 8/23/05 **FINISH DATE: 8/23/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 2)
CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York
CTM OBSERVER: S. Bieber

DEPTH (FT.)	SAMPLE			SAMPLE CLASSIFICATION	NOTES
	INTERVAL	NO.	RECOVERY (FT)		
4		1	2.1	Black/Brown fine to coarse SAND and GRAVEL, Some Red Brick, little ash and cinder, trace rootlets	(damp)
8		2	1.2	Fill: CINDER, ASH, SAND and GRAVEL, little red brick trace black canvas	(wet)
		3	0.4	Same with little wood	(wet)
12				Refusal at ± 10' bgs	
16					
20					
24					
28					

DRILLING CONTRACTOR: SJB Services, Inc.
GEOPROBE TYPE: Truck Mounted Model 540 U
METHOD OF SAMPLING: Direct Push Percussion Hammer 4' Macro Core Sampler with Acetate Liner

GROUNDWATER LEVEL READINGS

DATE	LEVEL	REFERENCE MEASURING POINT

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE ASSESSMENT PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

GEOPROBE SUBSURFACE EXPLORATION LOG

BORING NO.: SB-205
ELEV.: 23.32' **DATUM: USGS**
START DATE: 8/23/05 **FINISH DATE: 8/23/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 2)
CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York
CTM OBSERVER: S. Bieber

DEPTH (FT.)	SAMPLE INTERVAL	SAMPLE NO.	SAMPLE RECOVERY (FT)	SAMPLE CLASSIFICATION	NOTES
		1	3.1	Black fine to coarse SAND and GRAVEL, trace ash and red brick	(damp)
4				Brown fine to coarse SAND and GRAVEL, Some Silt, trace ash and red brick	(damp)
		2	1.0	Brown Silt, little fine sand, trace clay	(damp)
8					
		3	1.4	Same to ± 10.4' bgs	
				10.4 to 11.3': Dark Brown fine to coarse SAND and GRAVEL, trace ash and red brick	(damp)
12				Gray SILT and CLAY	(damp)
		4	2.5	Same	(little moist)
16					
		5	2.8	Same to ± 19' bgs	(little moist)
20				Gray SILT, Some Clay	(damp)
		6	1.6	Same to ± 23.5' bgs	(damp)
24				Gray / Brown SILT, little clay and fine sand	(damp)
		7	4.0	Same to ± 26.6' bgs	
				Brown fine to medium SAND, little silt	(wet)
28					
		8	2.0	Same	(little wet)
				Boring Terminated at ± 30' bgs	1" PVC well installed at ± 30' bgs

DRILLING CONTRACTOR: SJB Services, Inc.
GEOPROBE TYPE: Truck Mounted Model 540 U
METHOD OF SAMPLING: Direct Push Percussion Hammer 4' Macro Core Sampler with Acetate Liner

GROUNDWATER LEVEL READINGS

DATE	LEVEL	REFERENCE MEASURING POINT

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE ASSESSMENT PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

GEOPROBE SUBSURFACE EXPLORATION LOG

BORING NO.: SB-206
ELEV.: NA **DATUM: NA**
START DATE: 8/23/05 **FINISH DATE: 8/24/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 2)
CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York
CTM OBSERVER: S. Bieber

DEPTH (FT.)	SAMPLE INTERVAL	SAMPLE NO.	SAMPLE RECOVERY (FT)	SAMPLE CLASSIFICATION	NOTES
4		1	1.9	Dark Brown fine to coarse SAND and GRAVEL, little red brick, trace concrete and rootlets	(damp)
8		2	0.8	Dark Brown fine to coarse SAND and GRAVEL, little brown silt, trace red brick	(damp) Silt in tip of sampler
12		3	2.5	Brown SILT, Some Clay, trace gravel	(damp to a little moist)
16		4	2.3	Gray / Brown SILT and CLAY, trace gravel	(little moist)
20		5	4.0	16 to 18.2': Brown SILT, Some Clay, trace fine sand and gravel Gray SILT, little clay, trace gravel	(little moist) (damp)
24		6	3.5	Same to ± 22.8' bgs 22.8 to 23.7': Brown / Gray SILT, Some Clay, trace fine sand Brown fine to medium SAND, little silt	(damp) (damp) (damp)
28		7	1.5	Same	(wet)
				Boring Terminated at ± 28' bgs	

DRILLING CONTRACTOR: SJB Services, Inc. GEOPROBE TYPE: Truck Mounted Model 540 U
METHOD OF SAMPLING: Direct Push Percussion Hammer 4' Macro Core Sampler with Acetate Liner

GROUNDWATER LEVEL READINGS

DATE	LEVEL	REFERENCE MEASURING POINT

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE ASSESSMENT PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

GEOPROBE SUBSURFACE EXPLORATION LOG

BORING NO.: SB-207
ELEV.: NA **DATUM: NA**
START DATE: 8/24/05 **FINISH DATE: 8/24/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 2)
CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York
CTM OBSERVER: S. Bieber

DEPTH (FT.)	SAMPLE			SAMPLE CLASSIFICATION	NOTES
	INTERVAL	NO.	RECOVERY (FT)		
		1	3.5	0 to 0.3': Brown SILT and fine SAND, little gravel & grass	(damp)
				Dark Brown fine to coarse SAND and GRAVEL, little cinder and ash, trace red brick and silt	(damp)
4					
		2	3.5	Brown SILT, little clay, trace fine sand	(damp)
8					
		3	2.0	Same with trace gravel to ± 11.8' bgs	(damp)
12				Gray SILT and CLAY	(damp)
		4	1.5	Gray SILT, Some Clay	(damp)
16					
		5	3.4	Gray / Brown SILT, Some Clay, trace fine sand	(damp)
20					
		6	3.2	Same to ± 23' bgs	(damp)
24				Gray / Brown SILT and fine SAND, trace clay	(moist / little wet)
		7	1.8	Gray / Brown fine to medium SAND, little silt	(little wet)
28					
				Boring Terminated at ± 28' bgs	

DRILLING CONTRACTOR: SJB Services, Inc.
GEOPROBE TYPE: Truck Mounted Model 540 U
METHOD OF SAMPLING: Direct Push Percussion Hammer 4' Macro Core Sampler with Acetate Liner

GROUNDWATER LEVEL READINGS

DATE	LEVEL	REFERENCE MEASURING POINT

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

GEOPROBE SUBSURFACE EXPLORATION LOG

BORING NO.: SB-208
ELEV.: 23.67' **DATUM: USGS**
START DATE: 8/24/05 **FINISH DATE: 8/24/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 2)
CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York
CTM OBSERVER: S. Bieber

DEPTH (FT.)	SAMPLE			SAMPLE CLASSIFICATION	NOTES
	INTERVAL	NO.	RECOVERY (FT)		
		1	3.1	0 to 3.1': Dark Brown fine to coarse SAND and GRAVEL, little red brick, trace organics	(damp)
4				Brown fine to coarse SAND and GRAVEL	(damp)
		2	2.6	Same to ± 6.5' bgs	(damp)
				6.5 to 6.9': Gray SILT and GRAVEL, trace fine sand	(damp)
				6.9 to 7.2': Brown f. to m. SAND and GRAVEL, little silt	(little moist)
8				Gray / Brown SILT, little clay, trace fine sand	(damp)
		3	1.9	Gray / Brown SILT, Some Clay	(little moist)
12					
		4	0.2	Gray SILT, Some Clay	(damp)
16					
				Boring Terminated at ± 16' bgs	1" PVC well installed at ± 15' bgs
20					
24					
28					

DRILLING CONTRACTOR: SJB Services, Inc.
GEOPROBE TYPE: Truck Mounted Model 540 U
METHOD OF SAMPLING: Direct Push Percussion Hammer 4' Macro Core Sampler with Acetate Liner

GROUNDWATER LEVEL READINGS

DATE	LEVEL	REFERENCE MEASURING POINT

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE ASSESSMENT PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

GEOPROBE SUBSURFACE EXPLORATION LOG

BORING NO.: SB-209
ELEV.: NA **DATUM: NA**
START DATE: 8/24/05 **FINISH DATE: 8/24/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 2) CTM PROJECT NO.: 04.9138

LOCATION: Troy, New York CTM OBSERVER: S. Bieber

DEPTH (FT.)	SAMPLE			SAMPLE CLASSIFICATION	NOTES
	INTERVAL	NO.	RECOVERY (FT)		
		1	2.9	Brown fine to coarse SAND and GRAVEL, little brown silt and red brick, trace organics	(damp)
4				Dark Brown fine to coarse SAND and GRAVEL, Some Red Brick, Ash and Cinder, trace canvas	(damp)
		2	2.6	Same to ± 6.4' bgs	(damp)
				6.4 to 7.4: Brown SILT, Some Clay	(damp)
8				Brown SILT, Some fine Sand, little clay, trace fine gravel	(little moist)
		3	1.7	Gray / Brown SILT, Some Clay	(damp)
12					
		4	2.2	Same to ± 15.6' bgs	(damp)
16				Gray SILT, Some Clay	(damp)
				Boring Terminated at ± 16' bgs	
20					
24					
28					

DRILLING CONTRACTOR: SJB Services, Inc. GEOPROBE TYPE: Truck Mounted Model 540 U

METHOD OF SAMPLING: Direct Push Percussion Hammer 4' Macro Core Sampler with Acetate Liner

GROUNDWATER LEVEL READINGS

DATE	LEVEL	REFERENCE MEASURING POINT

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE ASSESSMENT PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY: S. Bieber

C.T. MALE ASSOCIATES, P.C.

GEOPROBE SUBSURFACE EXPLORATION LOG

BORING NO.: SB-210
ELEV.: 23.64' **DATUM: USGS**
START DATE: 8/24/05 **FINISH DATE: 8/24/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 2) CTM PROJECT NO.: 04.9138

LOCATION: Troy, New York CTM OBSERVER: S. Bieber

DEPTH (FT.)	SAMPLE INTERVAL	SAMPLE NO.	SAMPLE RECOVERY (FT)	SAMPLE CLASSIFICATION	NOTES
		1	3.0	Dark Brown fine to coarse SAND and GRAVEL, little red brick	(damp)
4				Brown fine to coarse SAND and GRAVEL, trace silt	(damp)
		2	3.4	Same with trace red brick	(damp)
				Brown SILT, trace clay and fine sand	(little moist at ± 6 to 7' bgs)
8					
		3	0.8	Brown SILT, little clay, trace fine sand	(moist to a little wet)
12					
		4	2.7	Same to ± 15.6' bgs	(little wet)
16				Gray SILT, little clay, trace fine sand	(little moist)
		5	3.0	Same	(damp)
20					
		6	2.6	Same to ± 21.9' bgs	(damp)
				21.9 to 23.3': Gray / Brown SILT, little fine sand, trace clay	(damp)
24				Gray / Brown fine to medium SAND, little silt, trace gravel	(wet)
		7	2.5	Same to ± 26.2' bgs	
				Gray fine to medium GRAVEL, Some Sand, trace silt	(wet)
28					
				Boring Terminated at ± 28' bgs	1" PVC well installed at ± 28' bgs

DRILLING CONTRACTOR: SJB Services, Inc. GEOPROBE TYPE: Truck Mounted Model 540 U

METHOD OF SAMPLING: Direct Push Percussion Hammer 4' Macro Core Sampler with Acetate Liner

GROUNDWATER LEVEL READINGS

DATE	LEVEL	REFERENCE MEASURING POINT

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

GEOPROBE SUBSURFACE EXPLORATION LOG

BORING NO.: SB-211
ELEV.: **DATUM:**
START DATE: 8/24/05 **FINISH DATE: 8/24/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 2)
CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York
CTM OBSERVER: S. Bieber

DEPTH (FT.)	SAMPLE INTERVAL	SAMPLE NO.	SAMPLE RECOVERY (FT)	SAMPLE CLASSIFICATION	NOTES
		1	3.2	Dark Brown fine to coarse SAND and GRAVEL, little red brick, trace cinder and ash	(damp)
					(little wet at ± 3.6' bgs and stained with petro odor)
4				Fill: RED BRICK, SAND and GRAVEL, trace silt	
		2	0.4	Same	(wet with petro odor and staining)
				Refusal at ± 4.5' bgs Refusal may be from subground concrete slab	
8					
12					
16					
20					
24					
28					

DRILLING CONTRACTOR: SJB Services, Inc.
GEOPROBE TYPE: Truck Mounted Model 540 U
METHOD OF SAMPLING: Direct Push Percussion Hammer 4' Macro Core Sampler with Acetate Liner

GROUNDWATER LEVEL READINGS

DATE	LEVEL	REFERENCE MEASURING POINT

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

GEOPROBE SUBSURFACE EXPLORATION LOG

BORING NO.: SB-211 (1)
ELEV.: **DATUM:**
START DATE: 8/24/05 **FINISH DATE: 8/24/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 2)
CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York
CTM OBSERVER: S. Bieber

DEPTH (FT.)	SAMPLE			SAMPLE CLASSIFICATION	NOTES
	INTERVAL	NO.	RECOVERY (FT)		
		1	3.2	Brown fine to coarse SAND and GRAVEL, little red brick, trace cinder and ash	(damp)
4		2	2.2	Same to ± 7.3' bgs	(damp)
8				Brown fine to medium SAND and GRAVEL, little silt	(damp)
				Refusal at ± 8' bgs	Crushed stone in sampler shoe
12					
16					
20					
24					
28					

DRILLING CONTRACTOR: SJB Services, Inc.
GEOPROBE TYPE: Truck Mounted Model 540 U
METHOD OF SAMPLING: Direct Push Percussion Hammer 4' Macro Core Sampler with Acetate Liner

GROUNDWATER LEVEL READINGS

DATE	LEVEL	REFERENCE MEASURING POINT

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE ASSESSMENT PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

GEOPROBE SUBSURFACE EXPLORATION LOG

BORING NO.: SB-211 (2)
ELEV.: **DATUM:**
START DATE: 8/24/05 **FINISH DATE: 8/24/05**
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 2)
CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York
CTM OBSERVER: S. Bieber

DEPTH (FT.)	SAMPLE INTERVAL	SAMPLE NO.	SAMPLE RECOVERY (FT)	SAMPLE CLASSIFICATION	NOTES
		1	2.8	Brown fine to coarse SAND and GRAVEL, trace red brick	(damp)
4		2	1.8	Same to ± 5.2' bgs	(damp)
				CRUSHED STONE	(damp)
				Refusal at ± 6.3' bgs	
8					
12					
16					
20					
24					
28					

DRILLING CONTRACTOR: SJB Services, Inc.
GEOPROBE TYPE: Truck Mounted Model 540 U
METHOD OF SAMPLING: Direct Push Percussion Hammer 4' Macro Core Sampler with Acetate Liner

GROUNDWATER LEVEL READINGS

DATE	LEVEL	REFERENCE MEASURING POINT

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE ASSESSMENT PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
S. Bieber

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-212
ELEV.: **DATUM:**
START DATE: 9/29/05 FINISH DATE: 9/29/05
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 2) CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York CTM INSPECTOR: J. Favreau

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	1	4	4	10	8	0.9	Fine to medium SAND, little silt, trace	(damp)
									gravel (loose)	
		2	15	20	17	10	37	0.9	Light Tan ASH and CINDERS, Some fine	(damp)
									sand (loose)	
5		3	3	13	6	29	19	1.0	Same	(damp)
		4	28	19	11	11	30	2.0	Dark gray medium SAND, trace fine	(moist)
									gravel (loose)	
		5	8	8	8	6	16	0.0	No Recovery	
10										
		6	6	21	94	100/.2	115	0.8	Dark gray fine to medium SAND, trace	(damp)
									fine gravel and red brick (loose)	
		7	17	17	14	13	31	0.9	Dark gray fine to medium SAND, trace	(moist)
									gravel, silt and clay (loose)	
15		8	2	2	7	7	9	2.0	Brown SILT and CLAY	(moist)
									Fine to medium SAND, SILT and GRAVEL	(wet with petroleum odor)
		9	1	1	1	1	1	2.0	Fine to medium Silt and SAND	(wet with petroleum odor)
									Gray SILT, little clay	(wet)
		10	1	1	1	1	1	2.0	Gray SILT, little clay	(wet)
20									CLAY and SILT, trace sand	(wet)
		11	1	1	2	4	3	2.0	SILT, little fine sand, trace clay	(wet)
									SILT and fine SAND	(wet)
									Boring Terminated at ± 22' bgs	2" PVC well installed at ± 20' bgs
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc. DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: Continuous 2' split spoon sampling

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS

SAMPLE CLASSIFICATION BY:
J. Favreau

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-213 (Replacement of MW-3 (ESI))
ELEV.: **DATUM:**
START DATE: 9/29/05 FINISH DATE: 9/29/05
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 2) CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York CTM INSPECTOR: J. Favreau

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
										Standard sampling (five foot
										intervals) to 15' bgs, then
										continuous sampling
5		1	12	10	12	14	22	1.0	Fill: Dark gray ASH, CINDERS, SLAG,	(damp)
									BRICK, GRAVEL and SAND	
10		2	15	13	8	8	21	1.0	Fill: CINDERS, ASH and BRICK	(damp)
									Light Brown fine SAND and GRAVEL	
15		3	1	1	1	1	1	1.5	Light Brown fine SAND and GRAVEL	(damp)
									Dark Gray SILT and CLAY	(moist)
		4	1	1	2	3	3	2.0	Same	(moist)
		5	3	4	6	6	10	0.0	No recovery	
20										
		6	WH	WH	3	2	3	0.0	No recovery	
									Boring Terminated at ± 22' bgs	2" PVC well installed at ± 20' bgs
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc. DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: Continuous 2' split spoon sampling

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

SAMPLE CLASSIFICATION BY:
J. Favreau

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-214
ELEV.: **DATUM:**
START DATE: 9/30/05 FINISH DATE: 9/30/05
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 2)
CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York
CTM INSPECTOR: J. Favreau

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	4	4	6	34	10	1.0	SILT, fine SAND and GRAVEL	(damp)
									Fill: Coarse CINDERS	(damp)
		2	55	54	14	9	68	1.0	Dark Gray and Brown coarse CINDERS and	(damp)
									SLAG	
5		3	2	2	2	2	4	0.5	Dark Gray SLAG, CINDERS and BRICK	(moist)
		4	1	3	1	2	4	0.5	Same	(moist)
		5	1	1	1	1	1	1.3	Dark Gray SILT and CLAY, trace slag	(moist)
10										
		6	1	1	1	1	1	1.0	Dark Gray SILT and CLAY	(moist)
		7	1	1	1	2	1	1.0	Same	(wet)
15		8	4	3	2	2	5	0.8	Dark Gray SILT	(wet)
		9	2	2	2	3	4	1.5	Same	(wet)
		10	1	2	1	2	3	2.0	Dark Gray SILT, trace clay	(wet)
20										
									Boring Terminated at ± 20' bgs	2" PVC well installed at ± 18' bgs
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc.
DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: Continuous 2' split spoon sampling

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
J. Favreau

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-215 (Replacement of CTM-200)
ELEV.: **DATUM:**
START DATE: 9/29/05 FINISH DATE: 9/29/05
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 2)
CTM PROJECT NO.: 04.9138
LOCATION: Troy, New York
CTM INSPECTOR: J. Favreau

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
										Standard sampling (five foot intervals) to 15' bgs
5		1	9	10	10	10	20	1.0	Brown fine to coarse SAND and GRAVEL	(damp)
10		2	5	5	6	9	11	0.5	Same	(damp)
15		3	1	2	1	2	3	0.7	Same	(damp)
									Gray / Brown SILT, little clay	(damp with mild petro odor)
		4	2	2	2	3	4		Dark Gray / Brown SILT and CLAY	(damp with mild petro odor)
20		5	6	6	6	9	12		Same	(damp)
25		6	4	7	8	10	15		Brown fine to coarse SAND and GRAVEL	(wet)
									Boring Terminated at ± 27' bgs	2" PVC well installed at ± 22' bgs
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc.
DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: Continuous 2' split spoon sampling

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
J. Favreau

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-216
ELEV.: **DATUM:**
START DATE: 10/3/05 FINISH DATE: 10/3/05
SHEET 1 OF 1

PROJECT: STIP Supplemental Investigation (Parcel 2) CTM PROJECT NO.: 04.9138

LOCATION: Troy, New York CTM INSPECTOR: J. Favreau

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	9	11	11	10	22	1.0	Dark Gray fine to medium SAND, SILT,	(damp)
									GRAVEL, SALG and CINDERS	
		2	10	29	30	21	59	1.8	Black CINDERS	(damp to moist)
									Brown SAND, trace gravel, silt, ash & cinders	(moist)
5		3	6	4	5	4	9	1.0	Dark Gray and Black CINDERS, SAND,	(damp)
									GRAVEL and BRICK FRAGMENTS	
		4	3	3	2	2	5	1.0	Same	(moist)
		5	5	3	4	4	7	1.0	Dark Gray CINDERS, coarse SAND,	(moist)
10									GRAVEL and BRICK FRAGMENTS	(wet)
		6	8	7	4	7	11	0.0	No recovery	
		7	10	8	8	9	16	0.8	Black / dark Gray SILT, coarse SAND and	(wet)
									GRAVEL, trace slag	
15		8	1	1	2	3	3	1.2	Dark Gray CLAY and SILT	(moist)
		9	3	4	3	4	7	1.5	Same	(moist)
		10	1	1	1	3	2	1.8	Same	(moist)
20										
		11	1	1	3	4	4	1.8	Same	(moist)
									Greenish Brown SILT and fine SAND	(moist)
									Boring Terminated at ± 22' bgs	2" PVC well installed at ± 20' bgs
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: SJB Services, Inc. DRILL RIG TYPE: CME 75

METHOD OF INVESTIGATION: Continuous 2' split spoon sampling

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS

SAMPLE CLASSIFICATION BY:
J. Favreau

APPENDIX K

MONITORING WELL CONSTRUCTION LOGS

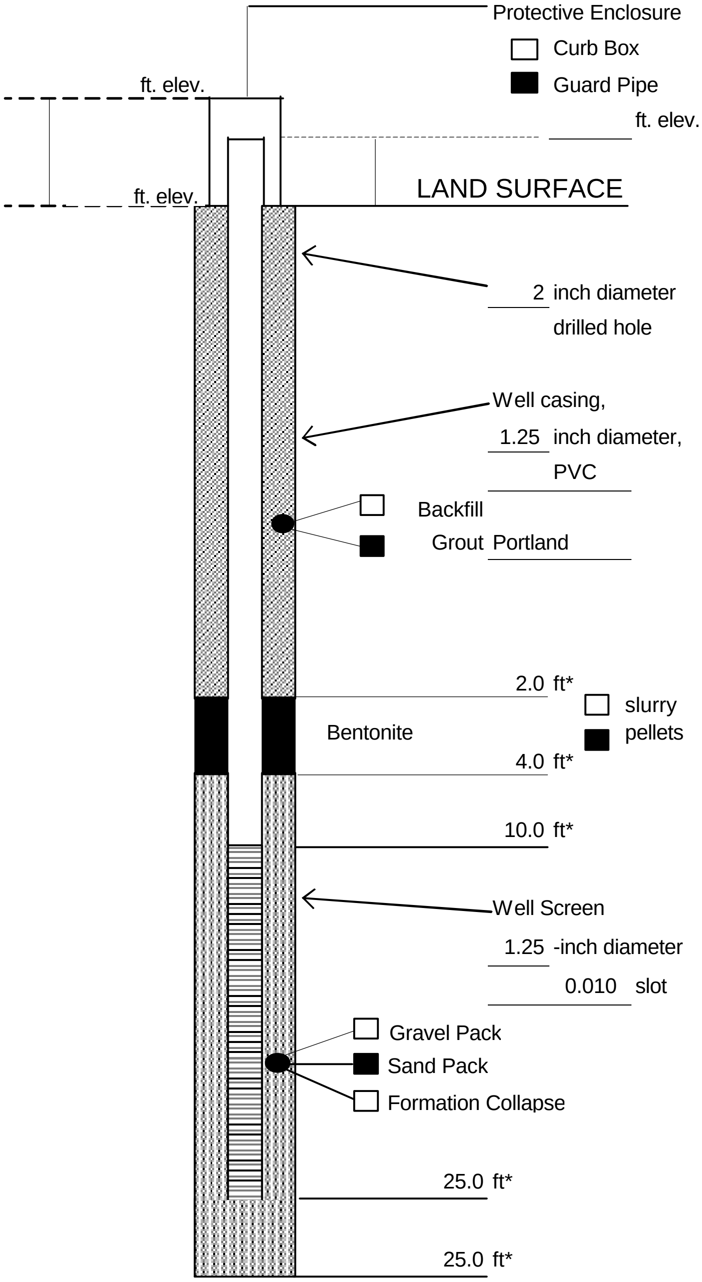
PARCEL 2 SUPPLEMENTAL INVESTIGATION

(CTM-2OO to CTM-216)

Well No. CTM-200

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



Project Number 04.9138

Project Name STIP Supplemental Investigation (Par

Well No. CTM-200 Boring No. SB-200

Town/City Troy

County Rensselaer State NY

Installation Date(s) 8/22/2005

Drilling Contractor SJB Services, Inc.

Drilling Method Geoporobe Direct Push

Water Depth From Top of Riser NA* ft Date

C.T. Male Observer S. Bieber

Notes:

* Well obstruction at ± 14' bgs. Well abandon

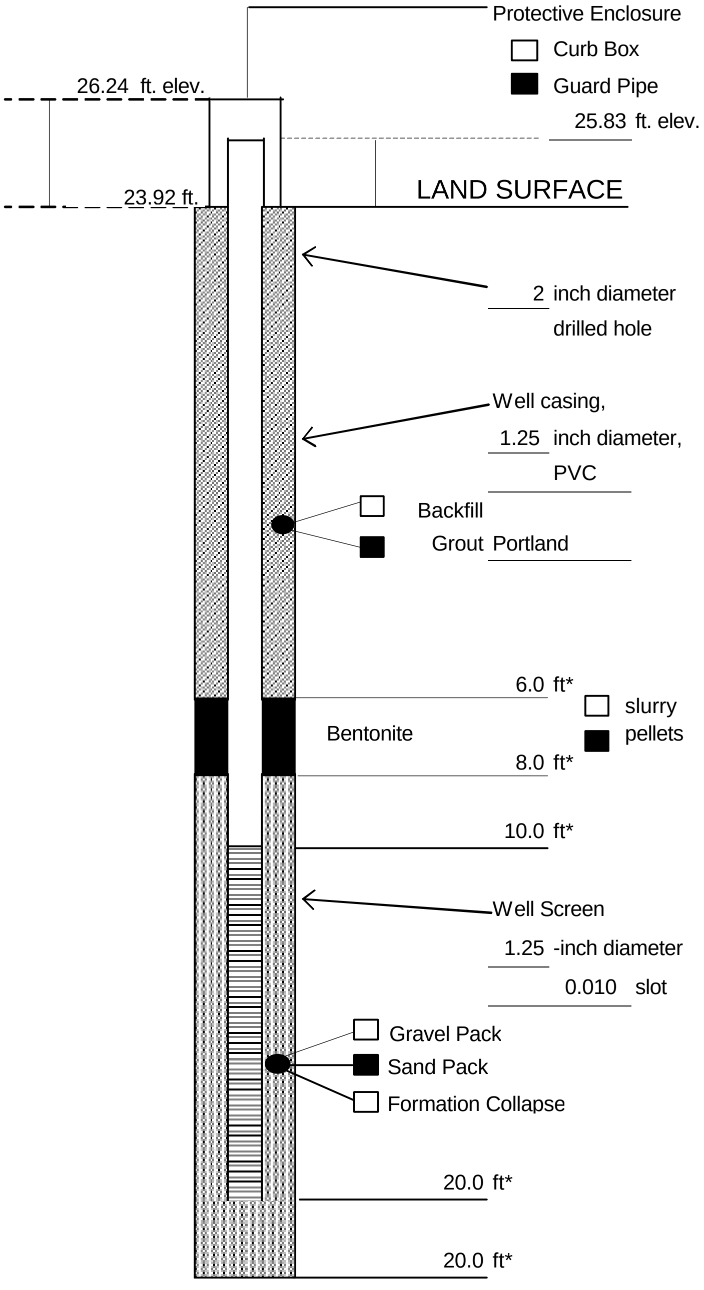
* Depth below land surface.

Well No. CTM-203

a

C.T. MALE ASSOCIATES, P.C.

MONITORING WELL CONSTRUCTION LOG



Protective Enclosure

☐ Curb Box

■ Guard Pipe

26.24 ft. elev.

25.83 ft. elev.

23.92 ft.

2 inch diameter drilled hole

Well casing, 1.25 inch diameter, PVC

☐ Backfill

■ Grout Portland

6.0 ft*

Bentonite ☐ slurry ■ pellets

8.0 ft*

10.0 ft*

Well Screen 1.25 -inch diameter 0.010 slot

☐ Gravel Pack

■ Sand Pack

☐ Formation Collapse

20.0 ft*

20.0 ft*

* Depth below land surface.

Project Number 04.9138

Project Name STIP Supplemental Investigation (Parcel 2)

Well No. CTM-203 Boring No. SB-203

Town/City Troy

County Rensselaer State NY

Installation Date(s) 8/23/2005

Drilling Contractor SJB Services, Inc.

Drilling Method Geoporobe Direct Push Method

Water Depth From Top of Riser 14.83 ft 9/14/05 Date

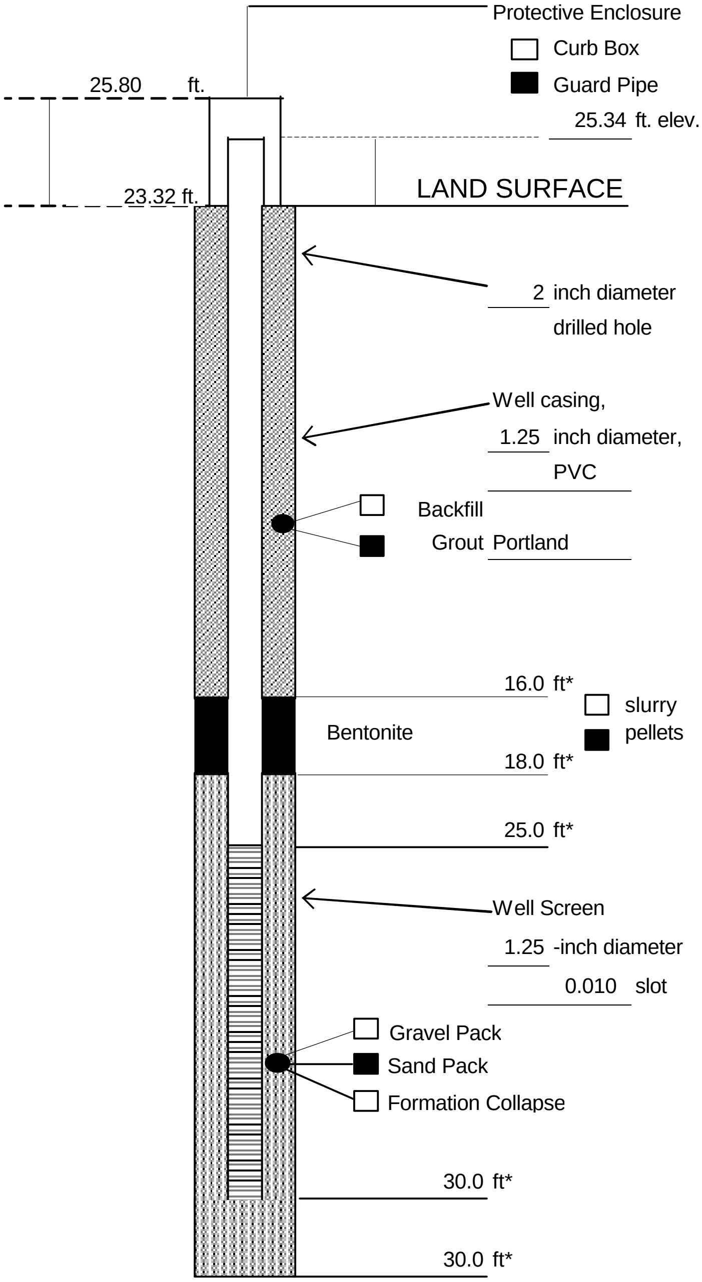
C.T. Male Observer S. Bieber

Notes:

Well No. CTM-205

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



Protective Enclosure
☐ Curb Box
■ Guard Pipe
25.34 ft. elev.

2 inch diameter drilled hole

Well casing, 1.25 inch diameter, PVC

☐ Backfill
■ Grout Portland

16.0 ft*
☐ slurry
■ pellets
18.0 ft*

25.0 ft*

Well Screen
1.25 -inch diameter
0.010 slot

☐ Gravel Pack
■ Sand Pack
☐ Formation Collapse

30.0 ft*

30.0 ft*

* Depth below land surface.

Project Number 04.9138

Project Name STIP Supplemental Investigation (Parcel 2)

Well No. CTM-205 Boring No. SB-205

Town/City Troy

County Rensselaer State NY

Installation Date(s) 8/23/2005

Drilling Contractor SJB Services, Inc.

Drilling Method Geoporobe Direct Push Method

Water Depth From Top of Riser 23.54 ft 9/14/05 Date

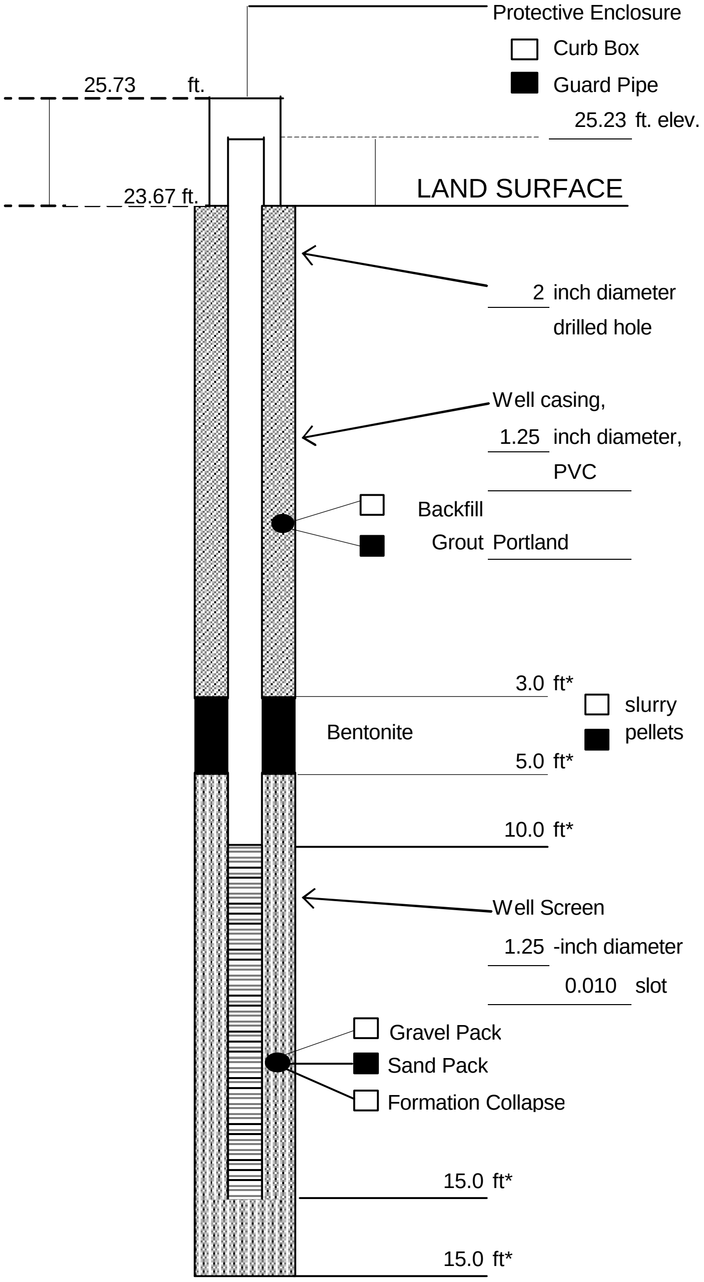
C.T. Male Observer S. Bieber

Notes:

Well No. CTM-208

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number 04.9138

Project Name STIP Supplemental Investigation (Parcel 2)

Well No. CTM-208 Boring No. SB-208

Town/City Troy

County Rensselaer State NY

Installation Date(s) 8/24/2005

Drilling Contractor SJB Services, Inc.

Drilling Method Geoporobe Direct Push Method

Water Depth From Top of Riser 14.83 ft 9/14/05 Date

C.T. Male Observer S. Bieber

Notes:

Well No. **CTM-210**

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.

Project Number 04.9138

Project Name STIP Supplemental Investigation (Parcel 2)

Well No. CTM-210 Boring No. SB-210

Town/City Troy

County Rensselaer State NY

Installation Date(s) 8/24/2005

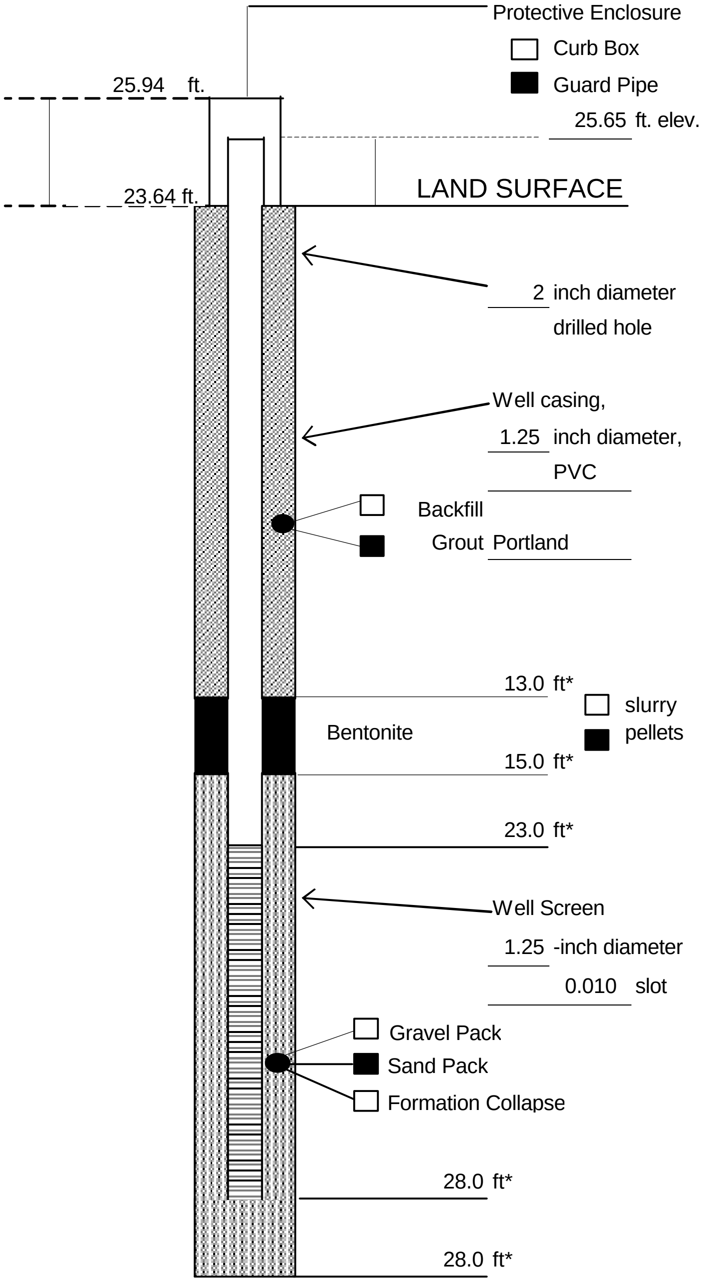
Drilling Contractor SJB Services, Inc.

Drilling Method Geoporobe Direct Push Method

Water Depth From Top of Riser 23.84 ft 9/14/05 Date

C.T. Male Observer S. Bieber

Notes:



* Depth below land surface.

Well No. CTM-212

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.

Project Number 04.9138

Project Name STIP Supplemental Investigation (Parcel 2)

Well No. CTM-212 Boring No. SB-212

Town/City Troy

County Rensselaer State NY

Installation Date(s) 9/29/2005

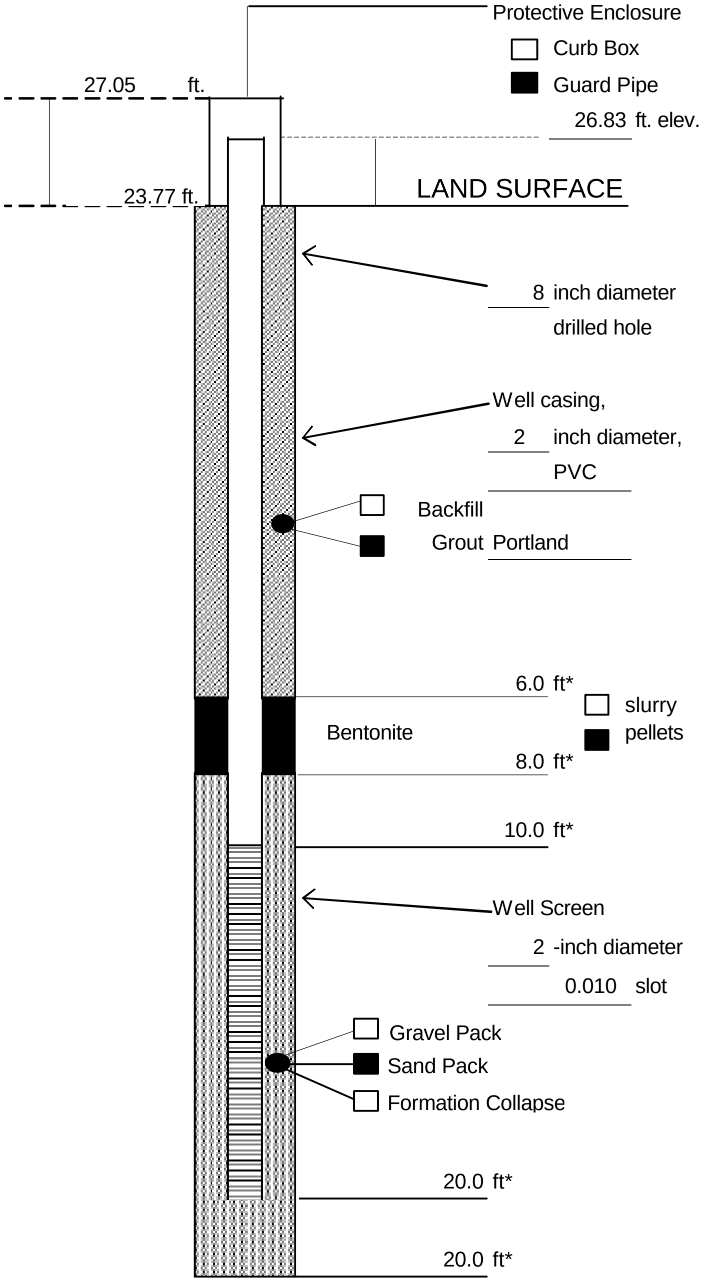
Drilling Contractor SJB Services, Inc.

Drilling Method 4.25-inch Hollow Stem Augers

Water Depth From Top of Riser ____ ft ____ Date

C.T. Male Observer J. Favreau

Notes:



Protective Enclosure
☐ Curb Box
■ Guard Pipe

27.05 ft.

26.83 ft. elev.

23.77 ft.

LAND SURFACE

8 inch diameter drilled hole

Well casing, 2 inch diameter, PVC

☐ Backfill
■ Grout Portland

6.0 ft*

Bentonite ☐ slurry ■ pellets

8.0 ft*

10.0 ft*

Well Screen 2 -inch diameter 0.010 slot

☐ Gravel Pack
■ Sand Pack
☐ Formation Collapse

20.0 ft*

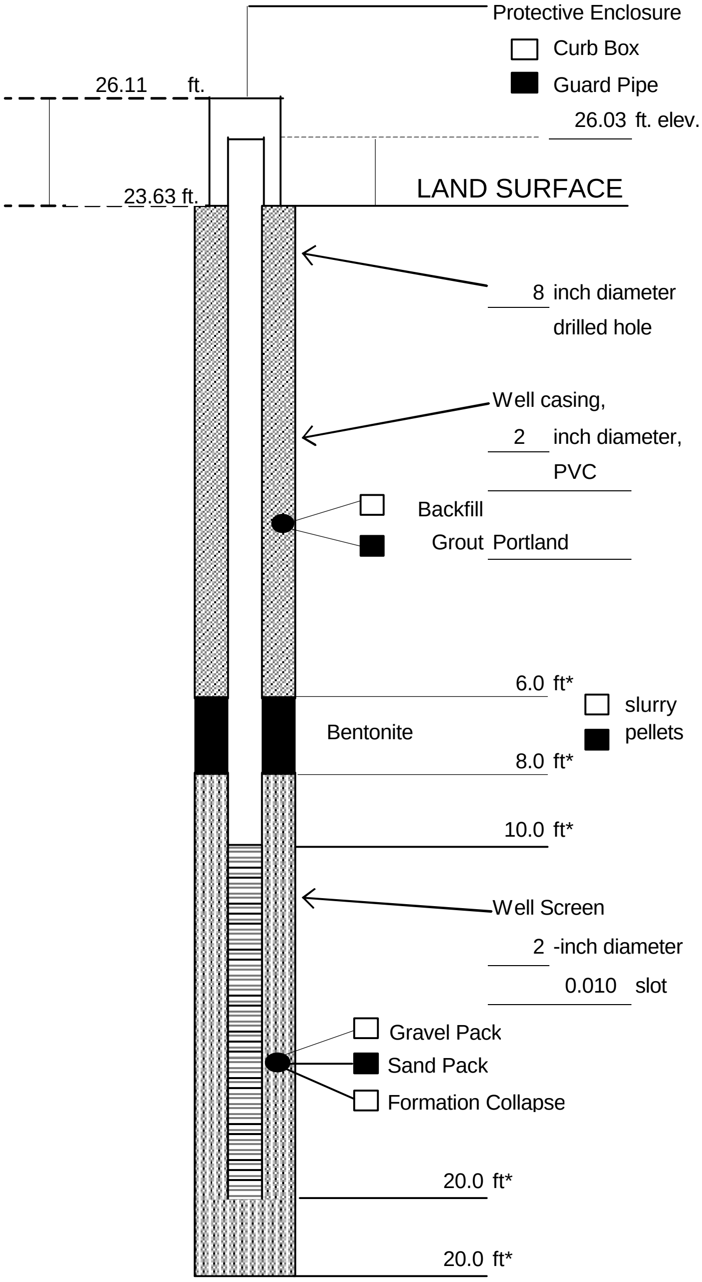
20.0 ft*

* Depth below land surface.

Well No. CTM-213

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



☐ Curb Box

■ Guard Pipe

26.11 ft.

26.03 ft. elev.

23.63 ft.

8 inch diameter drilled hole

Well casing, 2 inch diameter, PVC

☐ Backfill

■ Grout Portland

6.0 ft*

☐ slurry

■ pellets

8.0 ft*

10.0 ft*

Well Screen 2 -inch diameter 0.010 slot

☐ Gravel Pack

■ Sand Pack

☐ Formation Collapse

20.0 ft*

20.0 ft*

* Depth below land surface.

Project Number 04.9138

Project Name STIP Supplemental Investigation (Parcel 2)

Well No. CTM-213 Boring No. SB-213

Town/City Troy

County Rensselaer State NY

Installation Date(s) 9/29/2005

Drilling Contractor SJB Services, Inc.

Drilling Method 4.25-inch Hollow Stem Augers

Water Depth From Top of Riser 15.1 ft 9/30/05 Date

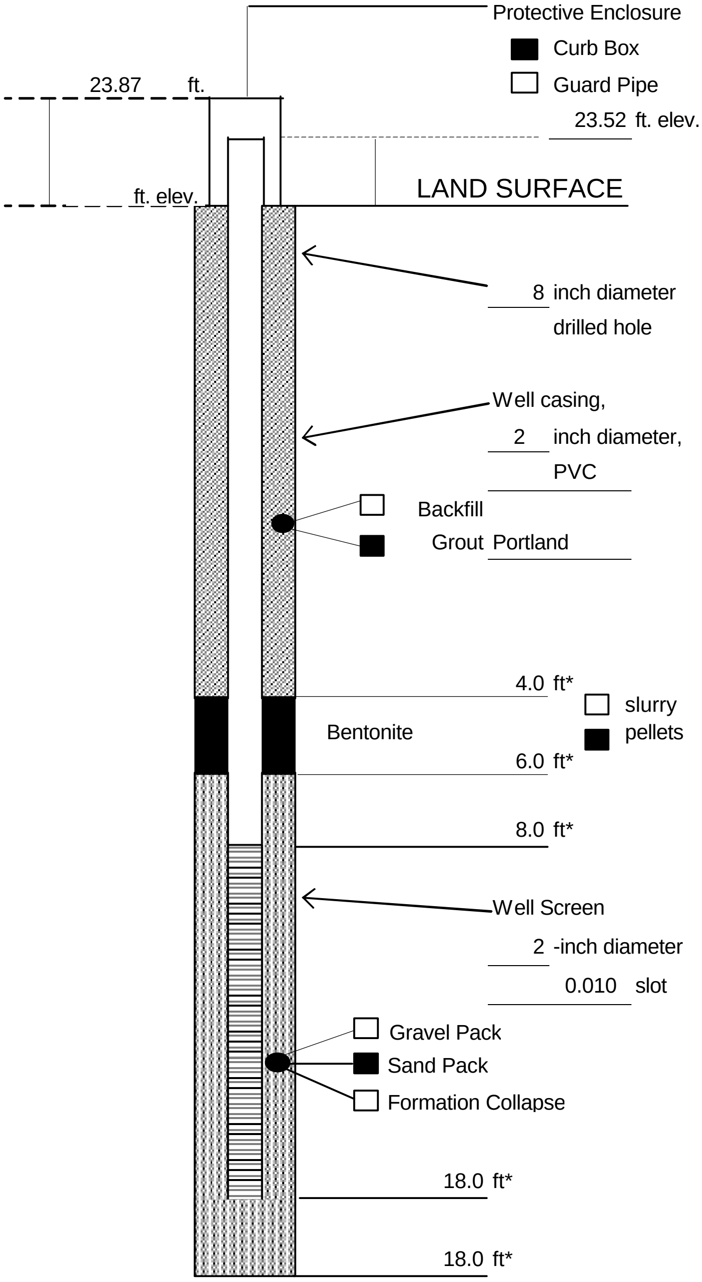
C.T. Male Observer J. Favreau

Notes:

Well No. **CTM-214**

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number 04.9138

Project Name STIP Supplemental Investigation (Parcel 2)

Well No. CTM-214 Boring No. SB-214

Town/City Troy

County Rensselaer State NY

Installation Date(s) 9/30/2005

Drilling Contractor SJB Services, Inc.

Drilling Method 4.25-inch Hollow Stem Augers

Water Depth From Top of Riser 5.4 ft 9/30/05 Date

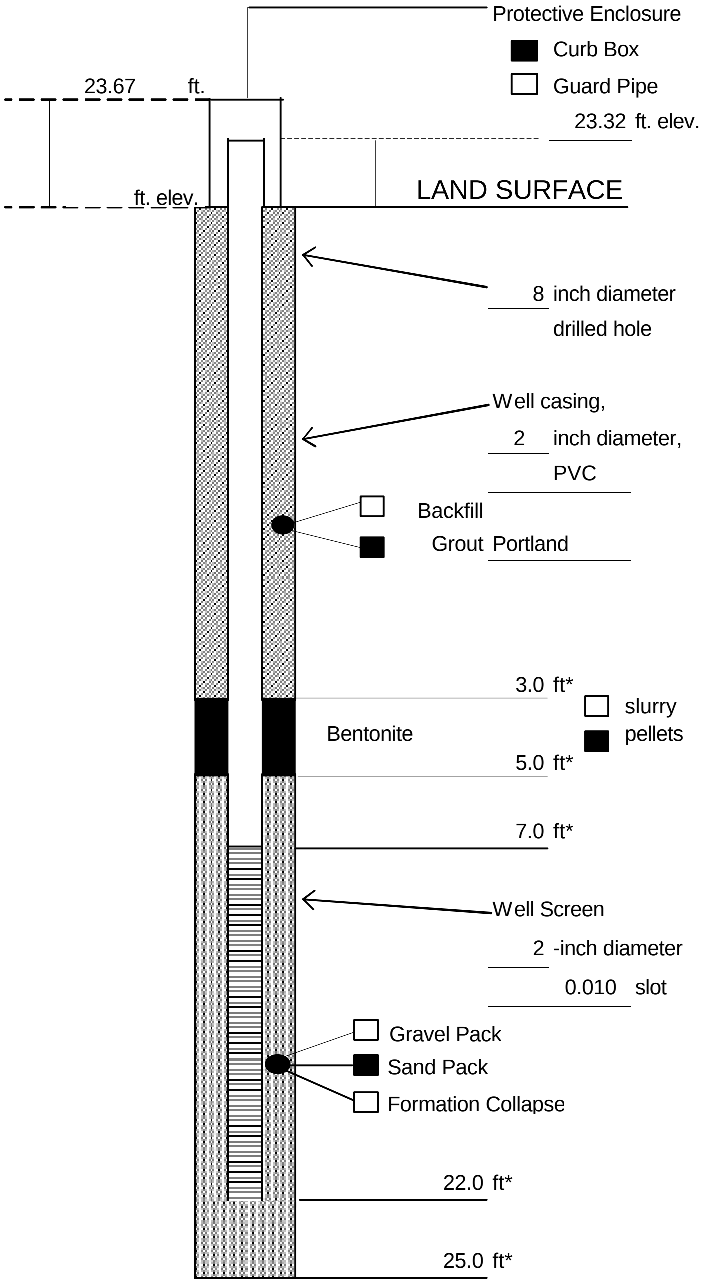
C.T. Male Observer J. Favreau

Notes:

Well No. CTM-215

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



Protective Enclosure

■ Curb Box

☐ Guard Pipe

23.67 ft.

23.32 ft. elev.

ft. elev.

LAND SURFACE

8 inch diameter drilled hole

Well casing, 2 inch diameter, PVC

☐ Backfill

■ Grout Portland

3.0 ft*

Bentonite

☐ slurry

■ pellets

5.0 ft*

7.0 ft*

Well Screen

2 -inch diameter

0.010 slot

☐ Gravel Pack

■ Sand Pack

☐ Formation Collapse

22.0 ft*

25.0 ft*

* Depth below land surface.

Project Number 04.9138

Project Name STIP Supplemental Investigation (Parcel 2)

Well No. CTM-215 Boring No. SB-215

Town/City Troy

County Rensselaer State NY

Installation Date(s) 9/30/2005

Drilling Contractor SJB Services, Inc.

Drilling Method 4.25-inch Hollow Stem Augers

Water Depth From Top of Riser ft Date

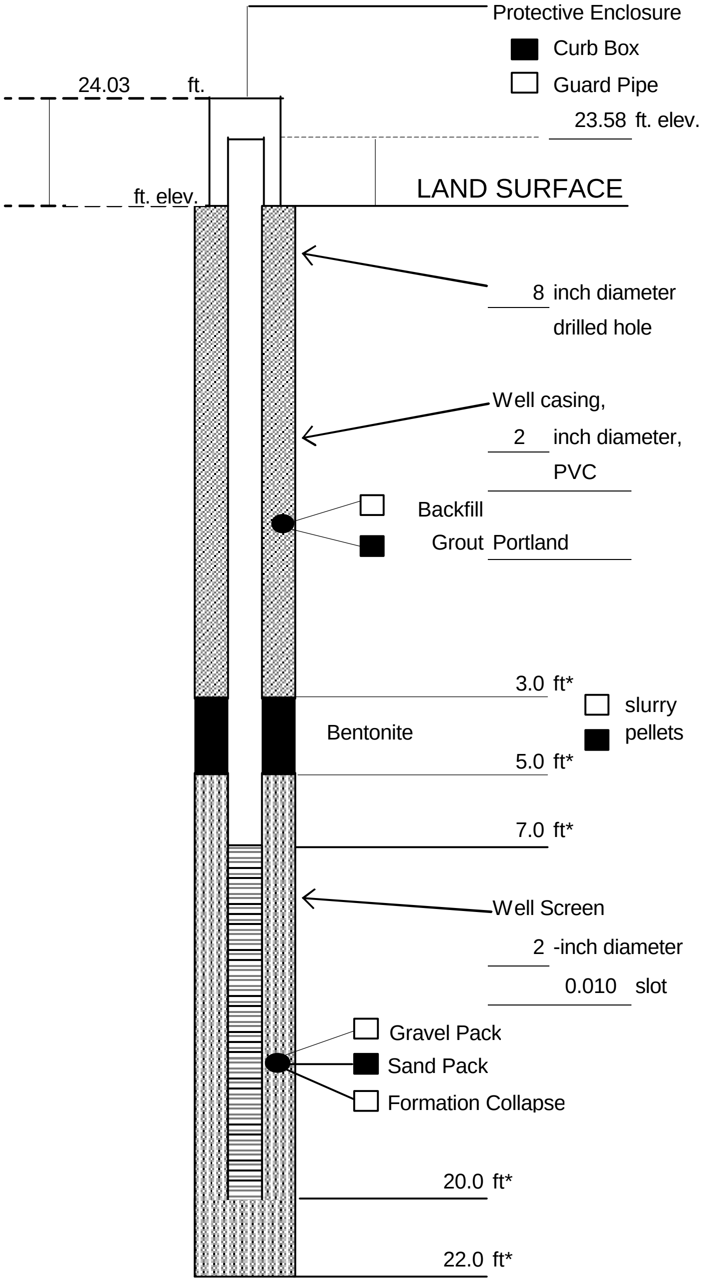
C.T. Male Observer J. Favreau

Notes:

Well No. CTM-216

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



Protective Enclosure
■ Curb Box
☐ Guard Pipe
24.03 ft.
23.58 ft. elev.
ft. elev.
LAND SURFACE
8 inch diameter drilled hole
Well casing, 2 inch diameter, PVC
☐ Backfill
■ Grout Portland
3.0 ft*
Bentonite ☐ slurry ■ pellets
5.0 ft*
7.0 ft*
Well Screen 2 -inch diameter 0.010 slot
☐ Gravel Pack
■ Sand Pack
☐ Formation Collapse
20.0 ft*
22.0 ft*

* Depth below land surface.

Project Number 04.9138

Project Name STIP Supplemental Investigation (Parcel 2)

Well No. CTM-216 Boring No. SB-216

Town/City Troy

County Rensselaer State NY

Installation Date(s) 9/30/2005

Drilling Contractor SJB Services, Inc.

Drilling Method 4.25-inch Hollow Stem Augers

Water Depth From Top of Riser ______ ft ______ Date

C.T. Male Observer J. Favreau

Notes:

EXHIBIT 1

NYSDEC WORK PLAN APPROVAL LETTER

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau D, 12th Floor
625 Broadway, Albany, New York 12233-7013
Phone: (518) 402-9814 • **FAX:** (518) 402-9819
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

JUN 17 2004

RECEIVED
JUN 21 2004
C.T. MALE ASSOCIATES, P.C.

Mr. Kirk Moline
C.T. Male Associates
50 Century Hill Drive
PO Box 727
Latham, New York 12110

RE: South Troy Industrial Park
Environmental Restoration Project #B00163-4

Dear Mr. Moline:

The NYSDEC and NYSDOH have reviewed the June 9, 2004 Draft Site Investigation Work Plan, and have the following comments. Generally, the investigation scope of work is acceptable, and only minor revisions to the work plan are necessary. We look forward to receiving the Field Sampling Plan, Quality Assurance Plan, and Citizen Participation Plan for review.

<u>Substantive Comments</u>

Section 3.2.2 - With regard to the location of background surface soil samples, the NYSDEC and NYSDOH would like to be present when the final locations are selected. This may be done as a site reconnaissance during either the work plan revision, or during the early stages of investigation field work. Please contact both Dan Geraghty and me to arrange a site visit when the locations will be selected. The work plan should state that the locations will be determined in consultation with the State, and the samples 22, 23 and 24 should be removed from the map for now.

Section 3.2.3 - At the top of page 12, if coal tar is found in a test pit or trench, the DEC's project manager should be notified by telephone if they are not on site during the excavation.

Section 3.2.6 - The second sentence should be revised to reflect that two samples of the fine light grey material have been taken and analyzed. In the second paragraph, change "indicate it is not a hazardous waste" to "do not exceed TAGM 4046 soil cleanup guidelines".

Section 3.2.8 - In the last sentence, delete "third party". The DUSR should be prepared by a validator that is independent of the laboratory, but this may be a qualified employee of the consultant.

Section 4.0 - A brief scope of work should be given for the Analysis of Alternatives (AA) process. The DEC recommends that, along with the submittal of RI tables and "a discussion of the necessity for additional site investigation", a list of alternatives to be developed and evaluated should be included. This will help streamline the AA process, and enable the IDA to meet the stated 45-day time frame for submittal of the draft SI/RAR. The work plan should also state that the final RAR will be prepared by a Licensed Professional Engineer with current NYS registration.

Section 9.0 - Revise the NYSDOH submittals as follows:

Gary Litwin (one copy)
Bureau of Environmental Exposure Investigation
NYSDOH
Flanigan Square, 547 River Street
Troy, NY 12180-2216

Dan Geraghty (one copy)
Capital District Regional Office
NYSDOH
1 Fulton Street
Troy, NY 12180-3281

Community Health & Safety Plan (to be submitted)

Based on the proximity of the site to a school, it is essential that every effort be made to reduce the potential for particulate emissions during ground intrusive activities. Particulate levels should be monitored during test pitting. The NYSDOH's generic Community Air Monitoring Plan (CAMP), a copy of which is enclosed, should be incorporated in the Health & Safety Plan.

If the community has health-related questions or concerns, the DOH project manager, Dan Geraghty, should be listed as the contact at 1-800-458-1158 extension 85423.

Editorial Comments

Section 1.1, last paragraph - Change "appendix" to "attachment"

Section 1.2, last paragraph - Delete "as" in the last sentence

Section 1.5 - Define "DUSR" before the acronym is given.

Section 2.1 - Change "Tray" to "Troy"

Please call me at 402-9813 if you have any questions about these items.

Sincerely,

George W. Heitzman, P.E.
Senior Environmental Engineer
Remedial Section C
Remedial Bureau D
Division of Environmental Remediation

cc: D. Pollay - RCIDA
D. Geraghty - NYSDOH

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau D, 12th Floor
625 Broadway, Albany, New York 12233-7013
Phone: (518) 402-9814 • **FAX:** (518) 402-9819
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

August 5, 2004

Mr. Kirk Moline
C.T. Male Associates
50 Century Hill Drive
PO Box 727
Latham, NY 12110

Dear Mr. Moline:

Re: South Troy Industrial Park
Environmental Restoration Project #B00163-4

The NYSDEC and NYSDOH have reviewed the June 29, 2004 Site Investigation Work Plan, and find that it acceptably addresses our previous comments. As a result, the work plan is hereby approved. Please deliver two hard copies of the work plan to the DEC and DOH, and place a copy in the document repository for the project.

I look forward to successful implementation of the project. Please call me at 402-9813 to discuss contractor procurement, citizen participation, and the commencement of field work.

Sincerely,

George W. Heitzman, P.E.
Senior Environmental Engineer
Remedial Bureau D
Division of Environmental Remediation

cc: D. Pollay, RCIDA
D. Geraghty, NYSDOH

<u>EXHIBIT 2</u>

GROUND PENETRATING RADAR SURVEY REPORT

GROUND PENETRATING RADAR SURVEY RESULTS

FOR THE
INVESTIGATION FOR THE LOCATION OF:

Underground Storage Tanks

AT:

South Troy Industrial Park
Troy, NY

RECEIVED
SEP - 8 2004
C.T. MALE ASSOCIATES, P.C.

PREPARED FOR:

C.T. Male Associates P.C.
Latham, NY

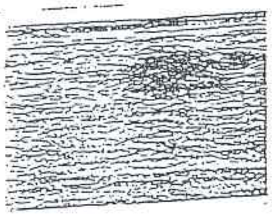
PREPARED BY:

SUB-SURFACE INFORMATIONAL SURVEYS, INC.
143C SHAKER ROAD, SUITE 206
EASTLONGMEADOW, MA 01028

SUB SURFACE INFO. SURVEYS, INC.
1988 15th ANNIVERSARY 2003
SOMERS, CT

September 2, 2004

GPR TABLE OF CONTENTS



SUB-SURFACE INFORMATIONAL SURVEYS, INC.

143C Shaker Road
Suite 206
Post Office Box 452
E. Longmeadow, MA 01028-0452

Phone - 413-525-4666
Fax - 413-525-2887
Web – www.subsurfaceinc.com
Email – bacan@gte.net

1.0 Introduction

In accordance with your authorization, Sub-Surface Informational Surveys, Inc. (SIS) reports to you the results of ground penetrating radar survey conducted on September 2, 2004 at the South Troy Industrial Park in the City of Troy, NY. This survey was directed by your approval of SIS quotation #1.2430.04 dated August 2, 2004.

1.1 Purpose and Scope

The purpose of the survey was to investigate for the presence of suspected underground storage tanks within Parcel 2 as indicated in attached Field Reference Drawing dated September 2, 2004.

2.0 Geophysical Survey

The geophysical survey was performed by Sub-Surface Informational Surveys, Inc. A transducer operator / supervising GPR technician performed the survey.

2.1 Geophysical Survey Procedures

The depth setting of the GPR survey was approximately 10.0' to locate any existing underground storage tanks. (UST's) A traverse grid with a 5.0' & 10.0' minimum spacing was used to conduct the GPR survey. Typically a 5.0' – 10.0' spacing is sufficient to detect all large capacity UST's (500-gallon or greater) with a high degree of certainty. The spacing of 5.0' was used to better define any existing suspected anomalies.

The equipment used to conduct the geophysical survey included GPR equipment which consists of subsurface **interface radar (SIR-3000)** computer manufactured by Geophysical Survey Systems, Inc., power supply, graphic recorder, video display unit and transmitting/receiving antenna. The equipment is known collectively as a **GPR system**. The transmitting/receiving antenna transmits electromagnetic signals into the subsurface and then detects, amplifies and displays reflections of the signal on a graphic recorder and a video display unit. As the antenna is moved slowly across the ground surface or surface of contact, a radar image of the subsurface is produced. The maximum depth of penetration of the GPR signal and the resolution of the reflections are a function of the antenna frequency and the electrical properties of the subsurface. As electrical conductivity of the subsurface increases, GPR signal penetration decreases. GPR reflections are produced by spatial changes in the physical properties of the subsurface (I.e., type of material, presence of any subsurface fluid, and porosity) and related changes in the electrical properties of the subsurface material in the path of the signals. The greater the difference, the stronger the observed GPR reflection.

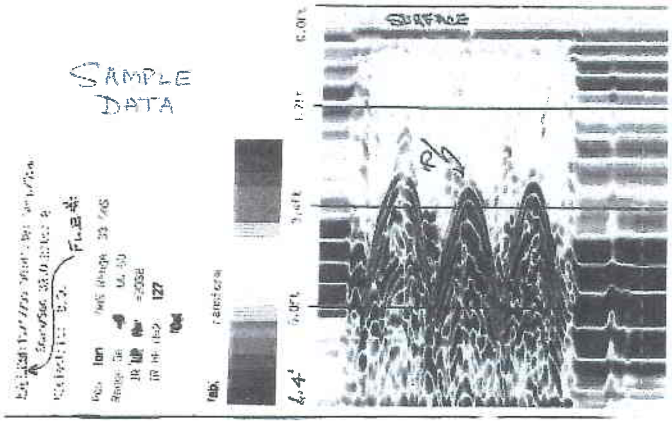
Characteristics that are considered in the interpretation of GPR data from a given site include the size, shape and amplitude of the reflections. Metallic underground storage tanks, (UST's) utilities and conduits have electrical properties uniquely different from those of the soils in which they are buried. As a result, the GPR reflections are usually of high amplitude and have distinctive shapes. For GPR profiles oriented perpendicular to the long axis of the tanks, the signature is similar to a hyperbola. The signature is also a function of the tank diameter.

2.2 Geophysical Survey Results

Ground Penetrating Radar (GPR) was performed in a 3.826 parcel (L-shaped) as indicated in attached Field Reference Drawing Dated September 2, 2004. The survey started with the parcel on the eastern side of the access road. The survey continued to the western side of the access road and then proceeded in a southerly direction to the end of the parcel. No parabolic features were found to indicate the presence of any underground storage tanks. There were multiple areas throughout the survey that GPR could not be performed due to high vegetation and/or surface debris as seen in the photos accompanying this report. Every effort was made to scan the property. We "dog-legged" rocks and surface debris in order to maintain continuity of the traverses. There is a high conductivity interface near 4.5' – 5.0' throughout the data which could be that of wet soils or the presence of silts and clays. Several utilities were seen in the northeast corner which appears to be that of power. This is marked on the grass area. There is a pit near the center of the northeast portion of the parcel which has pipes in the direction of the street. (North/south) No other unusual anomalies were seen. NOTE: A White Professional Metal Detector was also used in several areas where GPR was unable to obtain data.

SIR-3000 GPR Unit used in this survey

ACQUIRED DATA EXPLANATION



Above represents a sample of data collected by Sub-Surface Informational Surveys, Inc. on October 17, 1999 at a site in the State of Connecticut. It shows three (3) underground storage tanks with a marked centerline. The data FILE# is located on the left tab which also shows the nanosecond (depth) setting, dielectric constant, etc., which is set by our SIR-2000 computer operator. Please match the FILE# on the data with the same FILE# in this report for an explanation of the collected data. NOTE: The above is <u>not</u> part of the data collected for this survey.

Multiple data points off northeast corner of the parcel

Area of high vegetation in background where GPR could not be performed

Areas of high vegetation (left & center photos) – Pit with pipes surrounded by retainer

Collection of data around pit (left) and rocks (right)

Metal Detector used in higher vegetation areas

Area west of access road- Data points

Multiple data points near the southern end of the parcel – No tanks found

END OF REPORT

GPR ANALYTICAL RESULTS--SIR 3000

The attached analytical result are copies of GPR Data Files collected in the field and reproduced at our corporate office. After reviewing the data, selected samples are taken and duplicated for this report.

Copies are made under the following guidelines:

A. When there are distinctive differences in the collected data. NOTE: When one traverse is almost identical in characterization to another, only one copy would be reproduced.

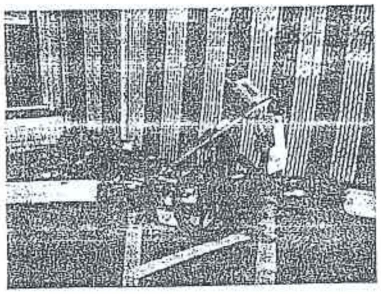
B. If there is a significant difference with suspected anomaly found within the data.

C. In the location of anomalies, such as pipes, and/or conduits, underground storage tanks or other specific characteristics important to the investigation, such data is copied and annotated.

D. Samples of *signal refusal*, (water, clay, or some other highly conductive sub-surface interface).

E. Requested data.

F. Specific locations of rebar and conduits using encoder wheel with measured bench marks.

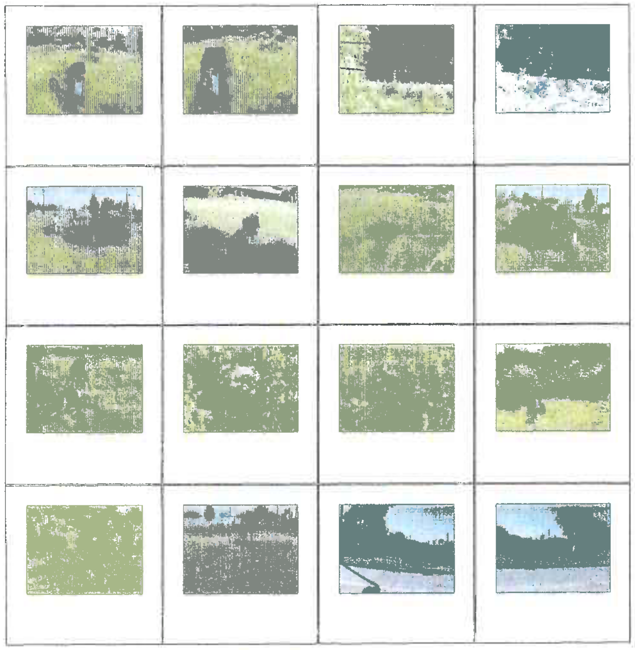


So. Troy Ind. Park

GPR9.2.04

Page 1

So. Troy Ind. Park



GPR9.2.04

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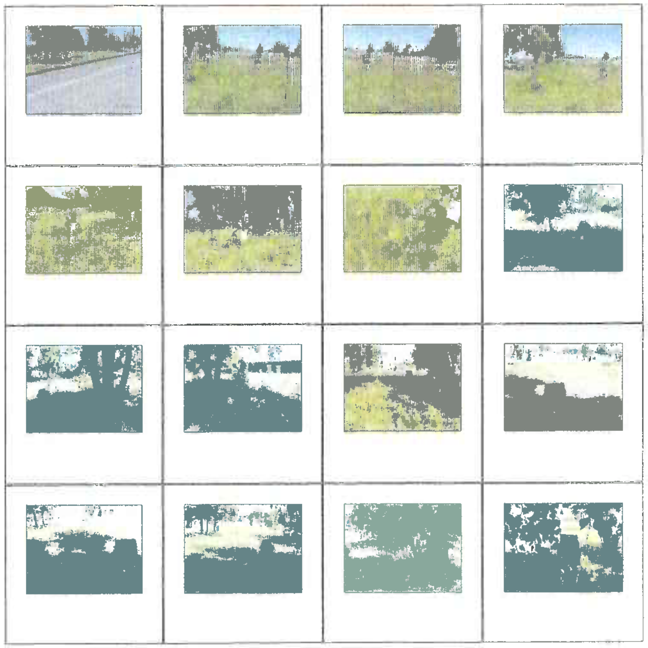
So. Troy Ind. Park



GPR9.2.04

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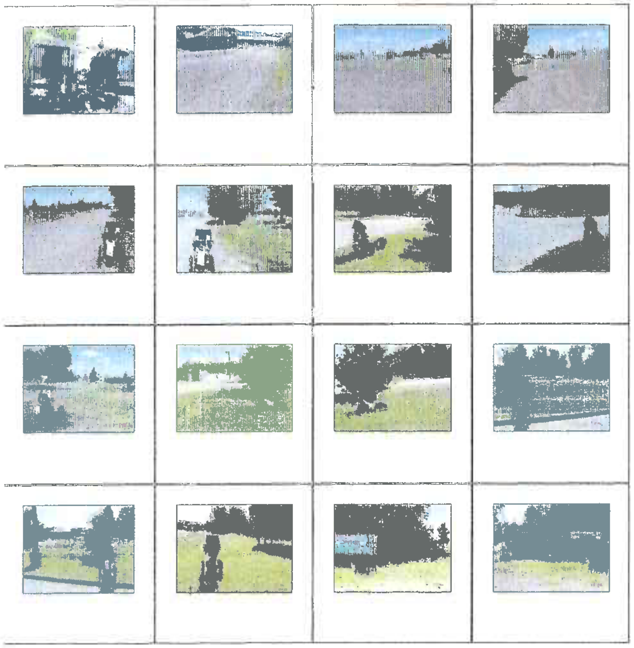
So. Troy Ind. Park



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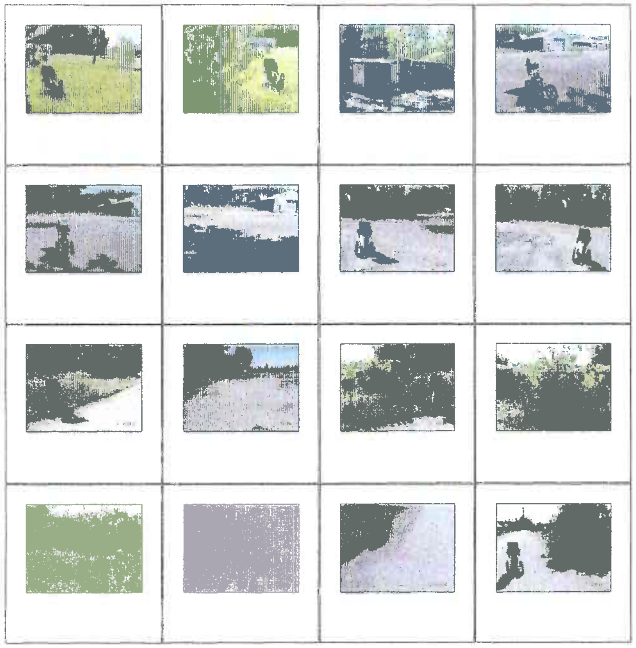

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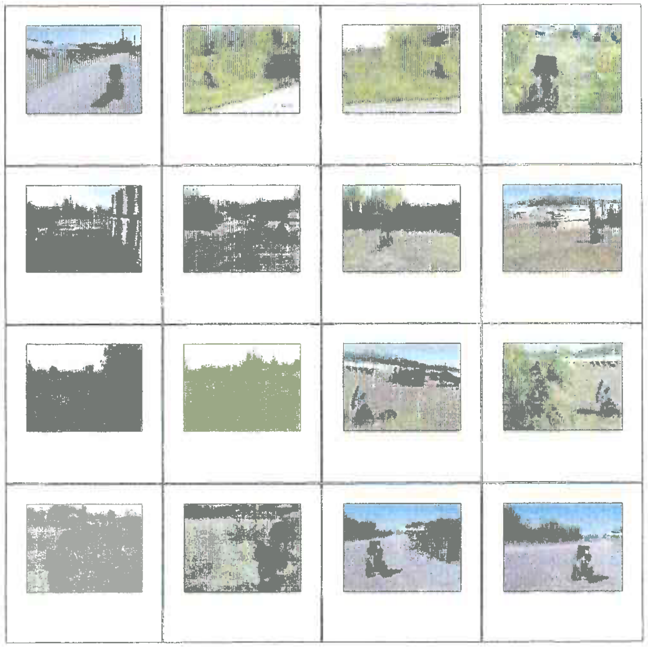

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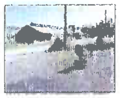

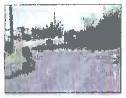

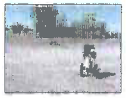

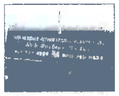

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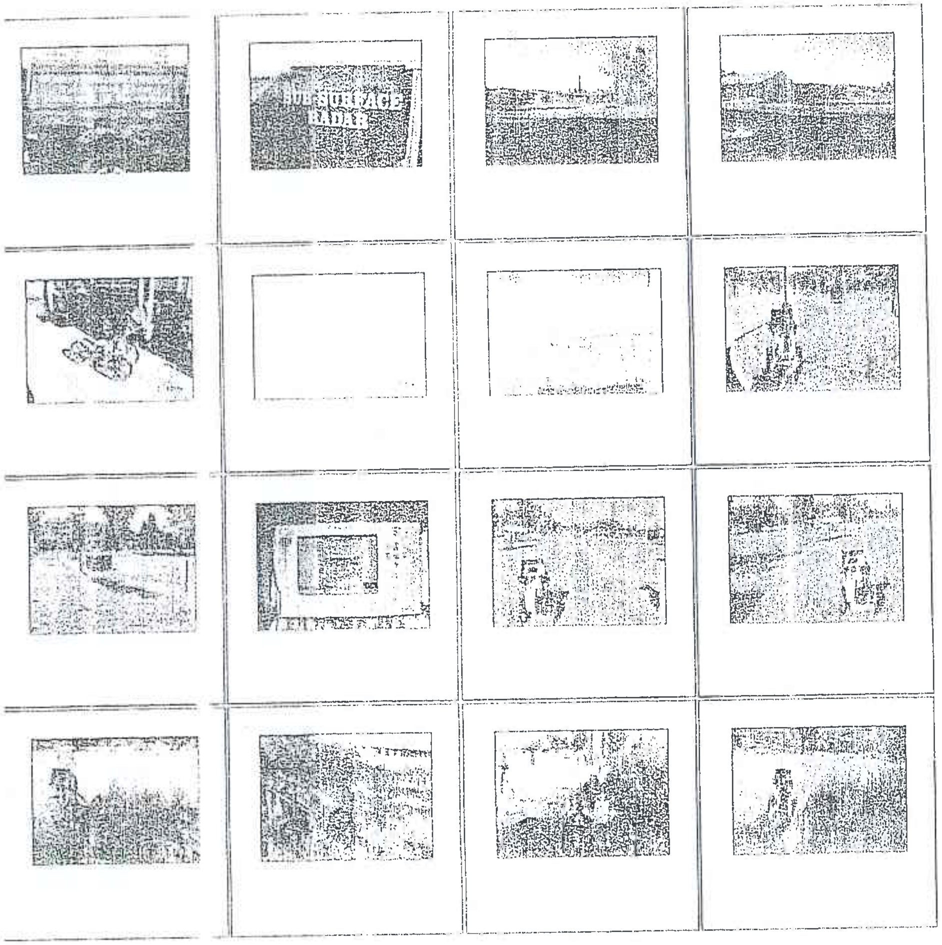
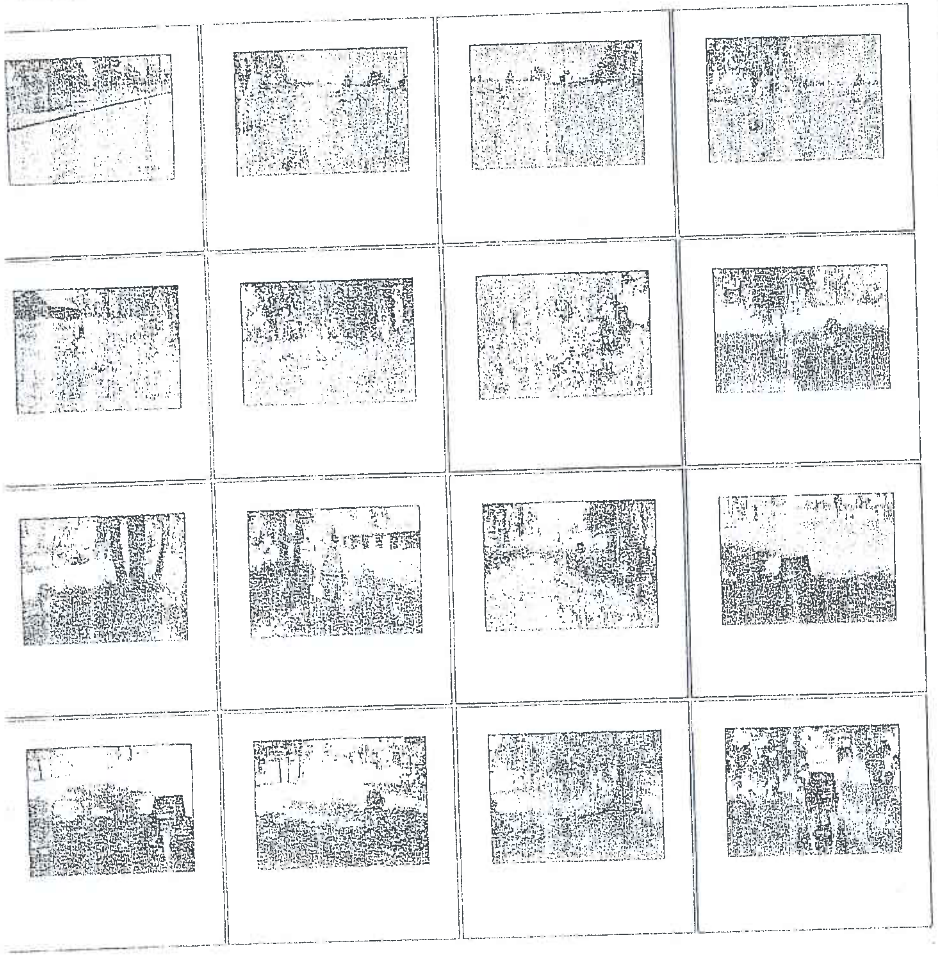


GPR9.2.04

So. Troy Ind. Park

GPR9.2.04

So. Troy Ind. Park



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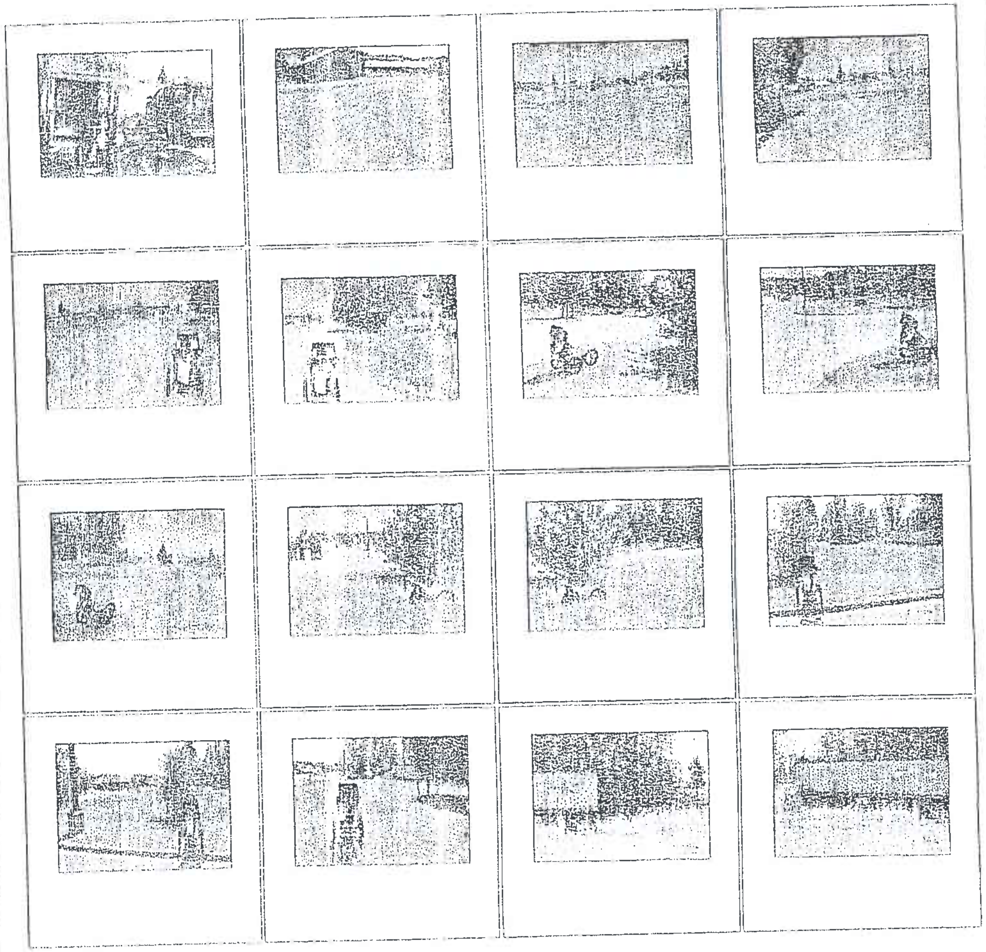

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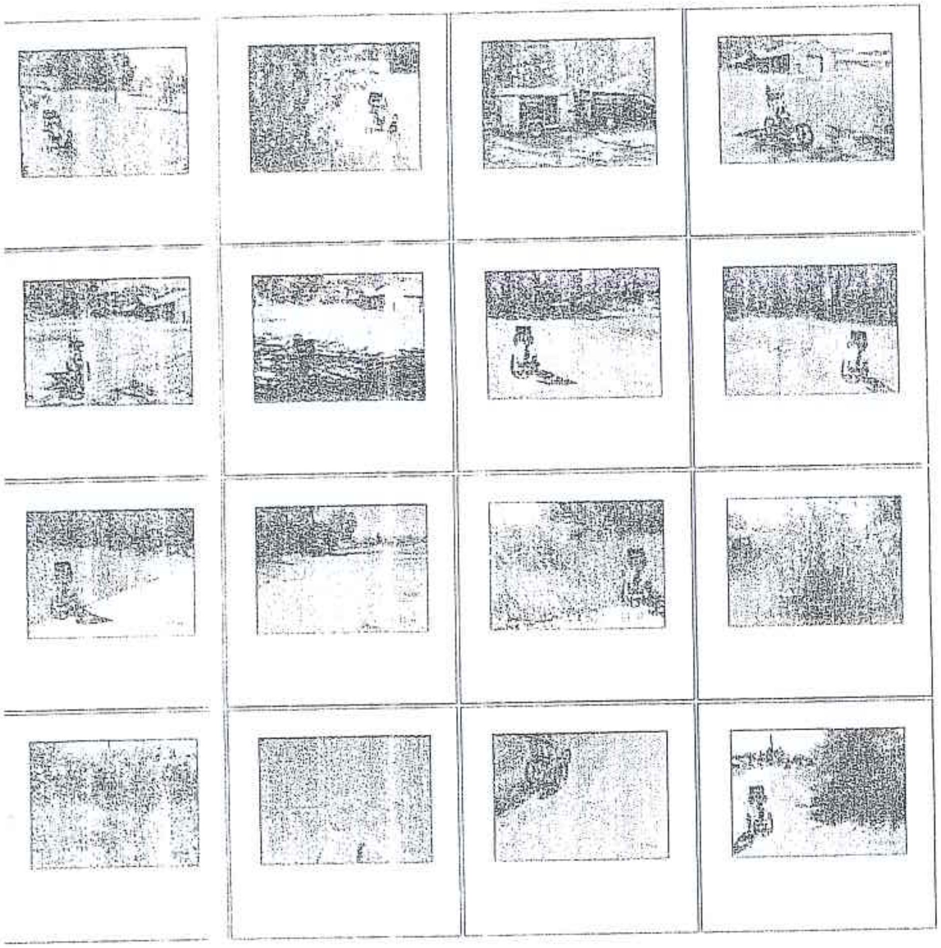

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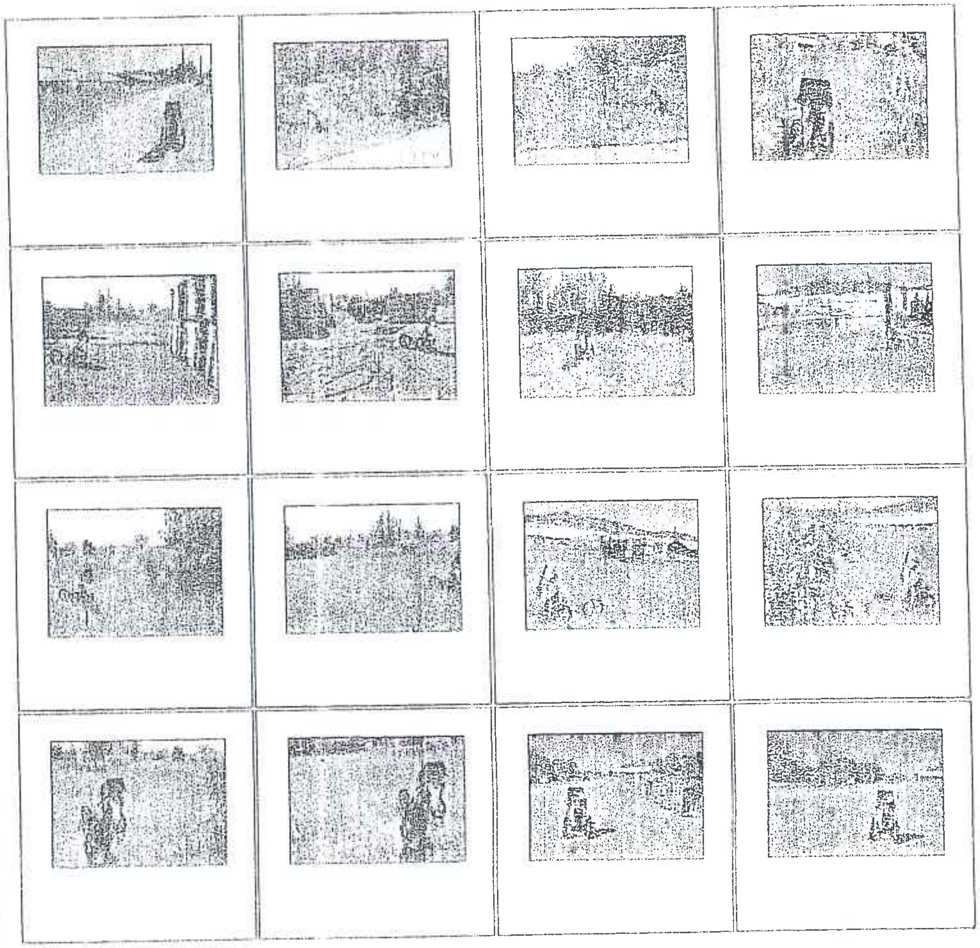

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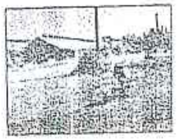
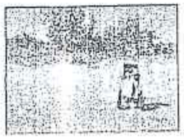
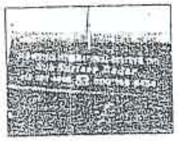


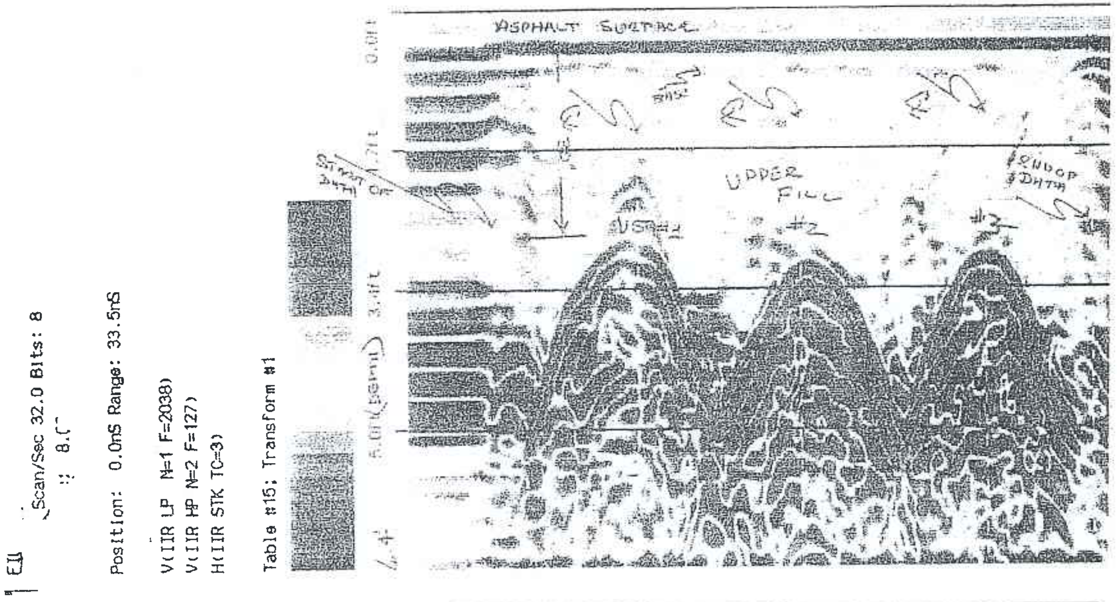




GPR9.2.04

GPR REPORT

The profiles shown below represent copies of real data collected in the field. Each collected piece of data is issued a FILE# on the information tab to the left of the data. This FILE# is referenced within the report. Each piece of data is annotated from the information collected in the field such as estimated depth, length, direction or any other information that may be helpful to the subsurface investigation. The computer settings such as dielectric values, range in nanoseconds etc., is part of the information tab. The vertical benchmarks indicate points designated on the surface for the purpose of pinpointing a particular anomaly. This is used to estimate sometimes width or length or even distance between surface points such as fence posts, white lines in parking lots, centerlines of vehicles etc. The ⤵⤵ sign indicates 180 degree change in direction such as from a northerly traverse to a southerly traverse within the same piece of data. The profile below (FILE134) represents a perpendicular traverse over three 1,000g underground storage tanks at approximately 30" below the asphalt surface. The vertical benchmarks represent the centerline of each tank which was marked with marking paint on the surface per customer request. FILE138 is traversing over the long axis of one of the tanks with the vertical benchmarks at 2' intervals. The tank shows a profile of 10.5' in length from end-to-end.



Scan/Sec 32.0 Bits: 8

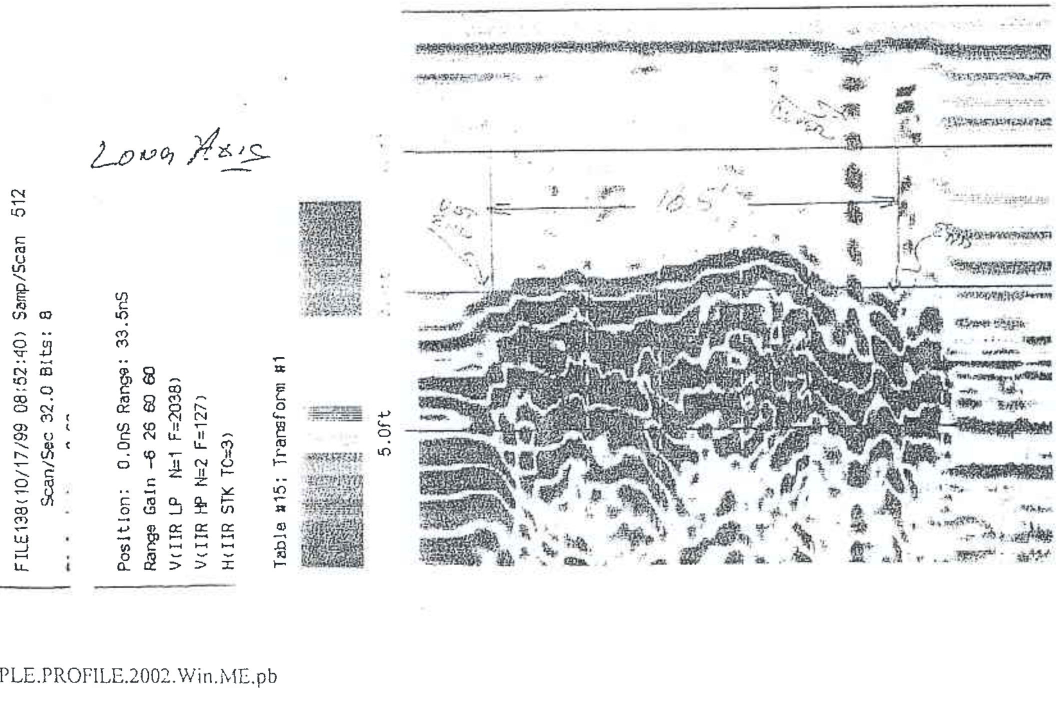
Position: 0.0nS Range: 33.5nS

V(IIR LP N=1 F=2038)

V(IIR HP N=2 F=127)

H(IIR STK TC=3)

Table #15; Transform #1



FILE138(10/17/99 08:52:40) Samp/Scan 512

Scan/Sec 32.0 Bits: 8

Position: 0.0nS Range: 33.5nS

Range Gain -6 26 60 60

V(IIR LP N=1 F=2038)

V(IIR HP N=2 F=127)

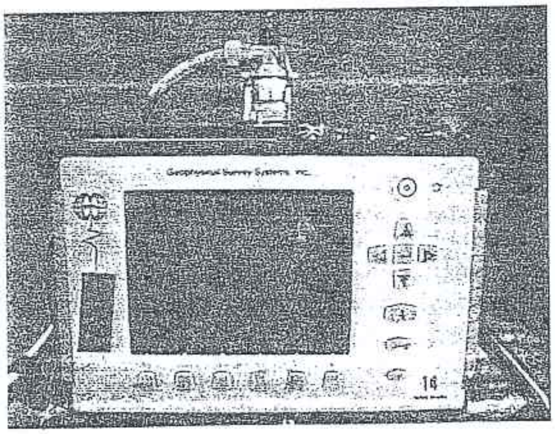
H(IIR STK TC=3)

Table #15; Transform #1

GPR PROFILES OBTAINED IN THE FIELD

The attached copies are reproductions from data acquired in the field from the GSSI, SIR 3000 Geophysical computer. The original copies are downloaded on a T-104 thermal printer and reproduced on our commercial copier. Photo's are taken by a Sony DSC-F707 Digital still camera, using a 128 MB memory stick. The camera has the ability to take pictures in a no-light environment, which is useful for inside low light or no light building interiors, or during overcast days.

The pictures are downloaded in a Photo Suite program and reproduced at 640 X 480: 0.35 mega pixels. In addition, a disc is supplied with most reports of all the important photo's taken at the survey site. The image size duplicated makes it easy for e-mail attachments to be sent to your customer.



CT1

244' of continuous easterly data starting from the southwest corner of the access road.
No unusual anomalies seen to indicate the presence of any underground storage tanks.

```
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Channel(s)  1          Samples/Scan  512          Bits/Sample  16
Scans/Second  100          Scans/Meter  59.055          Meters/Mark  1.4384
Diel Constant 9

CHANNEL  1  400MHz
Position  0 nS  Range  60 nS
Vert IIR LP N -1 F -800 MHz
Vert IIR HP N -1 F -100 MHz
Position Correction  -3.775 nS
Range Gain (dB)  -20.0 36.0 43.0
Structure ID
 Time Zero Adj. (Thres. 3000)
 Antenna Type = 5103
```
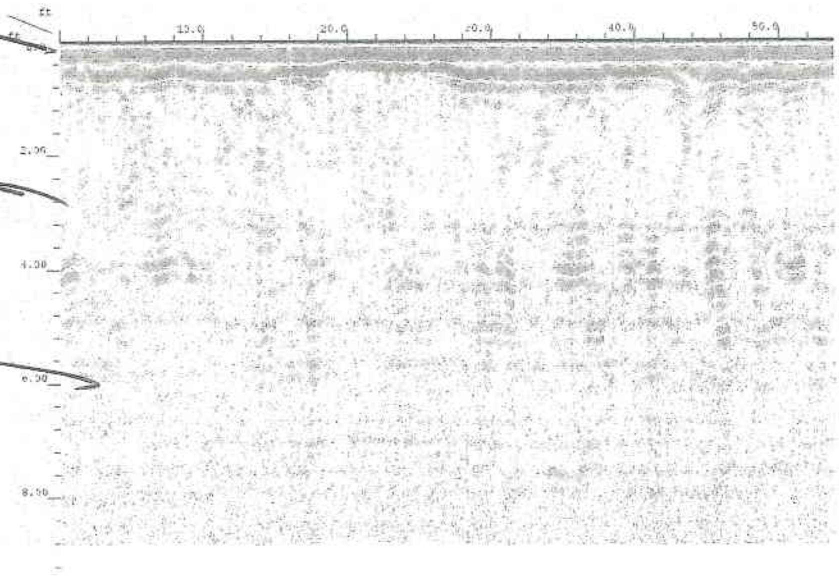

CT1 Sep, 02 2004, 09:23:34   Page 2 of 6

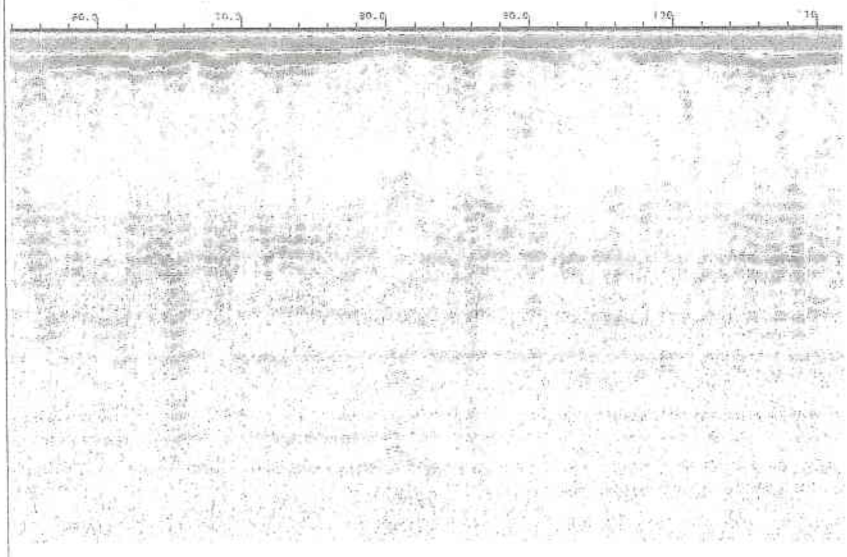
Surface

Upper Sands

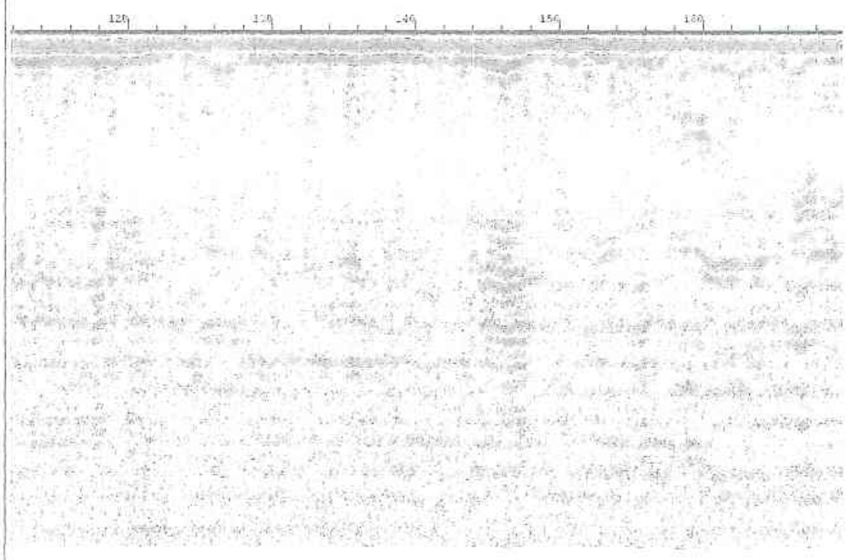
Moist



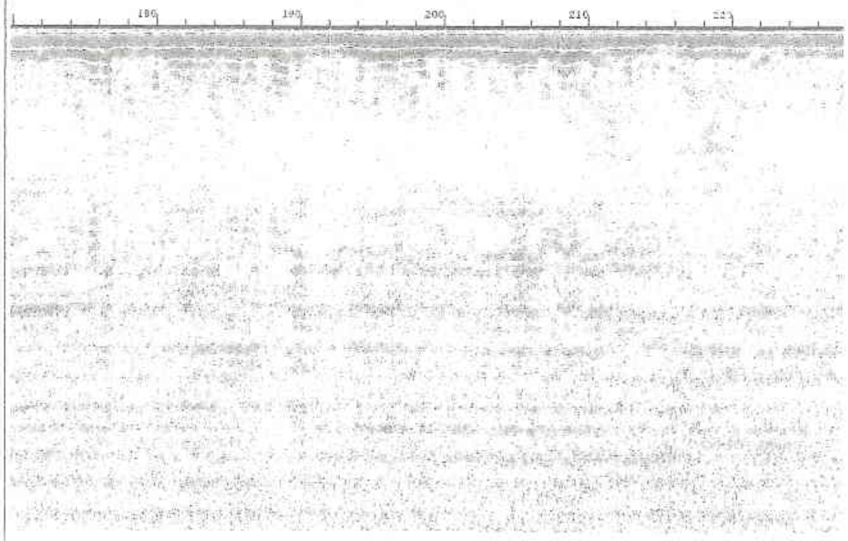
CT1 Sep, 02 2004, 09:23:34   Page 3 of 6



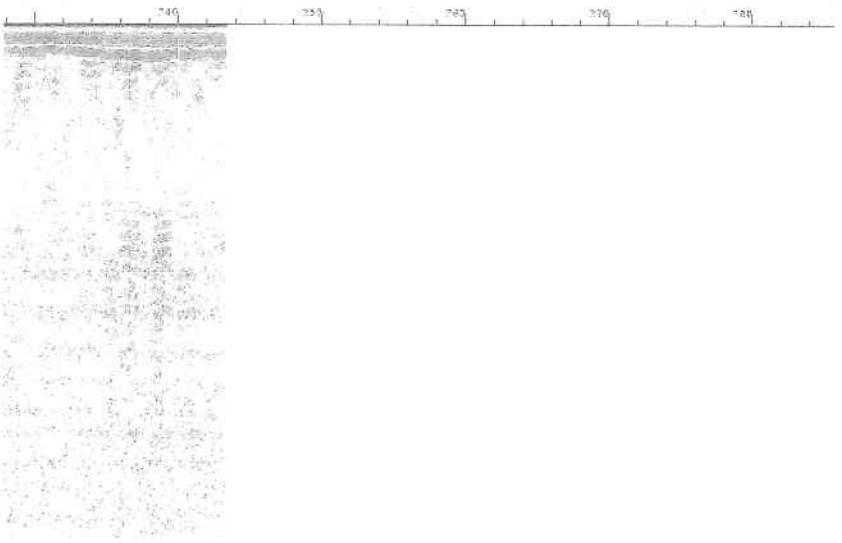
CTI Sep, 02 2004, 09:23:34 Page 4 of 6



CTI Sep, 02 2004, 09:23:34 Page 5 of 6



CTI Sep, 02 2004, 09:23:34 Page 6 of 6



CT2

Parallel [westerly] traverse to CT1 showing an equitable distribution of the subsurface signal to the higher conductivity area. No unusual anomalies.

```
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Channel(s)  1        Samples/Scan  512        Bits/Sample  16
Scans/Second  100        Scans/Meter  39.855        Meters/Mark  1.4384
Dial Component 5

CHANNEL  1  400MHZ
Position  0 nS  Range  80 nS
Vert IIR LP N =1 F =800 MHz
Vert IIR HP N =1 F =100 MHz
Position Correction  -0.775 nS
Range Gain (dB)  -20.0 36.0 43.0
Structure ID
 Time Zero Adj. (Thres. 3000)
 Antenne Type = 5103
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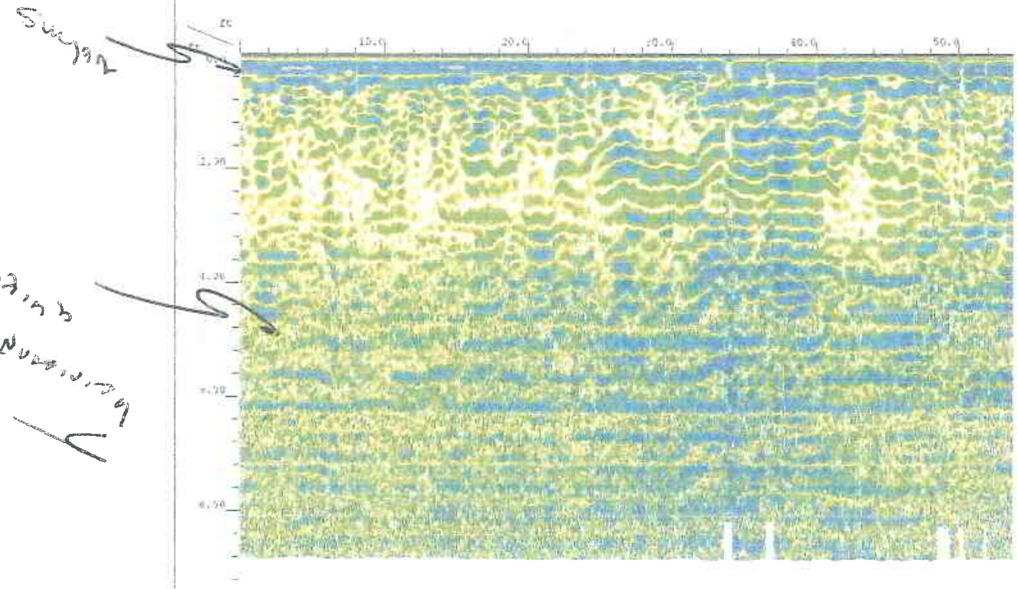
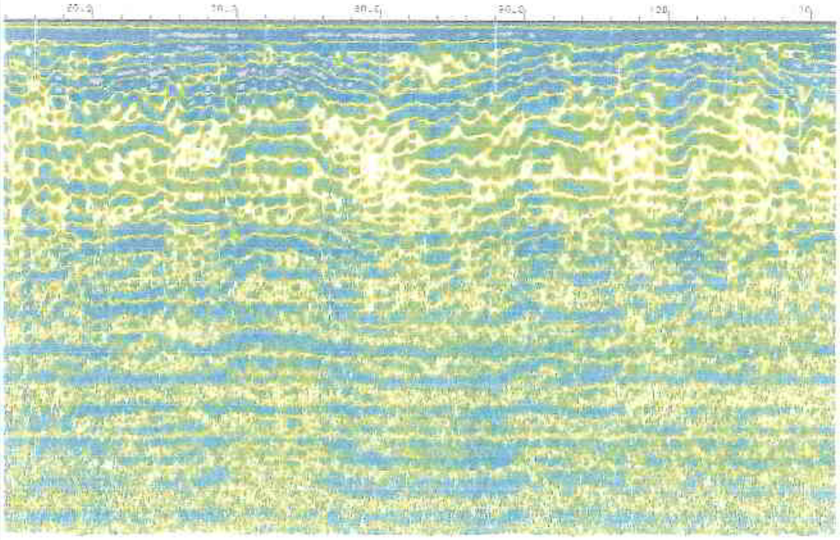
CT2 Sep, 02 2004, 09:25:38 Page 2 of 6



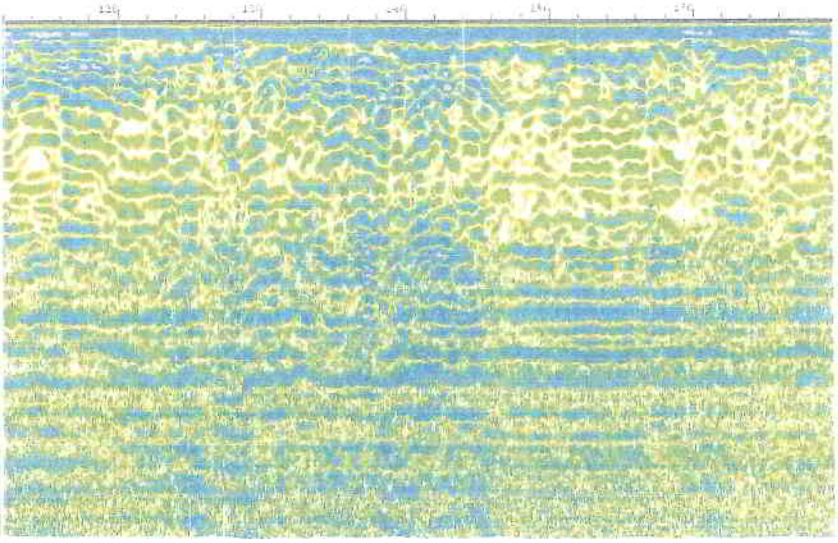
Surface

High Conductivity

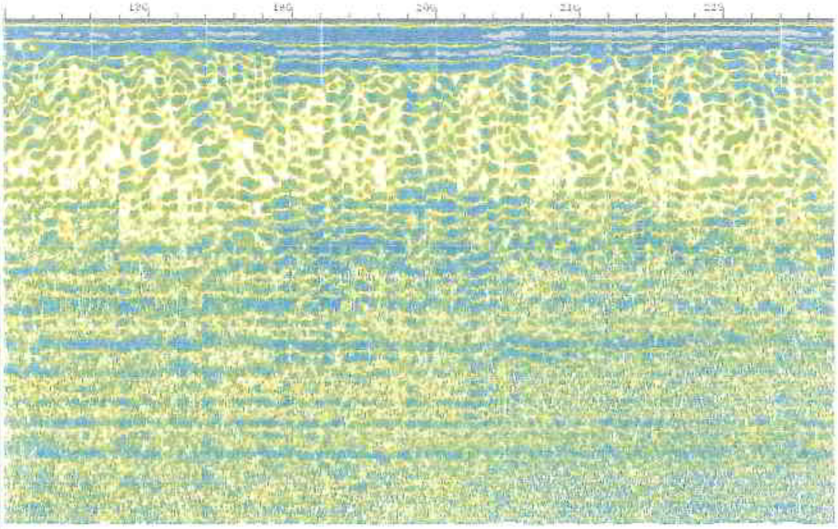
CT2 Sep, 02 2004, 09:25:38 Page 3 of 6



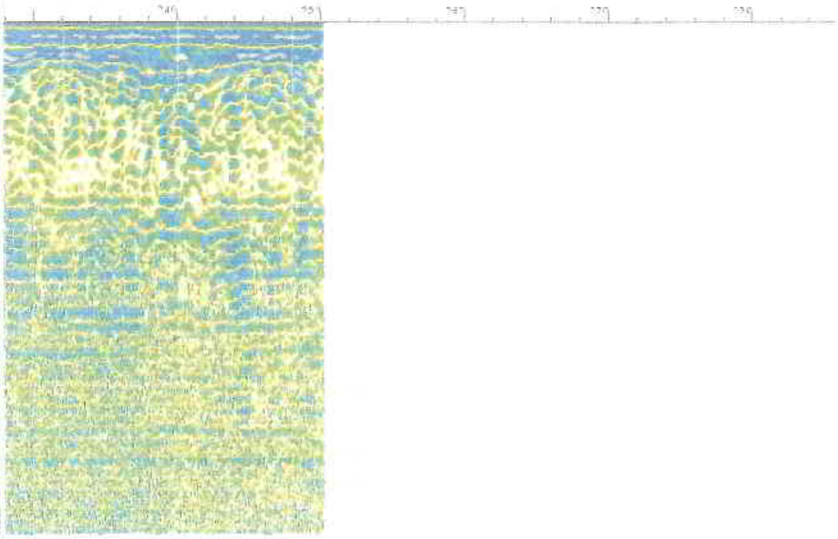
CT2 Sep, 02 2004, 09:25:38 Page 4 of 6



CT2 Sep, 02 2004, 09:25:38 Page 5 of 6



CT2 Sep, 02 2004, 09:25:38 Page 6 of 6



CF5

```
Easterly traverse 70' south of curb line.  Unchanged.

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Scans/Second  100          Scans/Meter  59.0551          Meters/Mark  2.4384
Diel Constant 5

CHANNEL  1  400MHZ
Position  0 nS  Range  60 nS
Vert IIR LP N =1 F =800 MHz
Vert IIR HP N =1 F =100 MHz
Position Correction   9.525 nS
Range Gain (dB)  -20.0 37.0 46.0
Structure ID
 Time Zero Adj. (Thres. 2000)
 Antenna Type - 5103
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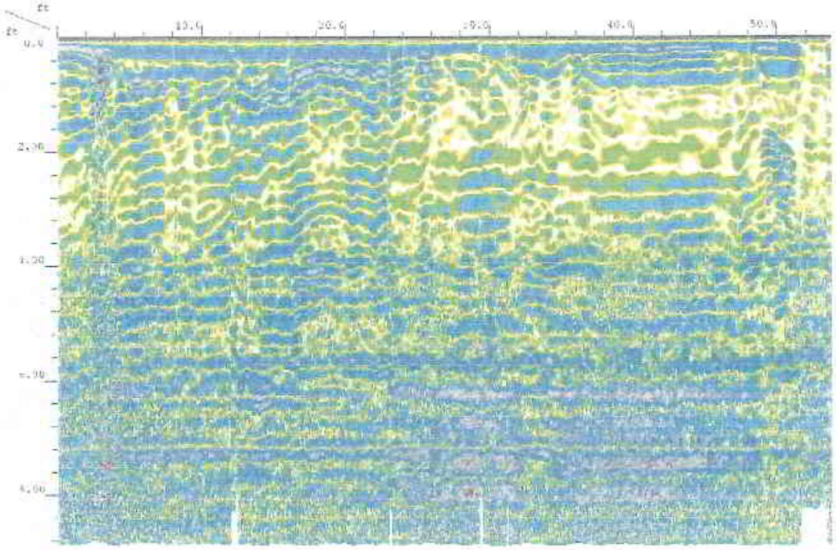
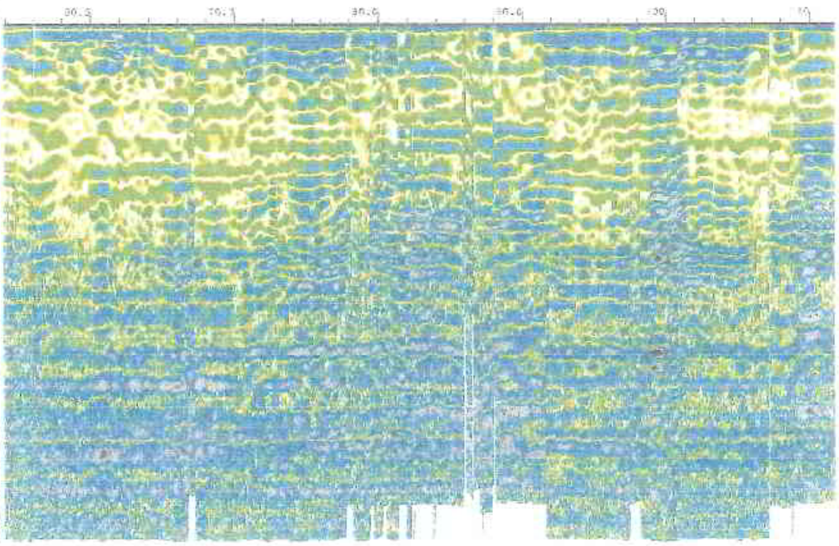
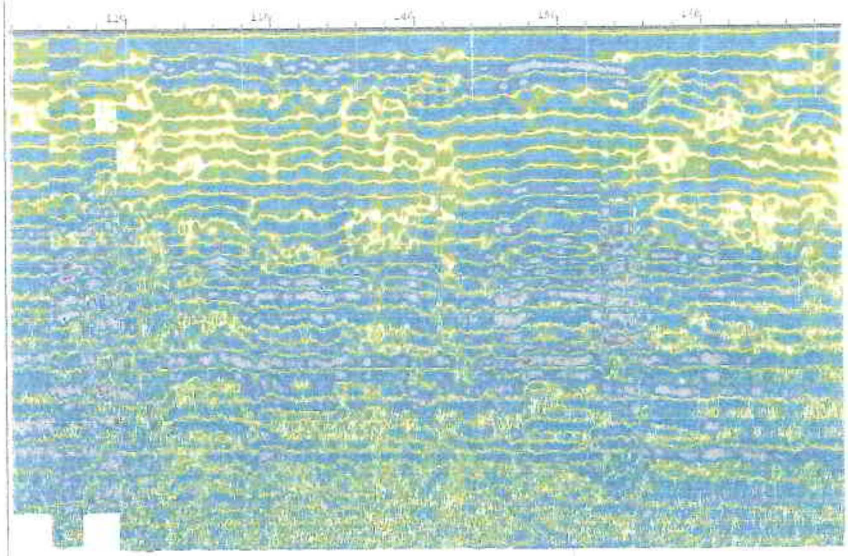
CF5 Sep, 02 2004, 09:32:54   Page 2 of 6



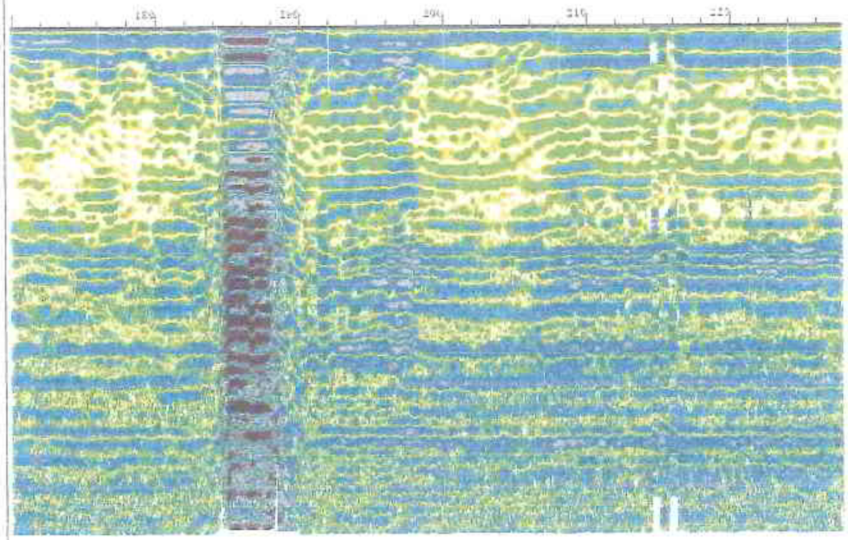
CF5 Sep, 02 2004, 09:32:54   Page 3 of 6



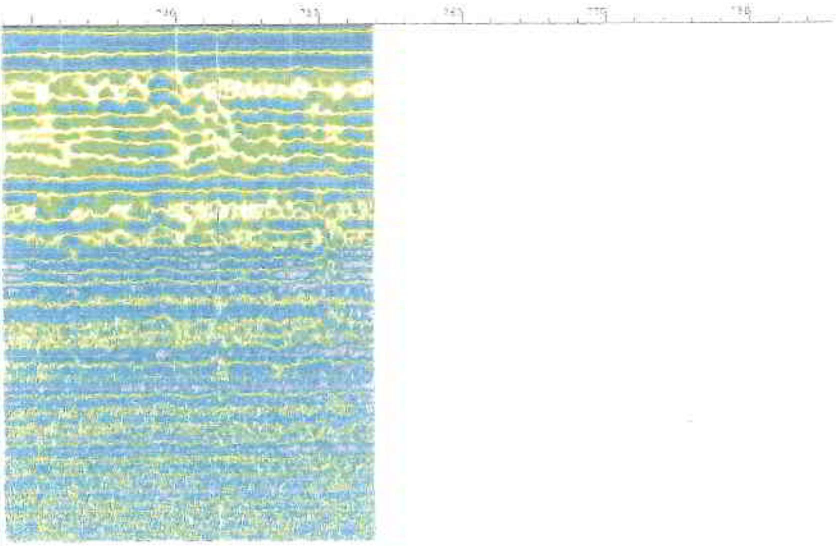
CT5 Sep, 02 2004, 09:32:54 Page 4 of 6



CT5 Sep, 02 2004, 09:32:54 Page 5 of 6



CT5 Sep, 02 2004, 09:32:54 Page 6 of 6



CT10

80' northerly traverse at the eastern end of the parcel showing no unusual anomalies to indicate the presence of any underground storage tanks.

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Diel Constant 12

CHANNEL  1  400MHZ
Position  0 nS  Range  50 nS
Range Gain (dB)  -11.0 47.0
Position Correction  0.35 nS
Vert IIR LP N =1 F =550 MHz
Vert IIR HP N =1 F =200 MHz
Structure ID
 Time Zero Adj. (Thres. 3000)
 Antenna Type = 5103
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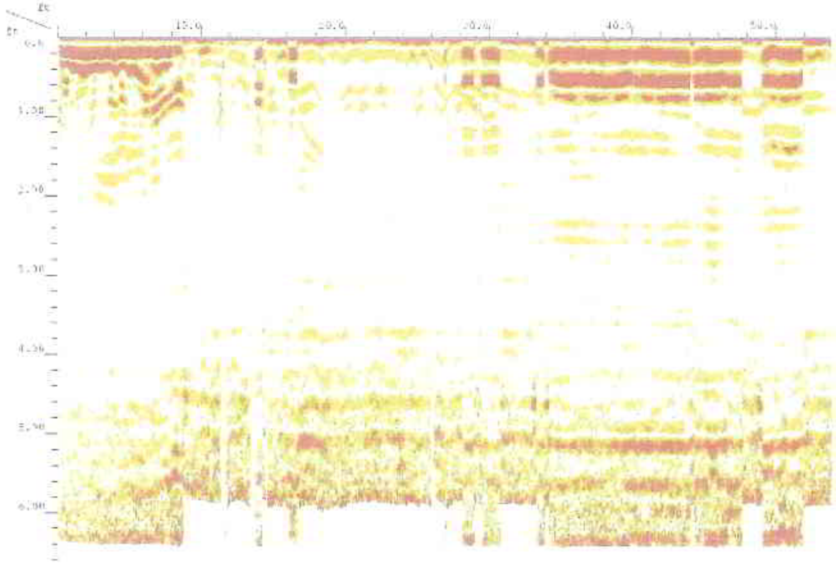
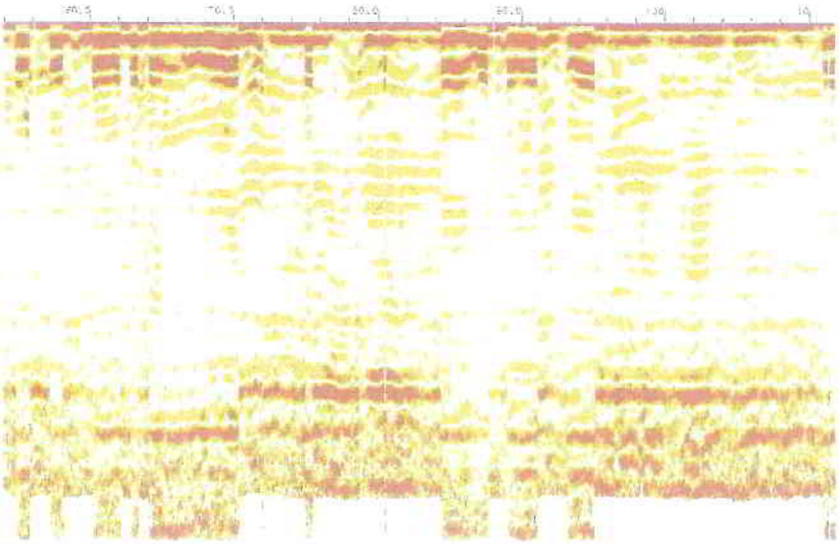
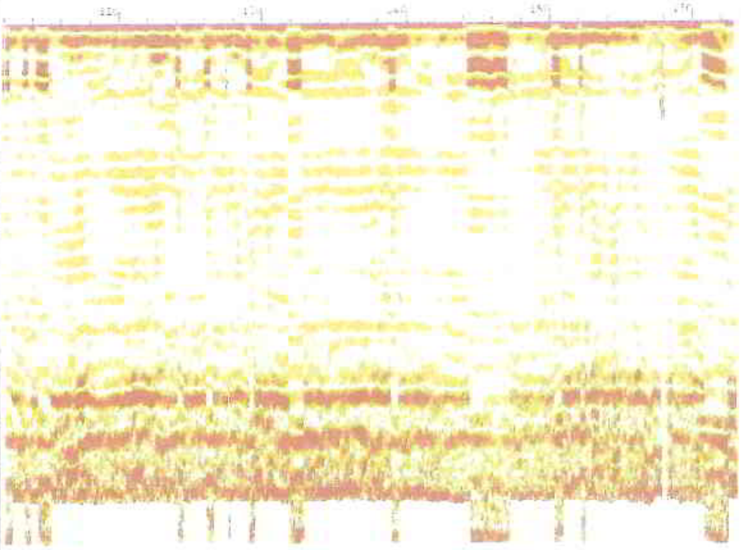
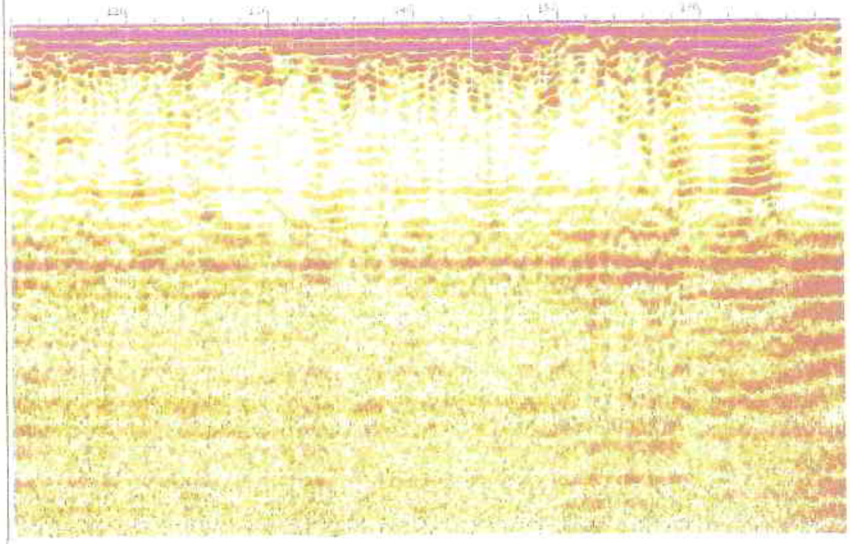
CT10 Sep, 02 2004, 10:51:22   Page 2 of 4

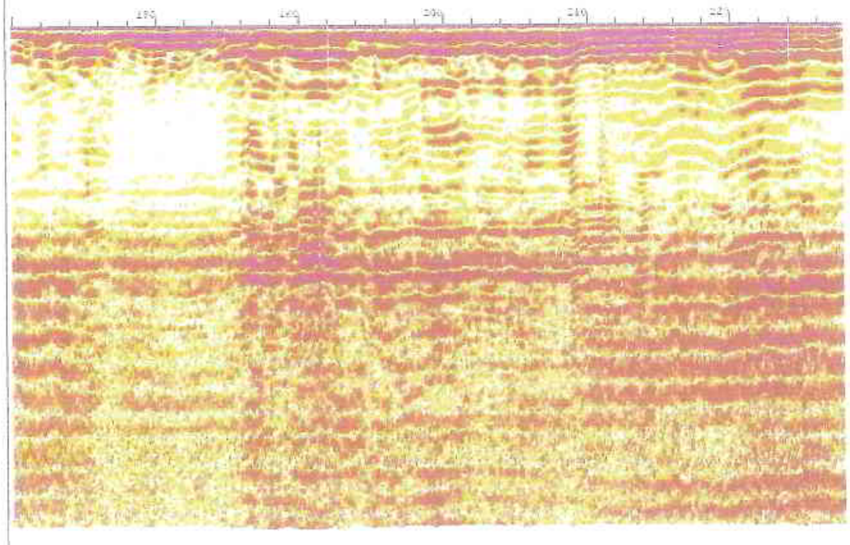


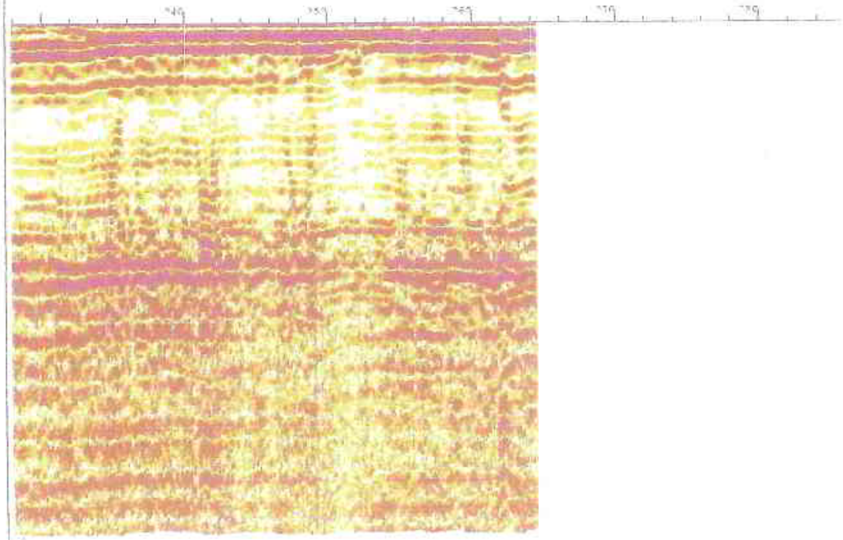
CT10 Sep, 02 2004, 10:51:22   Page 3 of 4






120
130
140
150
160


180
190
200
210
220


240
250
260
270
280

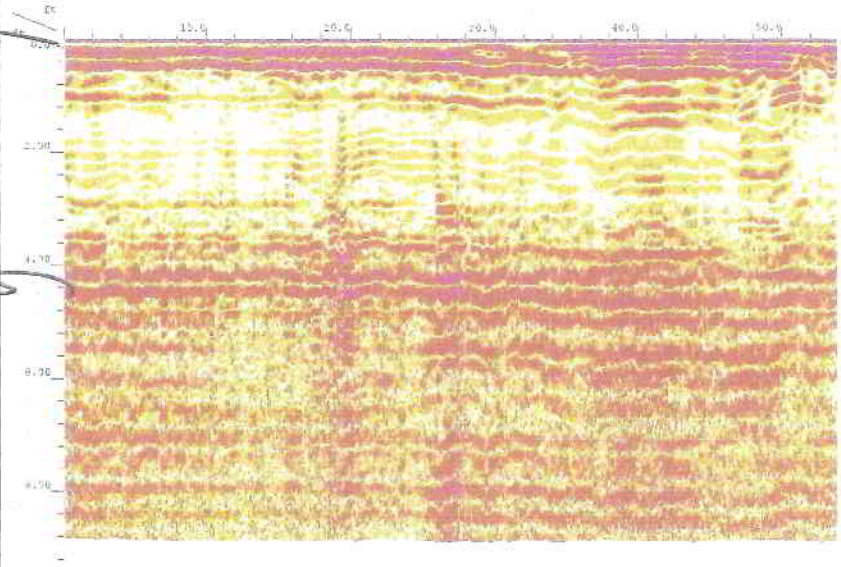
CT18

263' of continuous east/west data near the northern curb line of the access road. No unusual anomalies.

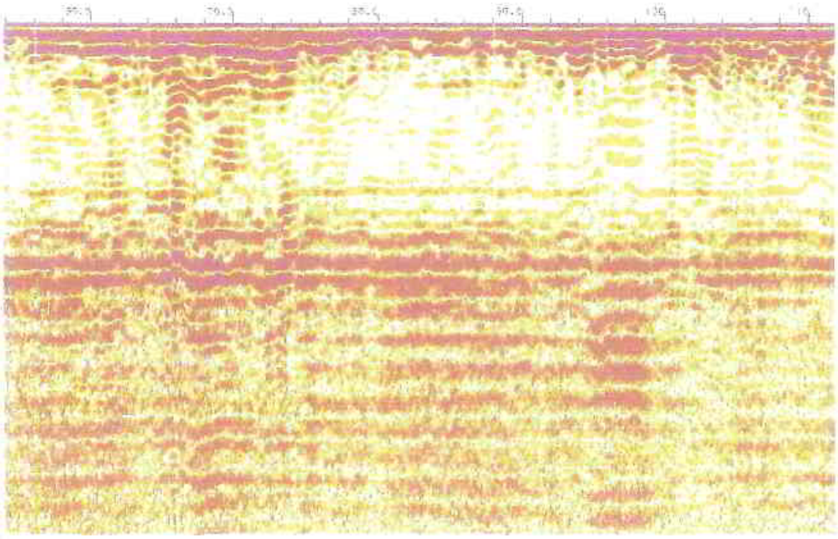
```
Created  Sep, 02 2004, 11:57:24         Modified Sep, 02 2004, 11:59:14
Channel(s)  1        Samples/Scan  512         Bits/Sample  16
Scans/Second  100        Scans/Meter  59.0357         Meters/Mark  0.4384
Diel Constant 18

CHANNEL  1  400MHz
Position  0 nS  Range  81 nS
Vert IIR LP N =1 F =800 MHz
Vert IIR HP N =1 F =100 MHz
Position Correction  -3.375 nS
Range Gain (dB)  -15.6 38.3 42.0
Structure ID
 Time Zero Adj. (Thres. 3030)
 Antenna Type = 5103
```

CT18 Sep, 02 2004, 11:59:14 Page 2 of 6



CT18 Sep, 02 2004, 11:59:14 Page 3 of 6



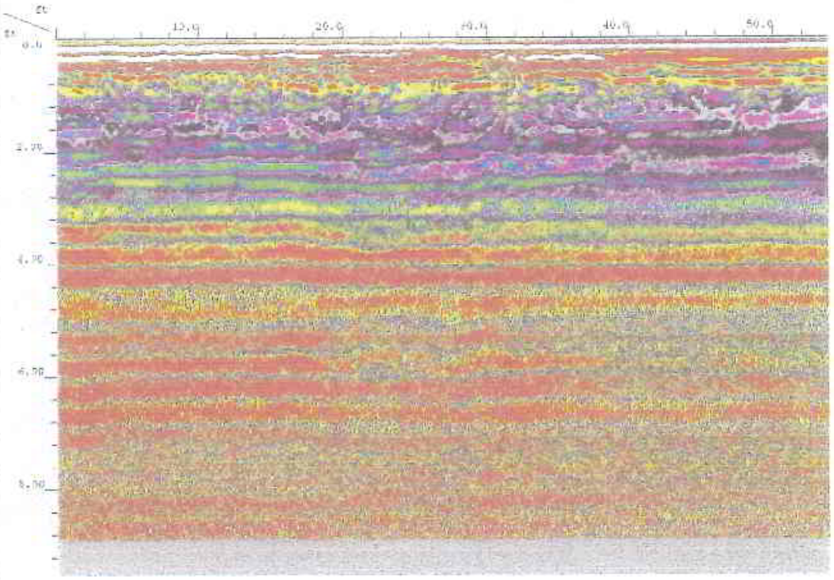
CP29

200' of continuous east/west data collected in the access road 300' south of Main Street.
No unusual anomalies in this data.

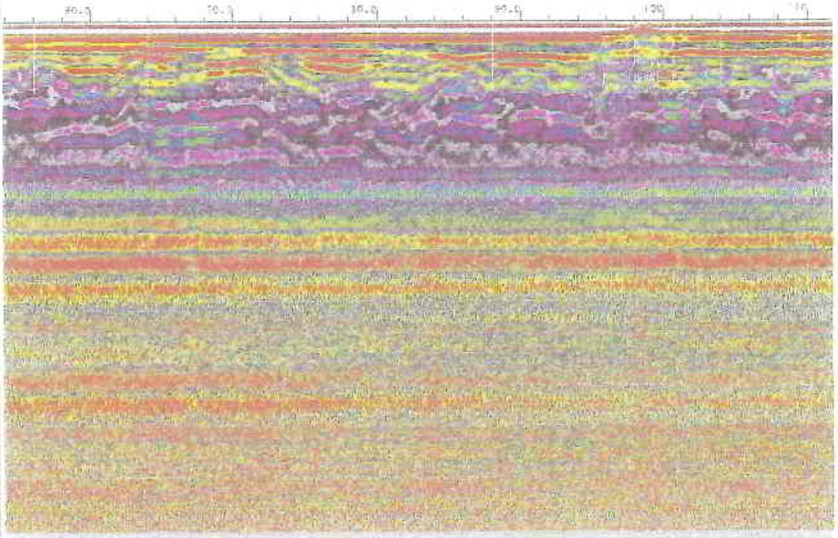
```
Created  Sep, 02 2004, 14:31:46          Modified Sep, 02 2004, 14:32:42
Channel(s)  1          Samples/Scan  512          Bits/Sample  16
Scans/Second  100          Scans/Meter  59.055          Meters/Mark  1.4384
Diel Constant 16

CHANNEL  1  400MHz
Position  0 nS  Range  81 nS
Vert IIR LP N =1 F =800 MHz
Vert IIR HP N =1 F =100 MHz
Position Correction  -3.25 nS
Range Gain (dB)  -20.0 39.0 47.0
Structure ID
 Time Zero Adj. (Thres. 3000)
 Antenna Type = 5103
```

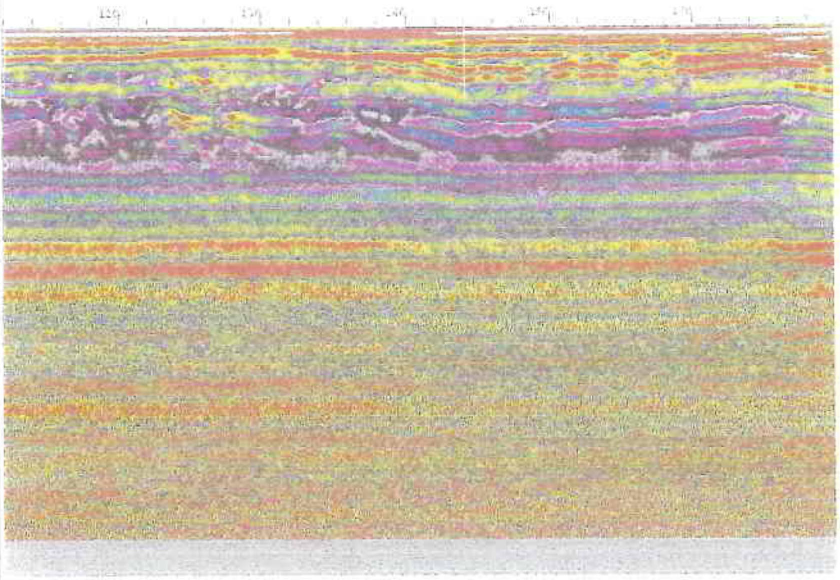
CP29 Sep, 02 2004, 14:32:42 Page 2 of 5



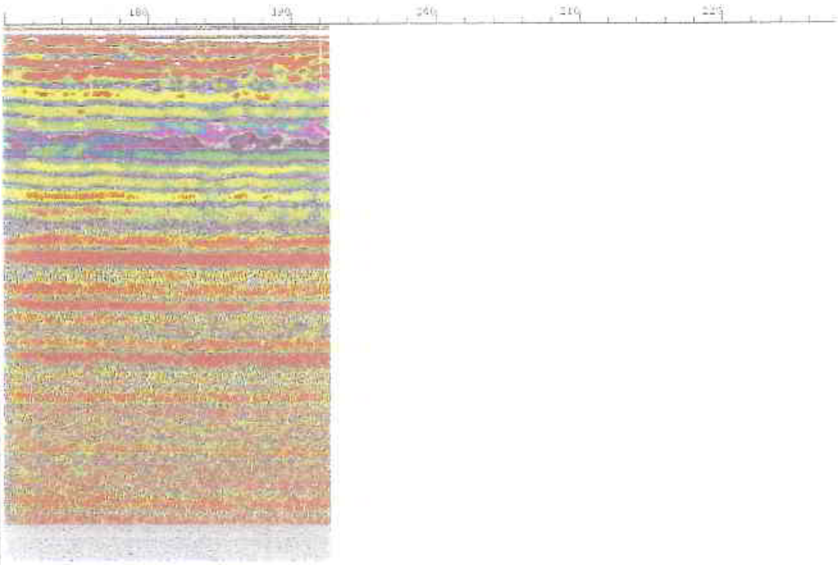
CP29 Sep, 02 2004, 14:32:42 Page 3 of 5

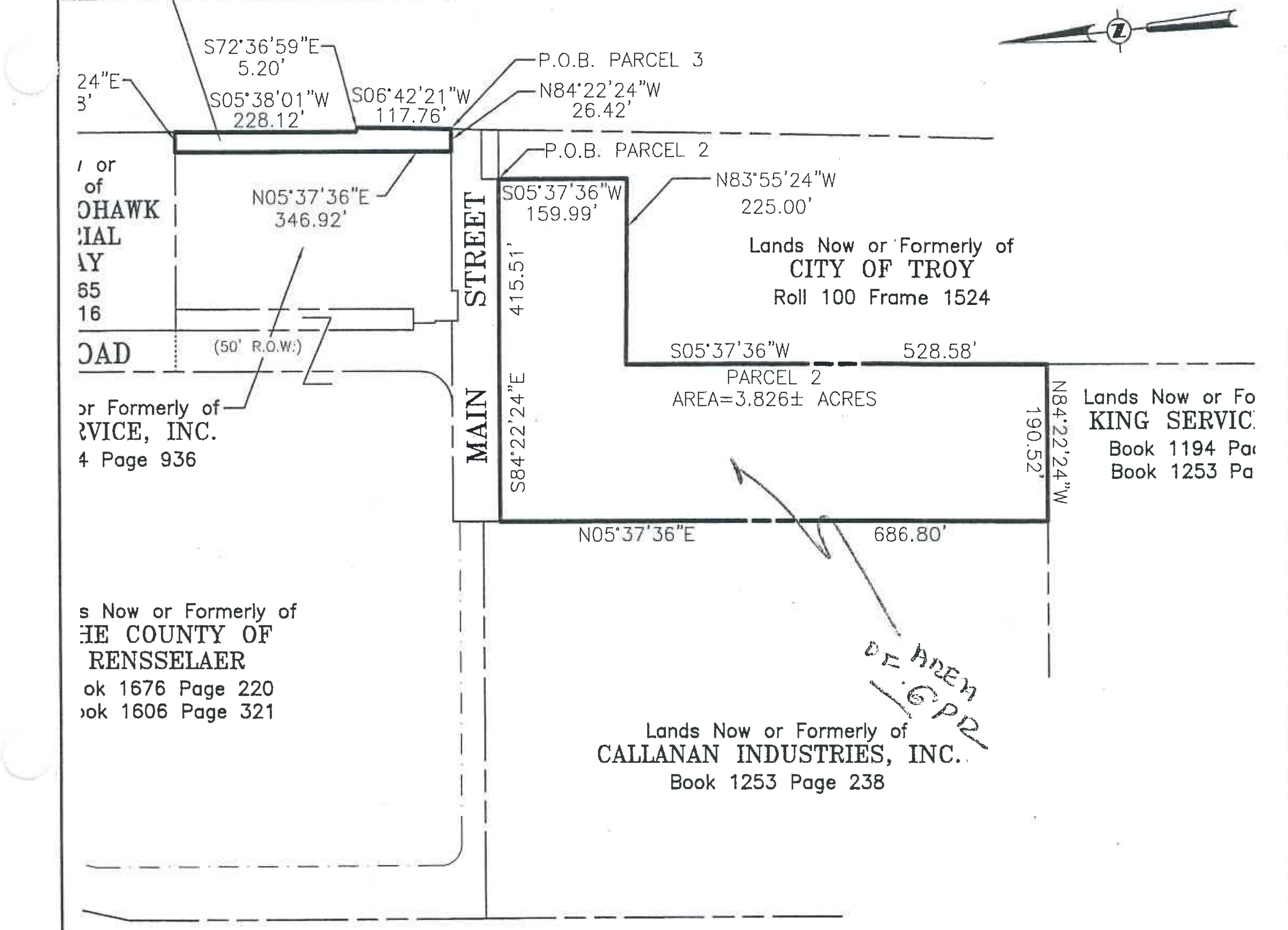


CT29 Sep, 02 2004, 14:32:42 Page 4 of 5



CT29 Sep, 02 2004, 14:32:42 Page 5 of 5





Map Notes

1. North orientation and bearing base per map reference no. 1.
2. The purpose of this map is to delineate the remaining lands of the Rensselaer County Industrial Development Agency within South Troy Industrial Park as of the date of this map.

Map References

1. "Boundary Survey Portion of Lands of LTV Steel Company, Inc." City of Troy, Rensselaer County, New York, dated January 4, 1989, last revised December 5, 1991, by C.T. Male Associates, P.C., drawing no. 89-18R.
2. "Final Subdivision Map Portion of Lot 2 East Industrial Parkway South Troy Industrial Park", City of Troy, Rensselaer County, New York, dated June 30, 1999, last revised August 22, 2000, by Gurley Engineering Surveying and Mapping Group, P.C., drawing no. 98098.

Date	RECORD OF WORK	Appr.

Drafter: JAM

Checker:

Appr. by:

Proj. No. 04.9138

FIELD REFERENCE DRAWING
SEPT. 2, 2004 GROUND PENETRATING RADAR SURVEY
PARCEL 2 OF SOUTH TROY INDUSTRIAL PARK

CITY OF TROY

RENSSELAER COUNTY, NY

C.T. MALE ASSOCIATES, P.C.
50 CENTURY HILL DRIVE, P.O. BOX 727, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299
Architecture & Building Systems Engineering * Civil Engineering
Environmental Services * Survey & Land Information Services

SCALE: 1"=200'±

DATE: SEPTEMBER 2, 2004

D DWG. FILE NAME:

5.0 ACQUIRING PROCEDURES

The acquiring of data from the field for the location and orientation of underground storage tanks, utilities, conduits w/in slab, rebar location, grave sites and other specific anomalies has been established by the *ground penetrating radar* for many years. Since 1988, Sub-Surface Information Surveys, Inc. has completed a multitude of successful investigations covering most phases of the *ground penetrating radar* profession. During an investigation, a cross-section of the project will be recorded on the hard drive of our computer. The data is then transferred, copied and duplicated to be made part of this report.

We do not necessarily record every traverse in most of our investigation since most of the information viewed on our monitor is related to the previous traverse. Traverses (I.e., profiles) are monitored on a constant basis. When a traverse is collected on the hard drive, it is also played back in the field for a second look. Where there is an *out-of-place characteristic*, it may be played back a number of times to determine its location and origin. This is recorded on the hard drive for further analyzing at our office. When specific anomalies are located, *all* are documented for reporting. Anomalies are marked in the field if requested to do so. Measurements are taken to identify the exact location such as a tank or utility.

During the start of all surveys, site characteristics and features must be documented to set the standard for that particular site such as soil conditions, conductive features, etc. While the survey is being conducted, there are periodic documentations which are used as a permanent visual comparison to confirm the standard of that site.

After the completion of our survey, it must be reasonably assured that the information is a true cross-section of the project and the information obtained is accurate according to our best professional efforts.

GPR PRINCIPLES
DIELECTRIC CONSTANTS
TWO-WAY SLOWNESS

GROUND PENETRATING RADAR (GPR)...looks like an *X-ray* picture of the ground which is the typical initial impression of the graphic results obtained by radar. GPR, unlike sonic or seismic uses an electromagnetic (radio wave) antenna tuned to a frequency, which can penetrate most soils, rock, concrete, ice and other common natural and manmade materials. Such capabilities make GPR a prime technique to a multitude of tasks.

GPR determines subsurface conditions by sending pulses of high frequency radio waves into the ground from a transmitter antenna located on the surface. Subsurface structures and interfaces cause some of the wave energy to be reflected back to the surface, while the rest of the energy continues to penetrate deeper. A receiver antenna on the surface picks up the reflected wave energy. These signals are then processed and plotted in a distance versus time-depth display. Thus, as the radar antenna is slowly towed across the surface, a continuous cross-section *picture* of the subsurface is generated. The reflections are caused by wave responses at interfaces of materials having different electrical properties. These interfaces include many natural conditions such as bedding, cementation, changes in moisture and clay content, voids etc., as well as man-made objects.

PENETRATION of the radar signal is dependent on the conditions found at each site. Radar waves are attenuated (absorbed or scattered) by certain properties of the site's soil; the most important of which is the *electrical conductivity* of the material. Generally, better overall penetration is achieved in dry sandy soils; reduced penetration is achieved in moist, clayey or conductive soils. Radar penetration is excellent in massive dry materials such as granite, limestone and concrete. The following is a partial list of the approximate *dielectric constants* of certain materials:

MATERIAL	*DIELECTRIC/C*	**TSm (ns/ft)*	**TSm (ns/m)*
AIR	1	2	6.5
FRESH WATER	81	18	59
SEA WATER	81	18	59
SAND-DRY	4-6	4.5	15
SAND-SATURATED	30	11	36
SILT-SATURATED	10	6	20
CLAY-SATURATED	8-12	6	20
DRY SANDY COASTAL LAND	10	6	20
MARSHY FORESTED FLAT LAND	12	7	23
RICH AGRICULTURAL LAND	15	8	26
PASTORAL LAND, HILLY	13	7	23
FRESH WATER ICE	4	4	13
PERMAFROST	4-8	5	16
GRANITE (DRY)	5	4.5	15
LIMESTONE (DRY)	7-9	5	16
DOLOMITE	7-8	2.5	8
QUARTZ	4	4	13
COAL	4-5	4	13
CONCRETE	6	5	16
ASPHALT	3-5	4-5	13-16
SEA ICE	4-12	4-7	13-23
PVC, EPOXY, VINYL POLYESTERS, RUBBER	3	4	13

TSm = Two Way Slowness

Compliments of
Sub-Surface Informational Surveys, Inc.
E. Longmeadow, MA 01028-0452

GPR PRINCIPLES
DIELECTRIC CONSTANTS
TWO-WAY SLOWNESS

Dielectric Constant = This parameter is the value of the dielectric constant used to convert two-way travel time to depth. The value ranges from 1 to 81 and depends upon the dielectric properties of the subsurface materials being profiled. *WARNING:* Dielectric constants for various materials, and thus the resulting depth scales, are only approximations. Additional approximates of various materials are as follows:

MATERIAL	D/C
Air	1
Snow Firm	1.5
Dry Loamy/Clayey Soils	2.5
Dry Clay	4
Dry Sands	4
Ice	4
Coal	4.5
Asphalt	5
Dry Granite	5
Frozen Sand & Gravel	5
Dry Concrete	5.5
Dry Limestone	5.5
Dry Sand & Gravel	5.5
Potash Ore	5.5
Dry Mineral/Sandy Soils	6
Dry Salt	6
Frozen Soil/Permafrost	6
Wet Sandstone	6

MATERIAL	D/C
Wet Granite	6.5
Travertine	8
West Limestone	8
Wet Basalt	8.5
Tills	11
Wet Concrete	12.5
Volcanic Ash	13
Wet Sands	15
Wet Sandy Soils	23.5
Dry Bauxite	25
Saturated Sands	25
Wet Clay	27
Peats	61.5
Organic Soils	64
Sea Water	81
Water	81
Syenite Porphyry	6

MATERIAL	T/ns/meters/ft
Snow	8/2.5
Asphalt	14/4.5
Wet concrete	23/7
Wet sands	25.5/7.5
Dry sand & gravel	15.5/4.5
Dry loamy/clayey soils	10.5/3
Organic soils	52.5/16
Frozen soil/permafrost	16/5
Peats	51.5/15.5
Dry clay	13/4
Wet granite	16.5/5
Volcanic ash	23.5/7
Dry bauxite	33/10
Travertine	18.5/5.5
Dry limestone	15.5/4.5
Wet sandstone	16/5

MATERIAL	T/ns/meters/ft
Water	59/18
Dry concrete	15/4.5
Dry sands	13/4
Saturated sands	33/10
Frozen sand & gravel	14.5/4.5
Dry mineral/sandy soils	16/5
Wet sandy soils	32/9.5
Tills	22/6.5
Wet clay	34/10.5
Dry granite	14.5/4.5
Wet basalt	19/6
Potash ore	15/4.5
Syenite porphyry	16/5
Coal	14/4
Wet limestone	18.5/5.5
Dry salt	16/5

Compliments of
Sub-Surface Informational Surveys, Inc.
E. Longmeadow, MA 01028-0452

REPORT NOTES

DATE ________

DATE: ________

DATE: ________

DATE: ________

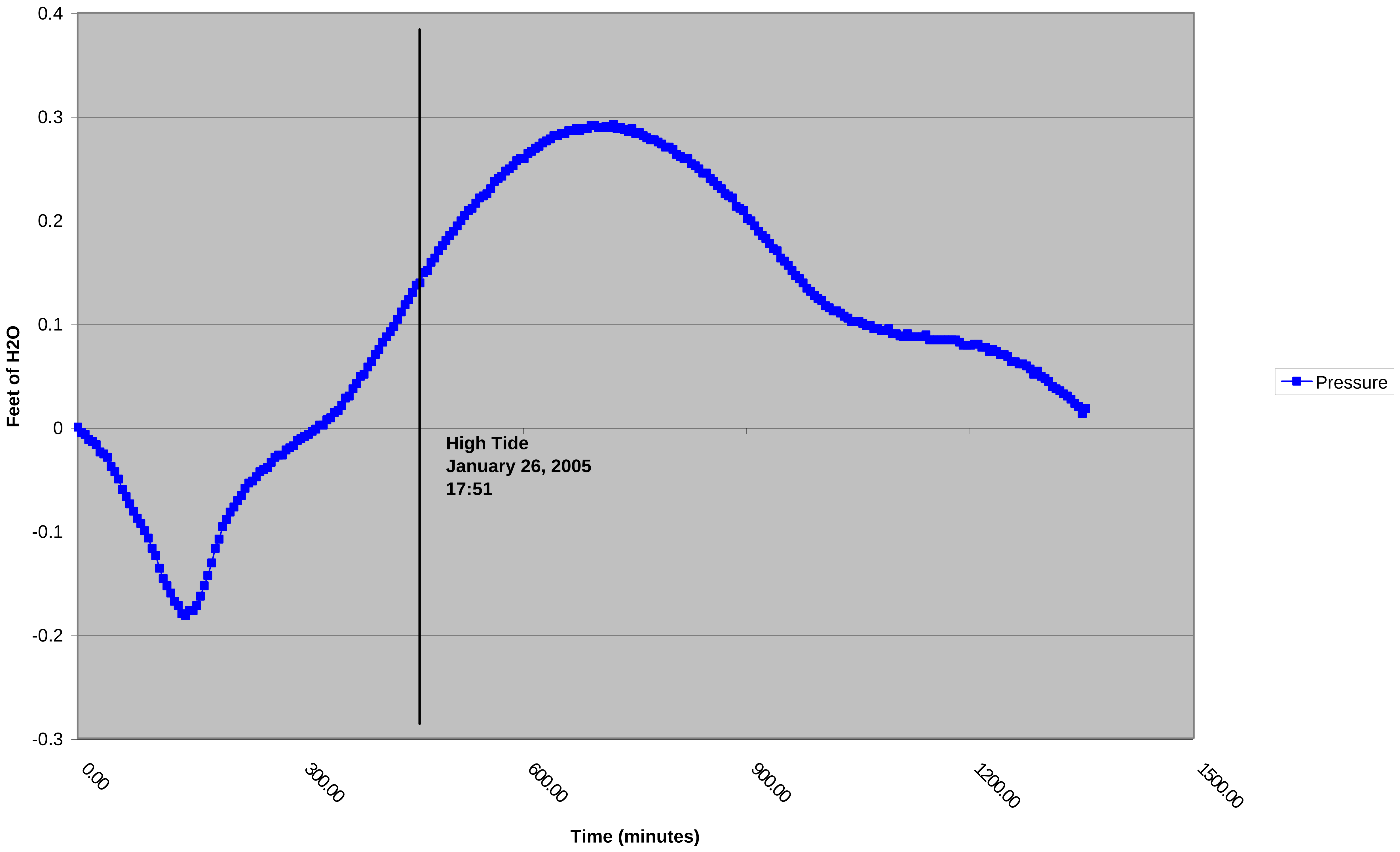
DATE: ________

"LET US SEEK AND FIND"

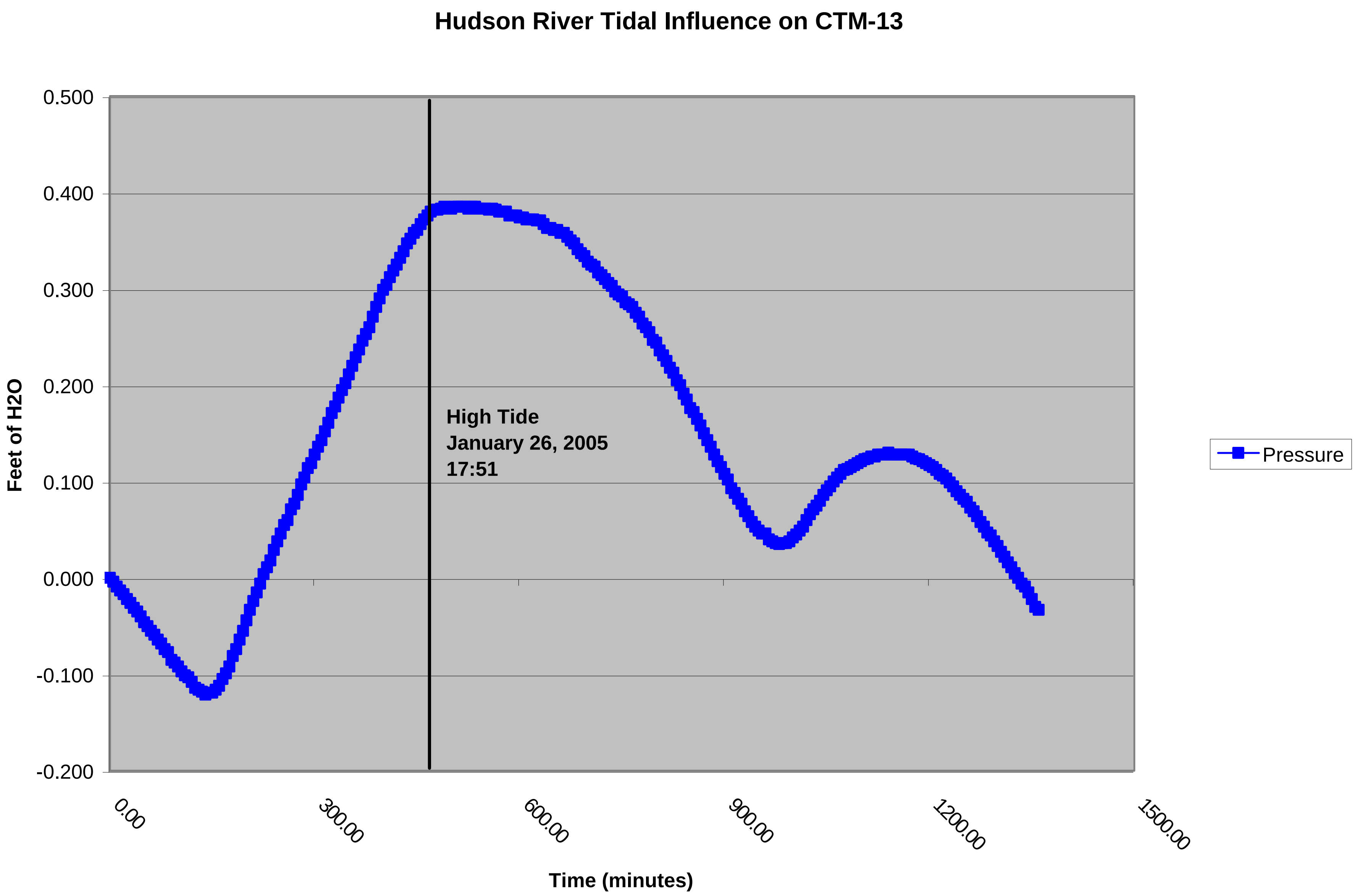
EXHIBIT 3

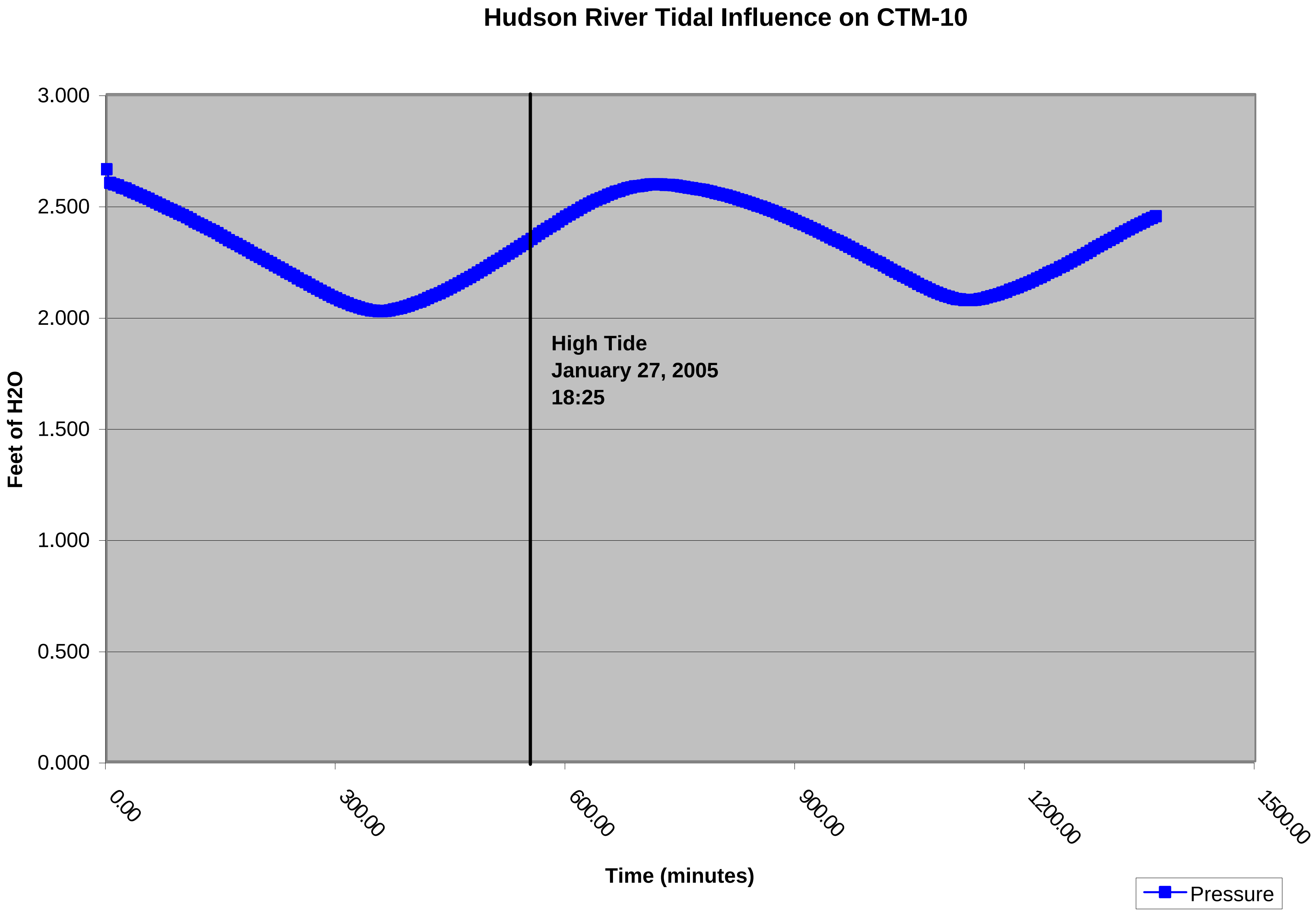
TRANSDUCER DATA CHARTS

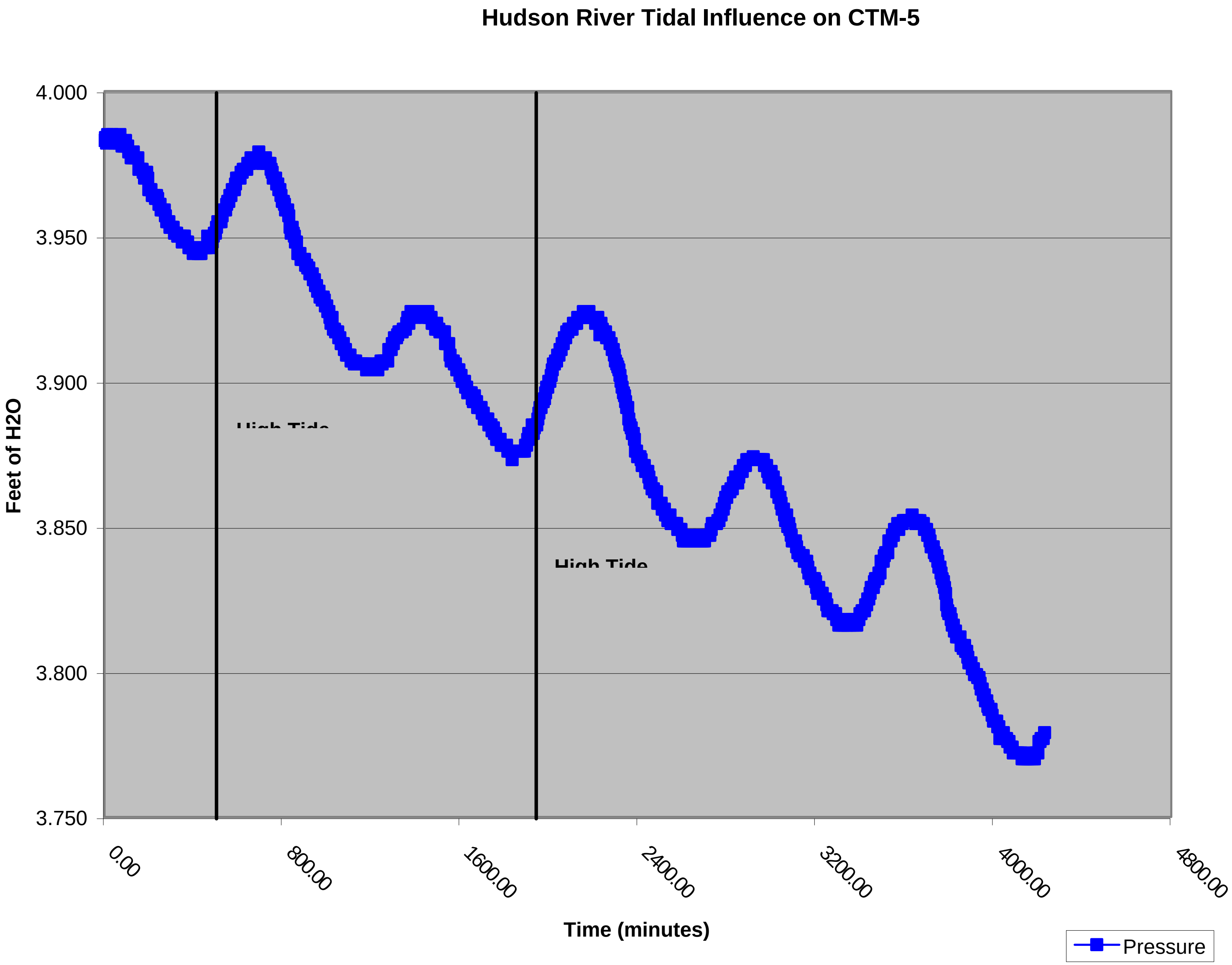
Hudson River Tidal Influence on CTM-2

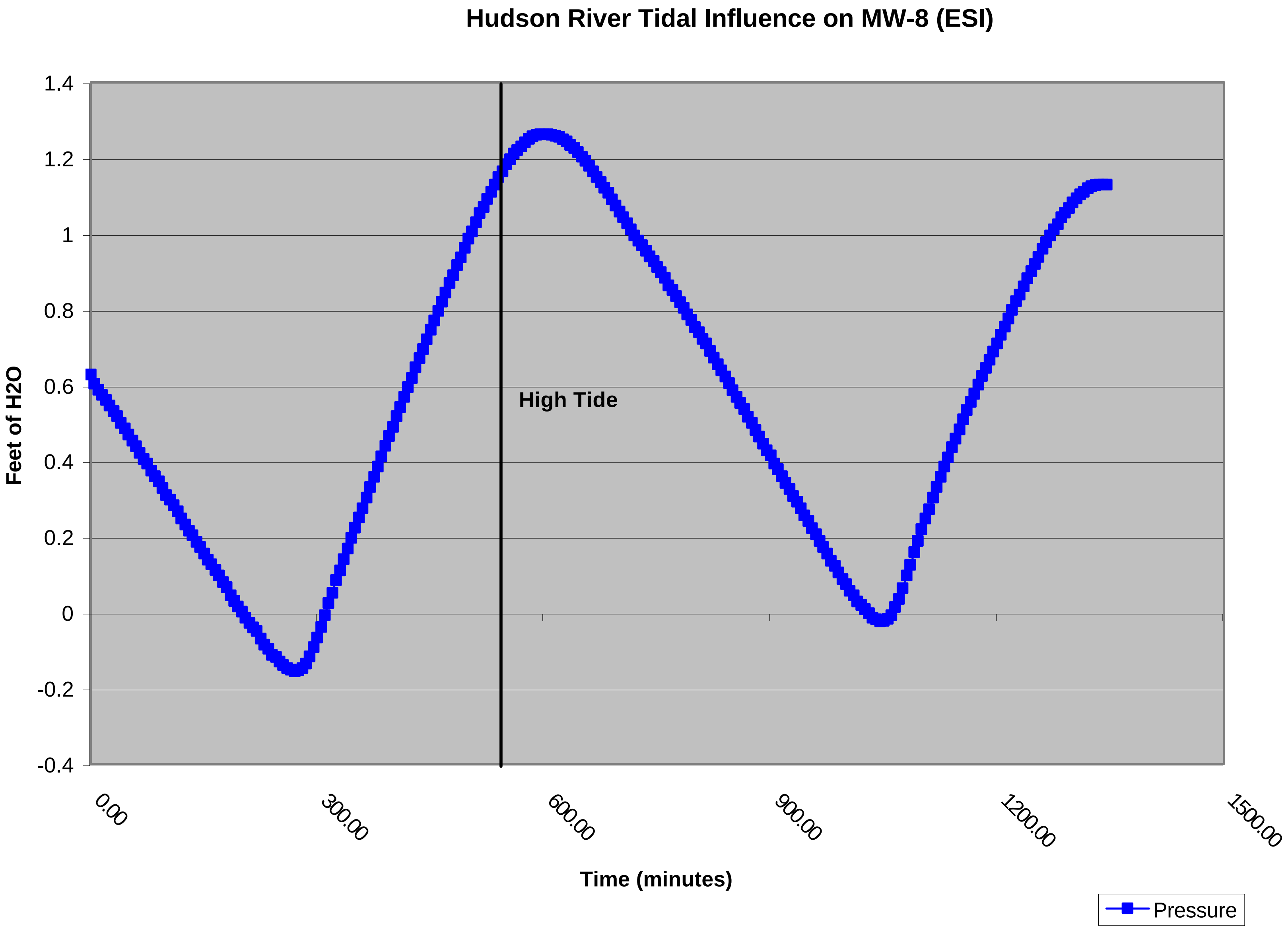


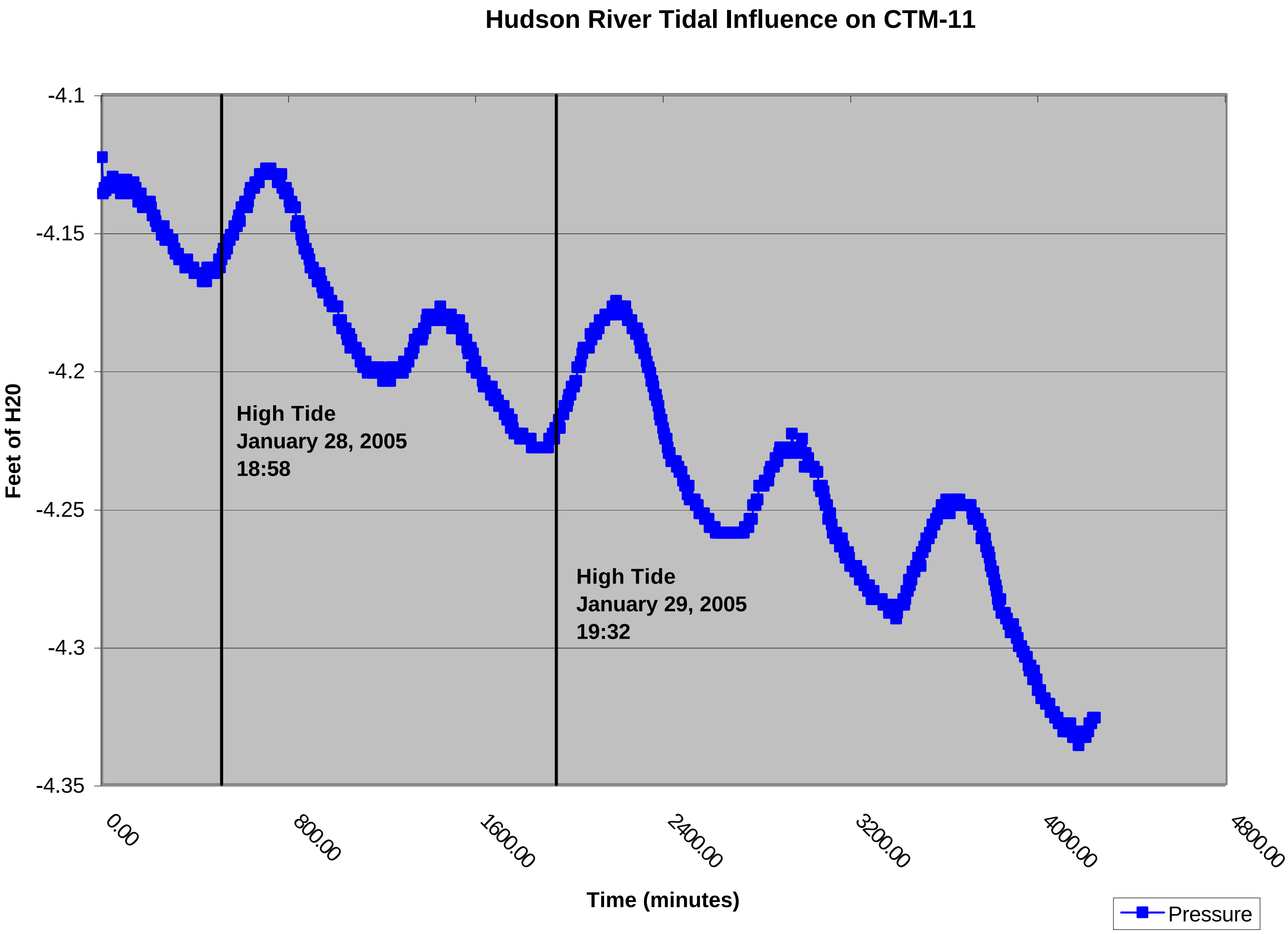
High Tide
January 26, 2005
17:51


Hudson River Tidal Influence on CTM-13
Feet of H2O
0.500
0.400
0.300
0.200
0.100
0.000
-0.100
-0.200
0.00
300.00
600.00
900.00
1200.00
1500.00
Time (minutes)
High Tide
January 26, 2005
17:51
Pressure


Hudson River Tidal Influence on CTM-10
3.000
2.500
2.000
1.500
1.000
0.500
0.000
Feet of H2O
High Tide
January 27, 2005
18:25
0.00
300.00
600.00
900.00
1200.00
1500.00
Time (minutes)
Pressure


Hudson River Tidal Influence on CTM-5
Feet of H2O
4.000
3.950
3.900
3.850
3.800
3.750
0.00
800.00
1600.00
2400.00
3200.00
4000.00
4800.00
Time (minutes)
High Tide
High Tide
Pressure


Hudson River Tidal Influence on MW-8 (ESI)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
Feet of H2O
High Tide
0.00
300.00
600.00
900.00
1200.00
1500.00
Time (minutes)
Pressure



High Tide
January 28, 2005
18:58

High Tide
January 29, 2005
19:32

WWW Tide and Current Predictor

Pick a different site | Frequently Asked Questions

Web interface by Dean Pentcheff, calculations and graphics by David Flater's XTide Program

NOT FOR NAVIGATION. This program is furnished in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of merchantability or fitness for a particular purpose. Do not use this program as a basis for any decisions that could result in harm to people, other organisms, or property. Check these predictions against officially sanctioned tables. Agencies like NOAA exist because there is a need for certifiably correct tide predictions. Do not rely on these predictions if you need guaranteed results. There is NO WAY we can get certified data on a zero budget. We rely on users like you to tell us when something is wrong. Please continue to do so. **Remember that weather conditions affect tidal ranges and current speeds, sometimes very strongly.**

Troy, Hudson River, New York

26 January 2005 - 1 February 2005

```
42.7333° N, 73.7000° W

2005-01-26  00:10 EST  -0.19 feet  Low Tide
2005-01-26  05:45 EST   4.00 feet  High Tide
2005-01-26  07:14 EST   Sunrise
2005-01-26  08:18 EST   Moonset
2005-01-26  12:09 EST   0.24 feet  Low Tide
2005-01-26  17:00 EST   Sunset
2005-01-26  17:51 EST   5.29 feet  High Tide
2005-01-26  18:11 EST   Moonrise
2005-01-27  00:50 EST  -0.15 feet  Low Tide
2005-01-27  06:22 EST   4.12 feet  High Tide
2005-01-27  07:13 EST   Sunrise
2005-01-27  08:42 EST   Moonset
2005-01-27  12:51 EST   0.33 feet  Low Tide
2005-01-27  17:01 EST   Sunset
2005-01-27  18:25 EST   5.21 feet  High Tide
2005-01-27  19:16 EST   Moonrise
2005-01-28  01:30 EST  -0.09 feet  Low Tide
2005-01-28  06:59 EST   4.28 feet  High Tide
2005-01-28  07:13 EST   Sunrise
2005-01-28  09:03 EST   Moonset
2005-01-28  13:34 EST   0.44 feet  Low Tide
2005-01-28  17:03 EST   Sunset
2005-01-28  18:58 EST   5.09 feet  High Tide
2005-01-28  20:20 EST   Moonrise
2005-01-29  02:09 EST  -0.02 feet  Low Tide
2005-01-29  07:12 EST   Sunrise
2005-01-29  07:37 EST   4.45 feet  High Tide
2005-01-29  09:22 EST   Moonset
2005-01-29  14:19 EST   0.54 feet  Low Tide
2005-01-29  17:04 EST   Sunset
2005-01-29  19:32 EST   4.94 feet  High Tide
2005-01-29  21:25 EST   Moonrise
2005-01-30  02:48 EST   0.05 feet  Low Tide
2005-01-30  07:11 EST   Sunrise
2005-01-30  08:18 EST   4.62 feet  High Tide
2005-01-30  09:40 EST   Moonset
2005-01-30  15:08 EST   0.64 feet  Low Tide
2005-01-30  17:05 EST   Sunset
```

```
2005-01-30  20:11 EST   4.74 feet  High Tide —
2005-01-30  22:31 EST   Moonrise
2005-01-31  03:30 EST   0.14 feet  Low Tide
2005-01-31  07:10 EST   Sunrise
2005-01-31  09:04 EST   4.78 feet  High Tide
2005-01-31  10:00 EST   Moonset
2005-01-31  16:01 EST   0.71 feet  Low Tide
2005-01-31  17:06 EST   Sunset
2005-01-31  20:56 EST   4.51 feet  High Tide
2005-01-31  23:38 EST   Moonrise
2005-02-01  04:15 EST   0.22 feet  Low Tide
2005-02-01  07:09 EST   Sunrise
2005-02-01  09:55 EST   4.92 feet  High Tide
2005-02-01  10:22 EST   Moonset
2005-02-01  16:59 EST   0.73 feet  Low Tide
2005-02-01  17:08 EST   Sunset
2005-02-01  21:48 EST   4.26 feet  High Tide
```

Make Prediction Using Options

Prediction Options

Select a different site

Select display type

● Tabular List (quickest)
○ Text Plot (Plot Type: ● Horizontal ○ Vertical) (more plot options below)
○ Graphic Plot: size 640 ▾ by 240 ▾ pixels (more plot options below)
○ One-Month Calendar (Type: ● Compact ○ Compact+ ○ Calendar ○ Text)
○ Extreme Highest and Lowest Tides Only
○ Strict Intervals (Interval Time: 1 minute ▾)

Select presentation options

1 week ▾ Length of time to display (ignored by One-Month Calendars)
+0 ▾ Change text size (only for browsers supporting font size changes)
Select tide height units: ○ meters ○ feet ● default
☐ Suppress credits and warnings on top of page
☐ Suppress sunrise/sunset and lunar information
☐ Printer-friendly bare output (☐ Force plot to B&W lines)
☐ Show site information from database
☐ Show the URL that would recreate this prediction

Starting time and time display options

Standard time range:

Start at: 2005 ▾ Jan ▾ 26 ▾ at 00 ▾ :00 ▾
● Local timezone: [America/New_York] (automatic daylight saving correction)
○ UTC (also known as GMT or Zulu time)

Distant dates (*See notes. Available only for **boldface** sitenames; type in a year 1700-2100; timezone forced to UTC*):

Start at: [ ] Jan ▾ 01 ▾ at 00 ▾ :00 ▾

Hour format: ● 24-hour time ○ am/pm time

☐ Show day of week

Select options for plots

☐ Omit mean sea level and datum lines on plot

☐ Omit high/low times on plots (clears overlapping text)

☐ Plot with lines only, not color-filled (graphical plot only)

Pick colors for color elements (graphical plot only):

Colors:	black	white	yellow	red	skyblue	deep-skyblue	seagreen	blue
Elements:								
Text Color	●	○	○	○	○	○	○	○
Datum Line Color	○	●	○	○	○	○	○	○
Mean Sea Level Line	○	○	●	○	○	○	○	○
Mark Tics Color	○	○	○	●	○	○	○	○
Day Background	○	○	○	○	●	○	○	○
Night Background	○	○	○	○	○	●	○	○
Falling/Ebb Color	○	○	○	○	○	○	●	○
Rising/Flood Color	○	○	○	○	○	○	○	●

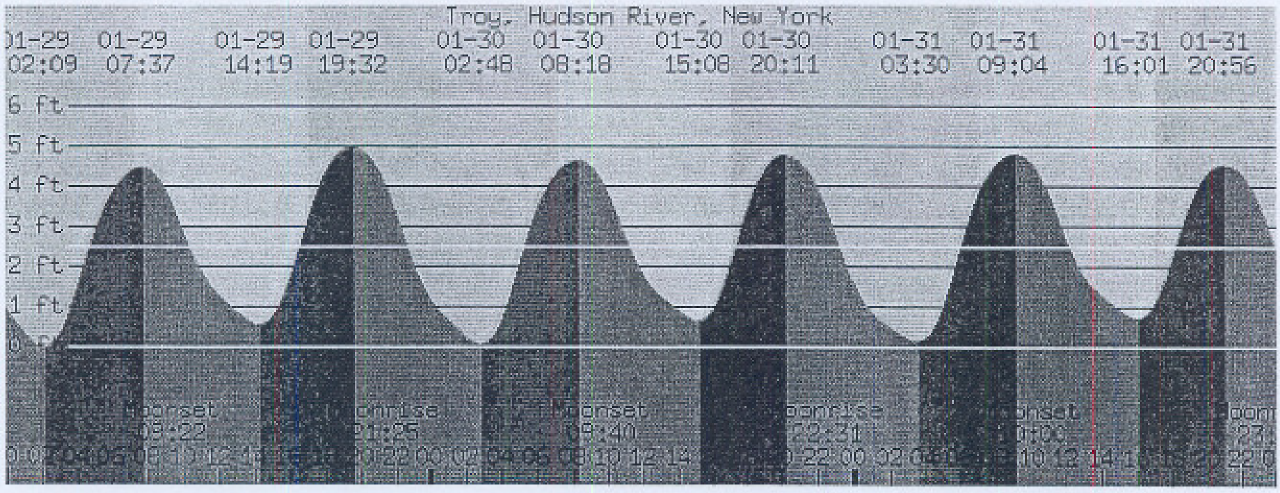
[Make Prediction Using Options]

Puzzled by something? Please check the Frequently Asked Questions list.
Send queries about the **WWW interface** to Dean Pentcheff `<tide@crustacea.nhm.org>`.
Send queries about the **XTide program** to David Flater `<dave@flaterco.com>`.

WWW Tide/Current Predictor: `http://tbone.biol.sc.edu/tide`
Dean Pentcheff `<tide@crustacea.nhm.org>`
Biological Sciences, University of South Carolina, Columbia SC 29208 USA

Troy, Hudson River, New York

29 January 2005 - 31 January 2005



If present, horizontal lines mark mean sea level and datum (usually mean lower low water). Colors under the curve indicate rising and falling tide (not ebb and flood currents).

WWW Tide/Current Predictor: `http://tbone.biol.sc.edu/tide`
Dean Pentcheff `<tide@crustacea.nhm.org>`
Biological Sciences, University of South Carolina, Columbia SC 29208 USA

EXHIBIT 4

FISH AND WILDLIFE IMPACT ASSESSMENT

August 10, 2004

Fish and Wildlife Impact Assessment
South Troy Industrial Park
Troy, New York

Prepared for:

RENSSELAER COUNTY INDUSTRIAL DEVELOPMENT AGENCY
1600 7TH Avenue
Troy, New York 12180

Prepared by:

C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive
P.O. Box 727
Latham, New York 12110
(518) 786-7400
FAX (518) 786-7299

C.T. Male Project No: 04.9138

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Subdivision 2 of the New York State
Education Law.

FISH AND WILDLIFE IMPACT ASSESSMENT
SOUTH TROY INDUSTRIAL PARK

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1.0 INTRODUCTION

Step I of a New York State Department of Environmental Conservation (NYSDEC) Fish and Wildlife Impact Analysis (FWIA) (NYSDEC, 1994) was completed by C. T. Male Associates, P. C. (C. T. Male) for the remaining parcels of South Troy Industrial Park in June, 2004. A Site Location Map is presented in Figure 1.

The objective of the Step I Site Description is to identify the fish and wildlife resources, land-use and habitat types that exist in the vicinity of the site. In addition, fish and wildlife species that may utilize habitats that could potentially be impacted by site-related contaminants are identified. This information is necessary to allow identification of potential pathways of contaminant migration into and through fish and wildlife resources.

2.0 NYSDEC FWIA STEP I

2.1 SITE DESCRIPTION

The remaining parcels of South Troy Industrial Park consist of three (3) separate areas that were previously occupied by Burden Iron Works. Throughout its occupancy of the site, Burden Iron Works produced steel, coke, gas and pig iron until approximately 1940, when it was acquired by Republic Steel Corporation that operated until 1972. Republic Steel had rail lines that crossed the parcel, but there were apparently no structures. The parcels cover a combined area of 20.89 acres and are currently vacant.

Parcel 1 is a 16.955 acre lot that extends easterly from the Hudson River to the existing railroad tracks. Parcel 1 surrounds a developed area and is bordered to the north by an asphalt plant. Historically, the northern portion of Parcel 1 was used as a disposal area for the Burden Iron Works steel-making process from the mid 1800's to the early 1900's. The site was originally a tidal wetland area of the Hudson River and was filled in with up to 25 feet of slag, coal ash, brick and other waste products of the time. The southern portion of the site was used as a foundry in the in steel-making process.

Parcel 2 is a 3.826 acre lot that is located near the intersection of Main Street and East Industrial Road. Parcel 2 is bordered to the west by a vacant lot and to the north, south and east by developed land. Historically, Parcel 2 was not used as a disposal area. The parcel was mainly vacant except for a guard house located on Main Street.

Parcel 3 is a 0.199 acre lot located along the railroad tracks. Parcel 3 is bordered to the east by railroad tracks and to the west by a concrete wall. Developed areas lie to the north and south. Historically, Parcel 3 was not developed and was not used as a disposal area.

The majority of the site was observed to be relatively level with piles of concrete, metal, construction materials, and slag debris interspersed throughout the site. In Parcel 1, a large mound consisting of slag material (Slag Mountain) was observed along the western edge of the site at an elevation of approximately 20-25 feet above the Hudson River. The mound was observed to steeply drop off to the river's edge west of the site. Land use in the vicinity of the site was observed to be primarily industrial and commercial, with residential areas to the north and east.

2.2 COVERTYPE DELINEATION

In the context of this report, a "covertype" is defined as an area characterized by a distinct pattern of natural (e.g., forest) or cultural (e.g., industrial) land use. Covertypes of the site and areas within 0.5 miles of the site (the study area) were identified based on the physical and vegetative features observed by C. T. Male personnel during a site visit on June 17, 2004, aerial photographs of the site (NYS GIS Clearinghouse, 2000-2001) and USGS topographic maps of the surrounding area.

For each covertype identified in the covertype delineation, dominant vegetative species observed during the field reconnaissance are listed in the section describing the covertype. A covertype map detailing the major land use/vegetative communities within a one-half mile radius of the site is presented in Figure 2. The covertype map was prepared based on an interpretation/evaluation of aerial photographs, topographic maps, NYSDEC wetland maps and National Wetland Inventory wetland maps. The covertypes within a one-half mile of the site were classified using the New York Heritage Program Classification System (Edinger et al., 2002). Four cover types are identified. Of the four covertypes identified, two are considered natural covertypes and two are considered to be cultural covertypes (Edinger et al., 2002). This information reflects the extent of human disturbance to the study area for land uses such as industrial/commercial development, roadways and residential areas. All of the identified covertypes have a secure global and state ranking, indicating that they are not rare ecological communities requiring preservation (Edinger et al., 2002). Below are descriptions of the four covertypes identified within the study area.

2.2.1 Successional Northern Hardwoods

This covertype is a hardwood or mixed successional forest that occurs on sites that have been cleared or otherwise disturbed. Characteristic trees and shrubs include quaking aspen (*Populus tremuloides*), gray birch (*Betula populifolia*), pin cherry (*Prunus pensylvanica*), black cherry (*P. serotina*), red maple (*Acer rubrum*) and white pine (*Pinus strobes*). White ash (*Fraxinus americana*), green ash (*F. pensylvanica*) and American elm (*Ulmus americana*) may also be found in this covertype. Chestnut-sided warbler (*Dendroica pennsylvanica)* is a common bird species found in successional northern hardwood forests.

2.2.2 Unconfined River

This is an aquatic community of large, quiet, base level sections of streams or rivers. Unconfined rivers usually have clearly distinguished meanders. They are characterized by significant deposition and a relatively minor amount of erosion. Waterfalls and springs may be present. Characteristic fishes are deep-bodied fishes such as suckers (Castotomids), pickerel (*Esox americanus*), largemouth bass (*Micropterus salmoides*) and smallmouth bass (*M. dolomieui*). The shallow shores and backwaters of unconfined rivers typically support rooted macrophytes.

2.2.3 Cultural Covertype Designations

The remaining covertypes in the study area are heavily influenced by urbanization. Industrial and residential areas have eliminated much of the natural habitat in the area and have replaced it with urban wildlife habitats consisting primarily of mowed lawns with trees, paved roads, parking lots, railroads, urban vacant lots and urban structure exteriors. These areas are considered covertypes by NYSDEC since they provide habitat for urban wildlife. Since the majority of the area in and around the South Troy Industrial Park site can be classified as an urban vacant lot and urban structure exterior, these two covertypes are shown in the Covertype Delineation Map (refer to Figure 2).

Characteristic animal species found within cultural covertypes include American robin (*Turdus migratorius*), house sparrow (*Passer domesticus*), mourning dove (*Zenaida macroura)*, mockingbird (*Mimus polyglottos*), and gray squirrel (*Sciurus carolinensis*). Common tree species include introduced species such as Norway maple (*Acer platanoides*) and white mulberry (*Morus alba*).

2.2.4 South Troy Industrial Park Site

The South Troy Industrial Park Site itself consists of an open urban vacant lot that has been cleared for development or was formerly occupied by buildings. The site contains piles of debris, including asphalt and/or construction materials. Parcel 1 of the site is bordered on the west by a mound of slag material that was observed along the western edge of the site at an elevation of approximately 20-25 feet above the Hudson River. The mound was observed to steeply drop off to the river's edge west of the site. Parcel 1 is bordered by active railroad tracks to the east and developed land to the north and south. Parcel 2 is bordered by a vacant lot to the south and developed land to the north. Parcel 3 is bordered by railroad tracks to the east and a concrete wall to the west.

Plant species observed on all three (3) parcels on the site included black locust (*Robinia pseudo-acacia)*, poplars (*Deltoides spp*), quaking aspen (*Populus tremuloides*) and American elm (*Ulnus americana*). Observed species of birds included American crow (*Corvus brachyrhynchos*), starling (*Sturnus vulgaris*), American robin (*Turdis migratoris*), house sparrow (*Passer domesticus*) and chestnut-sided warbler (*Dendroica pensylvanica*).

2.3 DESCRIPTION OF FISH AND WILDLIFE RESOURCES

The objectives of the description of the fish and wildlife resources were to list wildlife observed within the study area and identify fauna expected to inhabit each covertype or aquatic habitat. The tasks conducted to meet each of these objectives and the results of the tasks are discussed in the following sections.

2.3.1 Fauna Expected Within Each Terrestrial Covertype

A list of avian, mammalian, amphibious and reptilian wildlife species potentially inhabiting the identified covertypes is presented in Table 1 (Edinger et al., 2002). Although several wildlife receptors are listed, the majority are associated with natural covertypes and would not be expected to inhabit the site.

2.3.2 Observed Fish and Wildlife Species

Fish and wildlife observed during the study area reconnaissance were identified and are indicated in Table 1. Included in the list of observed species are species for which evidence (e. g. tracks or scat) was observed in the study area.

2.4 VALUE OF FISH AND WILDLIFE RESOURCES

The habitat value of each covertype in the vicinity of the study area was qualitatively evaluated based on field observations of physical characteristics. For the Hudson River, physical characteristics were examined qualitatively to evaluate their value as a fish habitat. For evaluations of habitat quality of terrestrial covertypes, resident wildlife species requirements for food sources, home range, breeding requirements and cover were examined and compared to covertype characteristics. Additional information used in the evaluation of habitat quality included:

- The nature, extent and diversity of observed wildlife;
- The availability of similar habitats in the immediate vicinity;
- The size of the habitat, and;
- Adjacent land use patterns

2.4.1 Main Channel Stream

Fish in the Hudson River, and in the Wynantskill Creek within the study area, can provide a food source for piscivorous wildlife. However, the banks of the river in the study area are relatively steep and the water is too deep to support aquatic macrophytes. There were very little areas of shallow shores and backwaters to support rooted macrophytes. The close proximity of the urbanized city has significantly impacted the natural habitats normally associated with the streams.

2.4.2 Mixed Deciduous Forest

This covertype would normally support a diversity of wildlife including many bird species. However, its location and size within the study area likely limit its use by wildlife. The covertype in the study area is limited to a small area interspersed by residential and industrial exteriors. Access to the covertype is severely limited by the industrial/residential areas and urban development that has restricted its growth in the area.

2.4.3 Cultural Covertypes

The cultural covertypes in the vicinity of the study area, mowed lawns and paths, paved roads, urban vacant lots and urban and industrial exterior areas provide habitat for urbanized bird and mammal species. As natural habitat communities diminish in size and quality, wildlife are forced to adapt to the more urban environment. However, urbanization is not practical for most wildlife species. This analysis acknowledges the need and use of urban area by many wildlife species, but does not consider these habitats to be impacted by the study area.

2.4.4 Value of Resources to Humans

In general, fish and wildlife resources are valuable to humans for recreational and aesthetic reasons. Many sportsmen hunt, fish and consume their catches. Wildlife resources are also enjoyed by naturalists who enjoy observations of wildlife during hiking or camping. However, the value of wildlife inhabiting the study area to humans is very limited. Access to the Hudson River is restricted by the residential and business properties and fences; there is no hunting allowed within the City of Troy; access barriers restrict fishing in the Hudson River. For these reasons the value of wildlife in the study area for humans is considered to be low.

2.5 OBSERVATIONS OF STUDY AREA STRESS

During the study area reconnaissance on June 17, 2004, the study area was examined for evidence of stress to biota potentially attributable to chemical residues of the study area. No signs of discolored soils, dying or dead vegetation or dead fish or wildlife species were observed on or in the vicinity of the study area.

2.6 OTHER RESOURCES

2.6.1 Freshwater Wetlands

A review of the National Wetland Inventory (NWI) wetlands maps for the Troy South USGS Quadrangle (USDOI, 1998) indicated that thirteen (13) NWI wetland areas are located within two miles of the study area (Figure 3). Based on a review of NYSDEC Freshwater Wetlands Maps (NYSDEC, 1985 and 1986), there are two (2) NYSDEC regulated wetlands located within two miles of the study area (Figure 4). These wetlands are identified as TS-102 and TS-2. The study area does not encompass any NYSDEC regulated wetlands or NWI wetlands.

2.6.2 Significant Habitats

The NYSDEC and the USFWS were contacted for information regarding the presence of significant wildlife habitats on or within two miles of the study area. According to both NYSDEC and USFWS, no significant habitats are present on or within two miles of the study area.

2.6.3 Rare, Endangered or Threatened Plant and Animal Species

Information regarding the presence of state or federally listed rare, threatened or endangered plant or animal species on or within two miles of the study area was requested from the NYSDEC and the USFWS (Correspondence, Attachment B). The NYSDEC and the USFWS indicated that there were no state or federal listed or proposed endangered or threatened species are known to exist within two miles of the study area.

2.7 APPLICABLE FISH AND WILDLIFE CRITERIA

2.7.1 Location-Specific FWRC

Location-specific FWRC are qualitative examinations of significant features protected by the state or federal government that might be affected by current conditions at the study area or future remedial activities. Location-specific FWRC are regulations that apply to freshwater wetlands; regulated streams; navigable waterways, coastal zones; significant fish and wildlife habitats; wild, scenic and recreational rivers; and rare, endangered or threatened plant and animal species. The Coastal Zone Management and the tidal wetland FWRC were not required to be addressed because the study area is not located in a Coastal Zone and is not influenced by tides. Location-specific FWRC that may be applicable to the site include the following:

- Clean Water Act, 233 U.S.C. 1261 et seq. Sec. 404 regulates the discharge of pollutants into wetlands and other water bodies, including dredged or fill materials;
- The Freshwater Wetlands Act (Article 24 of the Environmental Conservation Law) and the Freshwater Wetlands Implementing Regulations (6 NYCRR Parts 663 and 664) are designed to protect wetlands. Only wetlands that have been mapped by the State of New York are regulated;
- Executive Order 11990, Protection of Wetlands. This order recognized the value of wetlands and directed federal agencies to minimize the degradation, destruction and loss of wetlands; and
- Endangered Species Act (87 Statute 884, as amended; 16 U. S. C. 1531 et seq.)

2.7.2 Chemical-Specific FWRC

Chemical-specific FWRC include the following:

- NYSDEC, Division of Water Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998;
- NYSDEC, Water Quality Regulations for Surface Waters and Groundwaters, 6 NYCRR Parts 700-705; and
- NYSDEC, Technical Guidance for Screening Contaminated Sediments, November 1993.
- NYSDEC, Determination of Soil Cleanup Objectives and Cleanup Levels TAGM 4046 (1995).

3.0 SUMMARY AND CONCLUSIONS

Step I of a NYSDEC FWIA was completed by C. T. Male for the remaining parcels within the South Troy Industrial Park in Troy, New York. The FWIA included portions of the site comprising the former Burden Iron Works disposal area, where historic discharge of slag, cinders and ash, and other materials are filled to comprise the current surface grade.

The Step I site description has indicated that the study area consists of an approximately 20.89-acre portion of the former Republic Steel Property. The site itself consists of an open urban vacant lot with sparse vegetation and the site is bordered to the north by an asphalt patch plant, to the west by the Hudson River and to the east and south by industrial and residential properties.

In general, the value of the fish and wildlife resources located within the study area is low. Industrial and residential areas have eliminated much of the natural habitat in the area and have replaced it with urban wildlife habitats consisting primarily of mowed lawns with trees, paved roads, parking lots, landfills and urban structure exteriors. Overall, the covertypes in the study area have been heavily influenced by urbanization.

The value of fish and wildlife resources to humans is very limited within the study area. Access to the Hudson River is restricted by the residential and business properties and fences; there is no hunting allowed within the City of Troy. As a result, the value of these resources to humans was determined to be low.

No evidence of stress resulting from chemical residues was observed within the study area. As a result, it was determined that fish and wildlife resources within the study area are most likely not adversely affected.

This completes Step I of the Fish and Wildlife Impact Analysis. Through this investigation, it has been determined that no further steps need to be taken in the Fish and Wildlife Impact Analysis.

4.0 REFERENCES

Andrle, R. F.; Carroll, F. R. 1988. *The Atlas of Breeding Birds In New York State.* Cornell University Press.

Behler, J. L.; King, F. W. 1998. *National Audobon Society Field Guide to North American Reptiles and Amphibians*. Knopf.

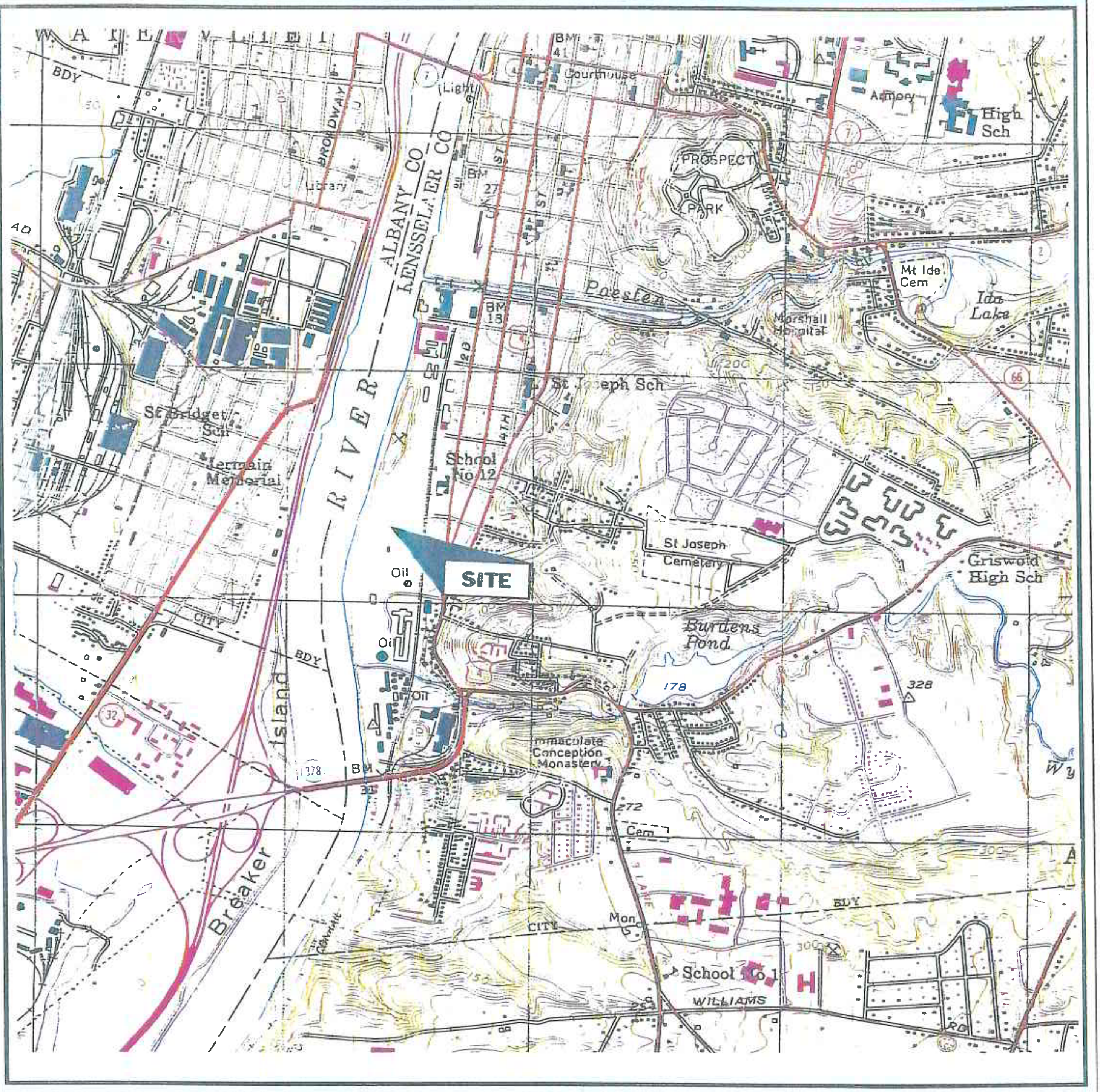
Edinger, G.J., D.J. Evans, S. Gebauer, T.G. Howard, D.M. Hunt, and A.M. Olivero (editors). 2002. Ecological Communities of New York State. Second Edition. A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. (Draft for review). New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

NYSDEC. October 1994. *Division of Fish and Wildlife, Fish and Wildlife Analysis, For Inactive Hazardous Waste Sites (FWIA).*

Page, L. M.; Burr, B. M. 1991. *Peterson Field Guides, Freshwater Fishes*. Houghton Mifflin Company.

Peterson, R. T. 1980. *Peterson Field Guides, Eastern Birds*. Houghton Mifflin Company.

FIGURES



MAP REFERENCE

United States Geological Survey
Troy South, NY Quadrangles
7.5 Minute Series
Dated 1953, Photorevised 1980

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CIVIL ENGINEERING
ENVIRONMENTAL SERVICES
SURVEY & LAND INFORMATIONAL SERVICES

C.T. MALE ASSOCIATES, P.C.

50 CENTURY HILL DRIVE, PO BOX 727, LATHAM, NY 12110
PHONE (518) 786-7400 FAX (518) 786-7299

FIGURE 1 SITE LOCATION MAP

South Troy Industrial Park

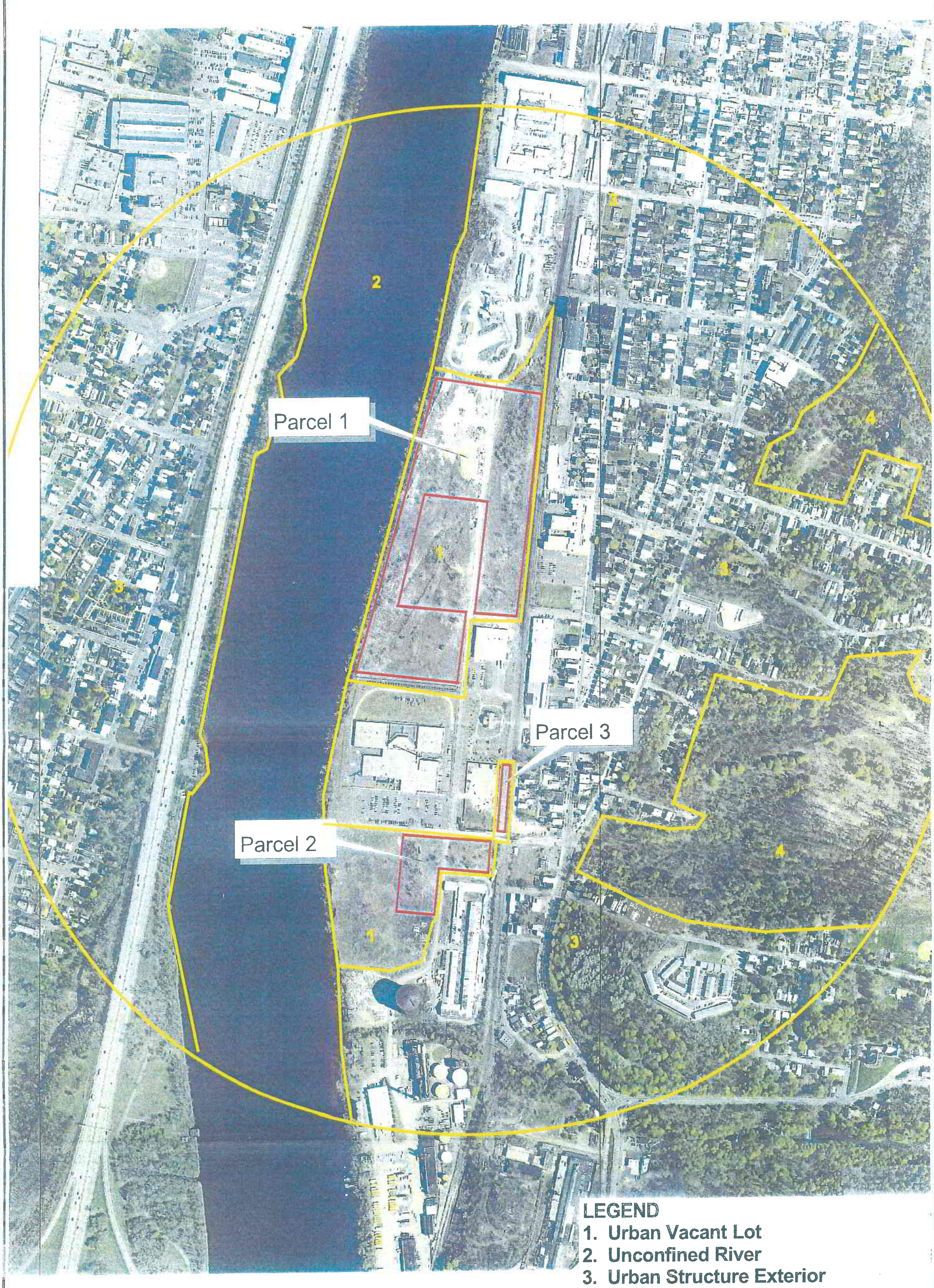
CITY OF TROY

RENSSELAER COUNTY, NY

SCALE: 1" = 2000'

DRAFTER: BT

PROJECT No. 04.9138



LEGEND
1. **Urban Vacant Lot**
2. **Unconfined River**
3. **Urban Structure Exterior**
4. **Successional Northern Hardwoods**

MAP REFERENCE:
Aerial Photography
NYS GIS Clearinghouse Website
2000-2001

NORTH

Figure 2

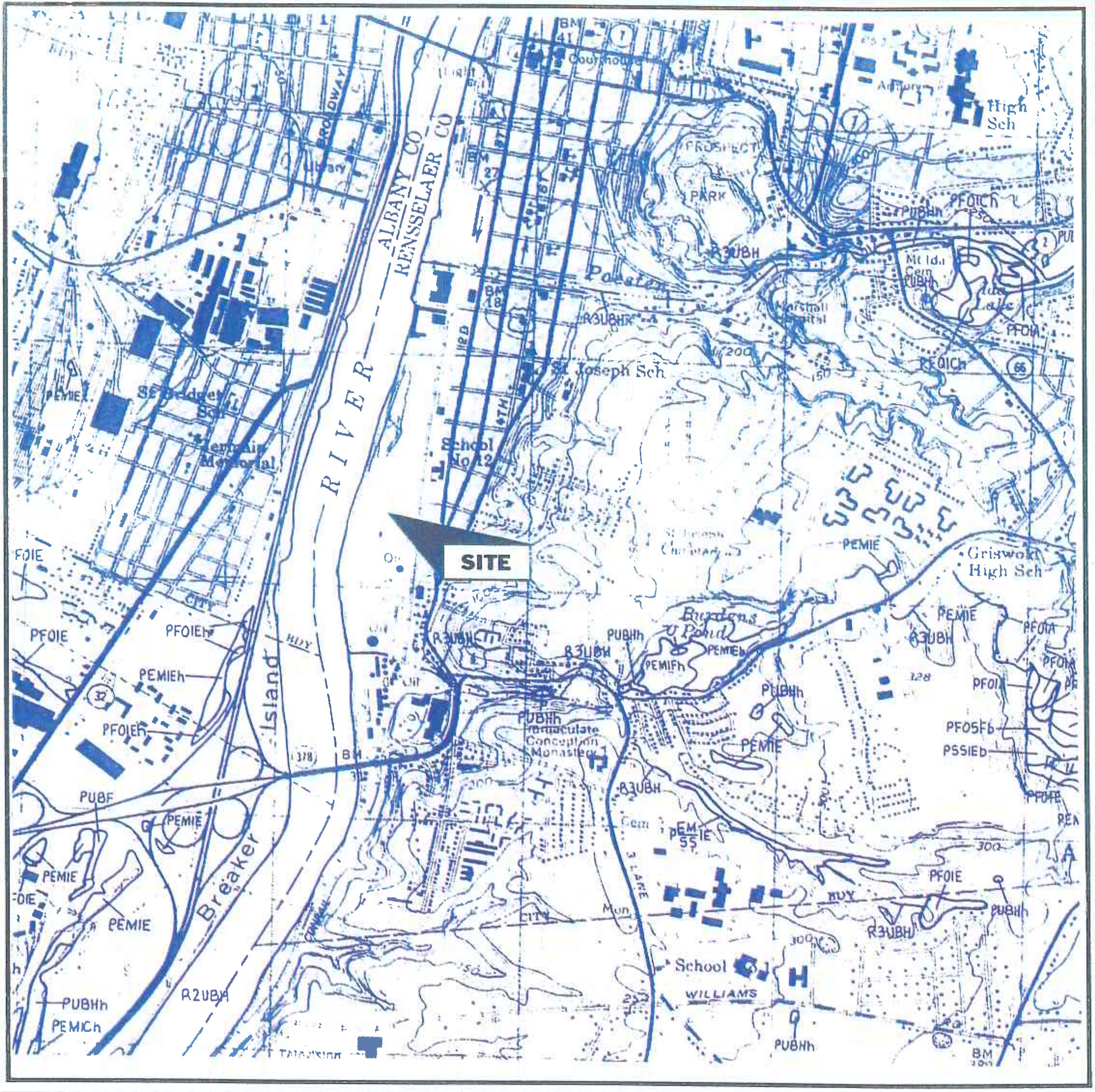
C.T. MALE ASSOCIATES, P.C.

50 CENTURY HILL DRIVE, P.O. BOX 727, LATHAM, NY 12110
(518) 786-7400 • FAX (518) 786-7299
Engineering • Land Surveying • Building Systems • Landscape Architecture
Environmental Services • Computer Services

COVERTYPE DELINEATION MAP
South Troy Industrial Park

City of Troy
Rensselaer Cnty, NY

Drafter: JMR
Date: 6/23/04
Scale: 1"=500'
Proj. No. 04.9138



MAP REFERENCE
United States Department of the Interior
National Wetlands Inventory
Troy South, NY Quadrangles
Dated 1/1998

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50 CENTURY HILL DRIVE, PO BOX 727, LATHAM, NY 12110
PHONE (518) 786-7400 FAX (518) 786-7299

FIGURE 3 NATIONAL WETLAND INVENTORY MAP

South Troy Industrial Park

CITY OF TROY
RENSSELAER COUNTY, NY

SCALE: 1" = 2000'
DRAFTER: BT
PROJECT No. 04.9138

MAP REFERENCE

NYSDEC Freshwater Wetland Map
Troy South Quadrangle
Rensselaer County Map 10 of 22 and Albany County Map 9 of 18
Dated 3/26/1986 and 2/27/1985

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C.T. MALE ASSOCIATES, P.C.

50 CENTURY HILL DRIVE, PO BOX 727, LATHAM, NY 12110
PHONE (518) 786-7400 FAX (518) 786-7299

FIGURE 4 NYSDEC FRESHWATER WETLAND MAP

South Troy Industrial Park

CITY OF TROY
RENSSELAER COUNTY, NY

SCALE: 1" = 2000'
DRAFTER: JMR
PROJECT No. 04.9138

ATTACHMENT A

Site Photographs

PHOTO LOG

SOUTH TROY INDUSTRIAL PARK

TROY, NY

C.T. Male Project No. 04.9138

6/17/04

NUMBER	DESCRIPTION
1.	View north of top of berm along the Hudson River, Parcel 1
2.	View east of open field in Parcel 1
3.	View west of debris slope along the Hudson River, Parcel 1
4.	View north of Parcel 2, east of East Industrial Park Road
5.	View southeast of debris piles in Parcel 2
6.	View northeast of open field in Parcel 2
7.	View south of forested area in Parcel 2
8.	View south of Parcel 3

1

2

3

4

1

2

3

4

ATTACHMENT B

Correspondence

New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Central Remedial Action, Room 228
50 Wolf Road, Albany, New York 12233-7010
Phone: (518) 457-5677 • FAX: (518) 457-7925
Website: www.dec.state.ny.us

John P. Cahill
Commissioner

July 11, 2000

Kirk Moline, Project Manager
C.T. Male Associates, P.C.
50 Century Hill Drive
P. O. Box 727
Latham, NY 12110-0727

RE: Fish and Wildlife Impact Analysis for Subdivision of Lot 2 Site
South Troy Industrial Park VCP

The Fish and Wildlife Impact Analysis has been reviewed by Paul Carella of the Division of Fish, Wildlife, and Marine Resources. It appears that the document has been complete up to step I and not up to step II B as was directed in our April 3, 2000 letter. In particular, the pathway analysis (II A) and criteria-specific analysis (II B) must be addressed.

From Mr. Carella's memo, the following comments are offered:

Based on the information presented in the document, the site exists in an urban area with little value as habitat for terrestrial wildlife. Since the site is located on the Hudson River, potential impacts to the river may exist from past use of the site which may have resulted in the contamination of soils and/or groundwater. A discussion of ecological risk for the site must include a presentation of known or possible site contamination resulting from historical use.

The letter does not satisfy the requirement for a discussion of ecological risk. Without knowledge of site contamination and site history, no determination can be made concerning potential impacts to the Hudson River.

Please respond to these issues as part of the final report for this project. If you have further questions, feel free to call me at the above number.

Very truly yours,

Ralph T. Keating
Environmental Engineer 2

cc: D. Smith
E. Hamilton
P. Carella

RK/s

C.T. MALE ASSOCIATES, P.C.

50 Century Hill Drive, P.O. Box 727, Latham, New York 12110-0727
518.786.7400 FAX 518.786.7299 ctmale@ctmale.com

May 17, 2000

Ms. Jean Petrusiak
NY Natural Heritage Program
New York State Department of Environmental Conservation
Wildlife Resources Center
Information Services
700 Troy-Schenectady Road
Latham, New York 12110-2400

Re: *Threatened and Endangered species file review request*
Subdivision of Lot 2; South Troy Industrial Park
C.T. Male Project No. 00.6209

Dear Ms. Petrusiak:

C.T. Male Associates, P.C. (C.T. Male) is working with the Rensselaer County Industrial Development Agency (IDA) on a Site Remediation Plan pursuant to a New York State Voluntary Cleanup Program Application. The site is a 7 acre parcel of land to be subdivided from Lot 2 within the South Troy Industrial Park located in the City of Troy, Rensselaer County, New York (refer to site location map attached). Please provide us with information on known occurrences of threatened or endangered organisms or habitats on and within 2 miles of this site.

Thank you very much for your time and if you have any further questions, please do not hesitate to contact me or Kirk Moline at (518) 786-7400.

Sincerely,

C.T. MALE ASSOCIATES, P.C.

Karen m. Hummel

Karen M. Hummel
Environmental Biologist

c: Robert L. Pasinella, Director (Rensselaer County IDA)
Kirk Moline (C.T. Male)

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C.T. MALE ASSOCIATES, P.C.

50 Century Hill Drive, P.O. Box 727, Latham, New York 12110-0727
518.786.7400 FAX 518.786.7299 ctmale@ctmale.com

May 17, 2000

Mr. Mark Clough
United States Fish and Wildlife Service
3817 Luker road
Cortland, New York 13045

Re: *Threatened and Endangered species file review request*
Subdivision of Lot 2; South Troy Industrial Park
C.T. Male Project No. 00.6209

Dear Mr. Clough:

C.T. Male Associates, P.C. (C.T. Male) is working with the Rensselaer County Industrial Development Agency (IDA) on a Site Remediation Plan pursuant to a New York State Voluntary Cleanup Program Application. The site is a 7 acre parcel of land to be subdivided from Lot 2 within the South Troy Industrial Park located in the City of Troy, Rensselaer County, New York (refer to site location map attached). Please provide us with information on known occurrences of threatened or endangered organisms or habitats on and within 2 miles of this site.

Thank you very much for your time and if you have any further questions, please do not hesitate to contact me or Kirk Moline at (518) 786-7400.

Sincerely,

C.T. MALE ASSOCIATES, P.C.

Karen M. Hummel.

Karen M. Hummel
Environmental Biologist

c: Robert L. Pasinella, Director (Rensselaer County IDA)
Kirk Moline (C.T. Male)

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Architecture & Building Systems Engineering • Civil Engineering • Environmental Services • Survey & Land Information Services

C.T. MALE ASSOCIATES, P.C.

50 Century Hill Drive, P.O. Box 727, Latham, New York 12110-0727
518.786.7400 FAX 518.786.7299 ctmale@ctmale.com

May 17, 2000

Mr. Stanley Gorski
Habitat and Protected Resources Division
Area Coordinator
National Marine Fisheries Service
James J. Howard Marine Sciences Laboratory
74 Magruder Road
Highlands, NJ 07732

Re: *Threatened and endangered marine species file review request*
Subdivision of Lot 2; South Troy Industrial Park
C.T. Male Project No. 00.6209

Dear Mr. Gorski:

C.T. Male Associates, P.C. (C.T. Male) is working with the Rensselaer County Industrial Development Agency (IDA) on a Site Remediation Plan pursuant to a New York State Voluntary Cleanup Program Application. The site is a 7 acre parcel of land to be subdivided from Lot 2 within the South Troy Industrial Park located in the City of Troy, Rensselaer County, New York (refer to site location map attached). Please provide us with information on federally listed threatened or endangered marine species that may be found near the project area.

Thank you very much for your time and if you have any further questions, please do not hesitate to contact me or Kirk Moline at (518) 786-7400.

Sincerely,

C.T. MALE ASSOCIATES, P.C.

Karen M. Hummel

Karen M. Hummel
Environmental Biologist

c: Robert L. Pasinella, Director (Rensselaer County IDA)
Kirk Moline (C.T. Male)

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CC:- Kirk Moline (CTM)
-Robert Pasinelli
(Rensselaer
IDA)

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
Wildlife Resources Center – New York Natural Heritage Program
700 Troy-Schenectady Road, Latham, New York 12110-2400
Phone: (518) 783-3932 FAX: (518) 783-3916

John P. Cahill
Commissioner

June 2, 2000

RECEIVED
JUN 05 2000
C. T. MALE ASSOCIATES, P.C.

Karen M Hummel
C T Male Associates
50 Century Hill Drive
Latham, NY 12110-0727

Dear Ms. Hummel:

In response to your recent request, we have reviewed the New York Natural Heritage Program databases with respect to the proposed Subdivision of Lot 2; South Troy Industrial Park, site as indicated on the map you provided, including a 2 mile perimeter, located in the City of Troy, Rensselaer County.

We have no records of <u>known</u> occurrences of rare or state-listed animals or plants, significant natural communities, or other significant habitats, on or in the immediate vicinity of your site.

The absence of data does not mean, however, that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site, but rather that our files currently do not contain any information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. For these reasons, we cannot provide a definitive statement on the presence or absence of rare or state-listed species, or of significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

This response applies only to known occurrences of rare or state-listed animals, and plants, significant natural communities, and other significant habitats. For information regarding regulated areas or permits that may be required under state law (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

Sincerely,

Teresa Mackey

Teresa Mackey, Information Services
NY Natural Heritage Program

Enc.
cc: Reg. 4, Regional Mgr.
Reg. 4, Fisheries Mgr.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL PERMITS REGIONAL OFFICES

REGION	COUNTIES	NAME	ADDRESS AND PHONE NO.
Region 1	Nassau Suffolk	John Pavacic Permit Administrator	Loop Road, Bldg. 40 SUNY Stony Brook, NY 11790-2356 (516) 444-0365
Region 2	New York City	Charles deQuillfeldt Permit Administrator	Hunters Point Plaza 4740 21st Street Long Island City, NY 11101-5407 (718) 482-4997
Region 3	Dutchess Orange Putnam Rockland, Sullivan Ulster, Westchester	Margaret Duke Permit Administrator	21 South Putt Corners Road New Paltz, NY 12561-1696 (914) 256-3059
Region 4	Albany Columbia Delaware Greene, Montgomery, Otsego Rensselaer, Schenectady, Schoharie	William J. Clarke Permit Administrator	1150 N. Westcott Road Schenectady, NY 12306-2014 (518) 357-2234
Region 5	Clinton Essex Franklin Fulton, Hamilton Saratoga, Warren, Washington	Richard Wild Permit Administrator	Route 86 Ray Brook, NY 12977 (518) 897-1234
Region 6	Herkimer Jefferson Lewis Oneida, St. Lawrence	Randy Vaas Permit Administrator	State Office Building 317 Washington Street Watertown, NY 13601 (315) 785-2246
Region 7	Broome Cayuga Chenango Cortland, Madison, Onondaga Oswego, Tioga, Tompkins	Ralph Manna, Jr. Permit Administrator	615 Erie Blvd. West Syracuse, NY 13204-2400 (315) 426-7439
Region 8	Chemung Genesee Livingston Monroe, Ontario, Orleans Schuyler, Seneca, Steuben Wayne, Yates	Albert Butkas Permit Administrator	6274 East Avon-Lima Road Avon, NY 14414 (716) 226-2466
Region 9	Allegany Cattaraugus Chautauqua Erie, Niagara, Wyoming	Steven Doleski Permit Administrator	270 Michigan Avenue Buffalo, NY 14203-2999 (716) 851-7165

1/2000

MARCH 3, 1849

United States Department of the Interior

FISH AND WILDLIFE SERVICE
3817 LUKER ROAD
CORTLAND, NY 13045

June 12, 2000

RECEIVED
JUN 19 2000
C. T. MALE ASSOCIATES, P.C.

Ms. Karen M. Hummel
Environmental Biologist
C.T. Male Associates, P.C.
P.O. Box 727
Latham, NY 12110-0727

Attention: Mr. Kirk Moline

Dear Ms. Hummel:

This responds to your letter of May 17, 2000, requesting information on the presence of endangered or threatened species in the vicinity of the South Troy Industrial Park Subdivision of Lot 2 Site Remediation in the City of Troy, Rensselaer County, New York.

Except for occasional transient individuals, no Federally listed or proposed endangered or threatened species under our jurisdiction are known to exist in the project impact area. Therefore, no Biological Assessment or further Section 7 consultation under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) is required with the U.S. Fish and Wildlife Service (Service). Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered.

The above comments pertaining to endangered species under our jurisdiction are provided pursuant to the Endangered Species Act. This response does not preclude additional Service comments under the Fish and Wildlife Coordination Act or other legislation.

For additional information on fish and wildlife resources or State-listed species, we suggest you contact:

New York State Department of
Environmental Conservation
Region 4
1150 N. Westcott Road
Schenectady, NY 12306
(518) 357-2066

New York State Department of
Environmental Conservation
Wildlife Resources Center - Information Services
New York Natural Heritage Program
700 Troy-Schenectady Road
Latham, NY 12110-2400
(518) 783-3932

National Wetlands Inventory (NWI) maps may or may not be available for the project area. However, while the NWI maps are reasonably accurate, they should not be used in lieu of field surveys for determining the presence of wetlands or delineating wetland boundaries for Federal regulatory purposes. Copies of specific NWI maps can be obtained from:

Cornell Institute for Resource Information Systems
302 Rice Hall
Cornell University
Ithaca, NY 14853
(607) 255-4864

Work in certain waters and wetlands of the United States may require a permit from the U.S. Army Corps of Engineers (Corps). If a permit is required, in reviewing the application pursuant to the Fish and Wildlife Coordination Act, the Service may concur, with or without stipulations, or recommend denial of the permit depending upon the potential adverse impacts on fish and wildlife resources associated with project implementation. The need for a Corps permit may be determined by contacting Mr. Joseph Seebode, Chief, Regulatory Branch, U.S. Army Corps of Engineers, 26 Federal Plaza, New York, NY 10278 (telephone: [212] 264-3996).

If you require additional information please contact Michael Stoll at (607) 753-9334.

Sincerely,
Mark W. Clough
ACTING FOR
David A. Stilwell
Field Supervisor

cc: NYSDEC, Schenectady, NY (Environmental Permits)
NYSDEC, Latham, NY
COE, New York, NY

EXHIBIT 5

ENVIRONMENTAL INVESTIGATIONS OF ADJOINING LANDS BY OTHERS

NORTHAMERICAN
ENVIRONMENTAL SERVICES
WASTE DISPOSAL • TANK SERVICES • EMERGENCY RESPONSE • REMEDIATION
OPERATIONS CENTER 9 Monroe Street • Troy, NY 12181
Tel: 518-266-0542 Fax: 518-266-1296

SUBSURFACE INVESTIGATION REPORT

Site Location:

City of Troy: Former Sperry Warehouse Site
King Street
City of Troy
Rensselaer County, New York
Spill No: 98-15284

Prepared For:

King Fuels, Inc.
King Road
Troy, New York 12081

Prepared By:

North American Environmental, Inc.
9 Monroe Street
Troy, New York 12180
(518) 226-0542

May, 1999

City of Troy: Former Sperry Warehouse Site
King Street
Troy, New York

TABLE OF CONTENTS

1.0 INTRODUCTION

Between March 25 and 30, 1999, North American Environmental Services (NAES), Inc, under contract to King Fuels, Inc, performed a subsurface investigation to assess the soil and groundwater quality at the City of Troy property located along the east side of King Street for the purposes of a property transaction. The location of the site is shown in Figure 1. A site plan, showing the approximate location of the buildings, roads, and borings/monitoring wells is enclosed as Figure 2.

2.0 OBJECTIVES

The objectives of the site investigation were the following:

- to characterize the soil beneath the site;
- to determine if there is any petroleum contamination in the soil;
- to determine if there is any petroleum contamination in the groundwater;
- and, if so, to define and characterize it within the limits of the scope of this investigation.

3.0 SITE DESCRIPTION

The site, which is located on the east side of King Street, south of Main Street, is a large relatively level plot of land with two buildings. Various companies have used the buildings over the years including an iron works, a package carrier company, a storage company, and a wood working company. The land around the buildings is unkept lawn or field with some brush and small trees, outside storage areas, or parking and access ways. The area along the Wynantskill Creek, which borders the southern portion of the property is forested. Water and sewage is provided to the property by the City of Troy.

4.0 SCOPE OF WORK

The objectives of the site investigation were the following:

- Installation of seven soil borings around the property;
- Soil sample collection every five feet using a split spoon sampler. Between the split spoon sampling, soil samples were collected from the drill cuttings;
- Field screening of soil samples collected during drilling to assess the level of petroleum contamination in the soil;
- Installation of wells at contaminated boring locations at the approval of the City of Troy;
- Collection of water samples from each boring location;
- Submission of soil and water samples to the laboratory for analysis
- Preparation of report summarizing the methods used, the data collected, and the results and conclusions.

4.1 SOIL BORINGS

The subsurface investigation was started on March 25 and completed on March 30, 1999. Seven test borings were drilled at the site utilizing a trailer mounted RAM hollow stem auger drill rig. Soil samples were collected every five feet by augering to a discreet depth, withdrawing the plug from the interior of the augers and inserting a hollow, two foot long split spoon sampler within the augers. The split spoon was driven into the undisturbed soil beneath the lead auger using a 140 pound hammer falling a vertical distance of 30 inches. The split spoon was withdrawn and opened and each soil sample was measured and characterized. Part of each sample was deposited into a resealable plastic bag half full for field screening. The rest of the sample filled glass jars for later possible submission to the laboratory for analysis.

4.2 SOIL SAMPLE COLLECTION

The soil exhibiting the highest PID readings from each boring was selected for laboratory analysis. In addition, if elevated levels of VOCs were recorded in the soil, a sample of the soil beneath the "hot" sample was also collected to document the depth of the contamination. Since all of the PID readings of the soil collected from B-4, B-5, and B-6 were less than 3.5 ppm, only one sample was collected from each of these three borings.

Each of the soil samples were collected in clean, 8-ounce Teflon sealed jars and put on ice until submitted under chain-of-custody to SciLab of Albany, located at 15 Century Hill Drive in Latham, New York. Soil samples were analyzed for VOCs using EPA Method 8021, semi-volatile organic compounds (SVOCs), and eight RCRA metals according to the New York State "STARS Memo" #1 guidelines. The laboratory report of the analytical results is enclosed in Appendix B.

4.3 MONITORING WELL INSTALLATION AND CONSTRUCTION

The soil borings were installed to 17 to 20 feet below grade. Monitoring wells were constructed in six of the seven borings. No monitoring well was installed in B-5 because there was no indication of contamination in the soil or groundwater at the time of the drilling, and a well had been installed by others just southwest of the location of B-5.

The lower ten to 15 feet of each well was constructed of 0.01" machine slotted Schedule 40 PVC well screen. The top portion of each well was constructed with threaded solid

Schedule 40 PVC well riser. The annular space between the borehole wall and the well was backfilled with No. 0 sand as the augers were withdrawn from the borehole. The sand filter was installed to approximately one foot above the top of the well screen, and then sealed with approximately one to two feet of bentonite. The remainder of the borehole was backfilled with clean, native backfill. The well was completed with a standpipe grouted in place to protect the PVC pipe extending above grade. After construction of the wells, they were developed using a manual surge and bail technique with a dedicated bailer until visual clarity was attained. The development was performed to remove excess sediment from the well and to insure adequate hydraulic conductivity between the newly installed well and the native formation.

4.4 GROUNDWATER SAMPLING

Using standard sampling techniques, a groundwater sample was collected for analyses from each of the borings after purging each well of three to five well volumes. The groundwater samples were collected in three, 40 ml. Teflon capped vials, preserved with HCl, and stored on ice until transported to SciLab of Albany. The groundwater samples were analyzed for VOCs using EPA Methods 8021 and 8270.

5.0 RESULTS OF INVESTIGATION

5.1 REGIONAL GEOLOGY/HYDROLOGY

According to the “Roadside Geology of New York” (Van Diver, 1985), the bedrock in the vicinity of Troy consists of Paleozoic sedimentary rocks, primarily shales, siltstones and sandstones. No bedrock was encountered during the drilling at the site.

The nearest surface water is the Wynantskill Creek, which borders the southern boundary of the property, and the Hudson River to which it discharges, which is approximately 600 feet east of the site.

5.2 SITE GEOLOGY/HYDROLOGY

Based on the information gathered during the subsurface investigation, the site is covered by a black gravel fill with cinders, chunks of iron ores, cobbles, slag, ~~cinders~~, wood fragments, foundry sand, pieces of fire bricks and red bricks, ashes, and some silt. Composition varies slightly around the site. A heavy creosote odor was found in the fill at MW-7. A fuel oil odor was observed at the MW-1 location. Brown or gray clay was found at depths of between 14 and 17 feet at the site, with the exception of the clay found at a depth of ten feet at MW-1 and no clay found within the first twenty feet at MW-4.

Groundwater was reported at depths of between ten and 12 feet below grade throughout most of the site during drilling, with the exception of the groundwater found in the boring at MW-3 at 5.5 feet below grade and in the boring at MW-2 at seven feet below grade. It is assumed that groundwater is moving toward and with the river resulting in a southwesterly flow. The westerly flowing Wynantskill Creek effects the groundwater movement along the south boundary of the site, where it is located.

5.3 FIELD SCREENING RESULTS

During the subsurface investigation, after the characteristics of each soil sample collected were recorded, a portion of each recovered soil sample was deposited into resealable bags. Vapors from the soil were allowed to collect in the headspace of the bag. The probe of a 10.2 eV photoionization detector (PID) calibrated to a 100 ppm hydrocarbon standard was inserted into the headspace vapors within the bag, and the PID was used to screen the soil samples for total volatile organic compounds (VOCs).

The results of the headspace analysis performed in the field indicated that PID readings of soil vapors from the soil samples collected from soil borings indicated on the map as MW- 4, B-5, and MW-6 were all less than 4 ppm.

Elevated PID readings (>5 ppm) were reported in the remaining borings as follows:

Boring No:	Depth	PID Reading
MW-1	10 –12'	88 ppm
	15-17'	14.6 ppm
	17-20'	27 ppm
MW-2	0-17'	15 – 26 ppm (26 ppm at 10-12')
MW-3	0-17'	14 – 113 ppm (113 ppm at 10-12')
MW-7	0-17'	0.9 – 48.8 ppm (48.8 ppm at 15-17'); below 5 ppm at 5-10', 12-15', & 17-20')

The results of the soil characterization and the headspace analysis are recorded on the soil boring logs, which are enclosed in Appendix A.

5.4 SOIL ANALYTICAL RESULTS

Analytical results indicated that no petroleum compounds were detected above the laboratory method detection levels in the soil samples collected from B-2 at depths of 10-17 feet below grade, B-3 at depths of 16-17 feet below grade, B-4 at depths of 10-15 feet below grade, B-5 at depth of 10-15 feet below grade, or from B-6 at depths of 15-17 feet below grade.

Several petroleum compounds were detected above their respective New York State "STARS Memo #1" guidance values in the soil samples collected from B-1 at depths of 10-20 feet below grade, B-3 at depths of 7-10 feet below grade and from B-7 at depths of 15-18 feet below grade. Lighter volatiles (benzene, toluene, ethylbenzene, and xylenes or BTEX) were reported in the soil samples collected from B-7 from 15-18 feet below grade. Heavier volatiles (isopropylbenzene to naphthalene) were reported in the soil samples collected from B-1 from 10 –12 feet below grade, from B-3 from 7-10 feet below grade, and at B-7 from 15-17 feet below grade. Semi-volatiles were reported in the soil from B-1 at 17-20 feet below grade, and from B-7 at 15 to 18 feet below grade.

In addition, the soil samples submitted were tested for the eight RCRA metals. The results indicated possible elevated levels of chromium at each boring location. Elevated arsenic levels were reported at all locations except B-1 at a depth of 10 –12 feet below grade; and at B-5 at a depth of 15-17 feet below grade. Possible elevated levels of cadmium were reported at B-4 at a depth of 10 to 15 feet below grade.

The laboratory results of the soil sample analyses are summarized in Tables 1 and 2. The laboratory report is enclosed in Appendix B.

5.5 GROUNDWATER ANALYTICAL RESULTS

Groundwater samples were collected from each of the seven borings and analyzed for VOCs and MtBE using EPA Methods 8021 and 8270. Analytical results indicated that none of the petroleum compounds tested for were detected above the Ambient Ground water Quality Guideline Values in the groundwater samples collected from monitoring wells MW-1, MW-2, MW-3, and MW-6. Slightly elevated levels of benzene, above the guidance value of 0.7 ppb, were reported in the groundwater collected from MW-4 (0.8 ppb) and B-5 (5 ppb). Elevated levels of several petroleum hydrocarbons were reported in the groundwater collected from MW-7. The laboratory results of the groundwater sample analyses are summarized in Table 3. The laboratory report is enclosed in Appendix B.

6.0 CONCLUSIONS

Based upon the data collected during the field work and results of the analyses, North American Environmental Services, Inc. has drawn the following conclusions.

1) Groundwater flow is assumed to be to the south, and west, toward and with the Hudson River. The Wynantskill Creek effects the groundwater movement on the site along the southern boundary, where it is located. It also is assumed to effect groundwater movement to the south and west. The depth to groundwater at the site was generally found to be ten to 12 feet below grade during the drilling, with the exception of MW-2, where it was reported at seven feet below grade and at MW-3, where groundwater was reported at 5.5 feet below grade.

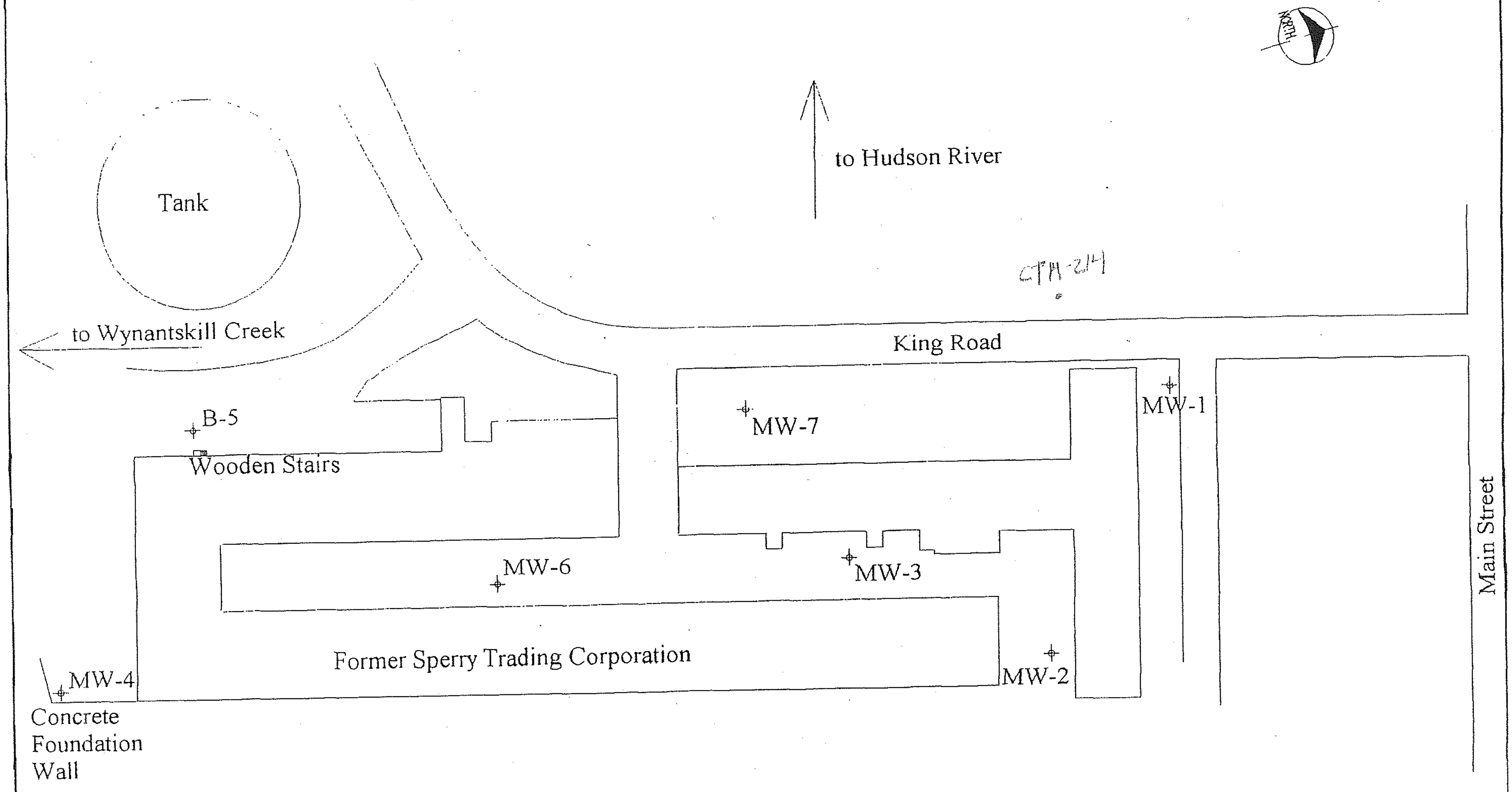
2) Soil at the site is a black gravel fill with cinders, chunks of iron ores, cobbles, slag, ~~cinders~~, wood fragments, foundry sand, pieces of fire bricks and red bricks, ashes, and some silt. Composition varies slightly around the site. Brown or gray clay was found at depths of between 14 and 17 feet at the site, with the exception of the clay found at a depth of ten feet at MW-1 and no clay found within the first twenty feet at MW-4.

3) Several petroleum compounds were detected above their respective New York State "STARS Memo #1" guidance values in the soil samples collected from B-1 at depths of 10-20', B-3 at depths of 7-10' and from B-7 at depths of 15-18'. Soil collected from B-1 and B-7 was contaminated to depths of 20 and 18 feet respectively. Soil collected from B-3 was contaminated to a depth of between 10 and 16 feet below grade. At a depth of 16 feet, the soil was not contaminated with petroleum hydrocarbons at B-3.

4) Possible elevated levels of arsenic and chromium were reported in the majority of the soil collected at the site. Cadmium was also reported at slightly elevated levels (2 ppm) in the soil collected from B-4.

5) Slightly elevated levels of benzene, above the guidance value of 0.7 ppb, were reported in the groundwater collected from MW-4 (0.8 ppb) and B-5 (5 ppb). Elevated levels of several petroleum hydrocarbons were reported in the groundwater collected from MW-7.

TABLES



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North American Environmental Services, Inc. *9 Monroe Street, Troy, NY*	City of Troy Property King & Main Streets Troy, NY	**Site Plan**	Approximate Scale: 1" = 100' March, 1999 Figure 2

TABLE 1

Soil Sample Analytical Results (ppb)

City of Troy: Former Sperry Warehouse
King Street, Troy, New York
March 25 - 30, 1999

f:\kingmain.xls sheet 1

Parameter	Guidance Value *	B-1 10-12'	B-1 17-20'	B-2 10-15'	B-2 15-17'	B-3 7-10'	B-3 16-17'	B-4 10-15'	B-5 15-17'	B-6 15-17'	B-7 15-17'	B-7 17-18'
benezene	14	0.7	BDL	BDL	BDL	9	BDL	BDL	BDL	BDL	780	92
toluene	100	2	BDL	BDL	BDL	28	BDL	BDL	BDL	BDL	1,100	110
ethylbenzene	100	BDL	BDL	BDL	BDL	20	BDL	BDL	BDL	BDL	130	24
o-,m-,p-xylenes	100 ea	44	BDL	BDL	2	129	BDL	BDL	2	BDL	2,700	290
Total BTEX	-	46.7	0	0	2	186	0	0	2	0	4,710	516
isopropylbenzene	100	17	BDL	BDL	BDL	50	BDL	BDL	BDL	BDL	<134	3
n-propylbenzene	100	140	BDL	3	BDL	370	BDL	BDL	BDL	BDL	490	8
1,3,5 trimethylbenzene	100	94	BDL	BDL	BDL	<12	BDL	BDL	BDL	BDL	690	25
tert-butylbenzene	100	160	BDL	BDL	BDL	370	BDL	BDL	BDL	BDL	<134	7
1,2,4 trimethylbenzene	100	70	BDL	BDL	BDL	<12	BDL	BDL	BDL	BDL	1,400	58
sec-butylbenzene	100	230	BDL	BDL	BDL	83	BDL	BDL	BDL	BDL	330	5
p-cymene	100	<10	BDL	BDL	BDL	110	BDL	BDL	BDL	BDL	<134	2
n-butylbenzene	100	420	2	BDL	BDL	140	BDL	BDL	BDL	BDL	830	15
naphthalene	200	430	BDL	12	BDL	470	BDL	BDL	BDL	BDL	85,000	4,200
Total VOCs	-	1,607.7	2	15	2	1,779	0	0	2	0	93,450	4,839
acenaphthene	400	<220	<220	<220	<240	<200	<210	<180	<220	<220	240	<220
fluorene	1,000	300	<220	<220	<240	<200	<210	<180	<220	<220	1,300	690
phenanthrene	1,000	590	750	<220	<240	<200	<210	<180	<220	<220	3,200	2,600
anthracene	1,000	<220	280	<220	<240	<200	<210	<180	<220	<220	1,300	680
fluoranthene	1,000	<220	870	<220	<240	<200	<210	<180	<220	<220	1,800	1,100
pyrene	1,000	<220	690	<220	<240	<200	220	<180	<220	<220	2,500	1,400
chrysene	0.04	<220	700	<220	<240	<200	<210	<180	<220	<220	1,100	560
benzo(a)anthracene	0.04	<220	570	<220	<240	<200	<210	<180	<220	<220	1,100	660
benzo(b)fluoranthene	0.04	<220	630	<220	<240	<200	<210	<180	<220	<220	750	410
benzo(k)fluoranthene	0.04	<220	240	<220	<240	<200	<210	<180	<220	<220	480	<220
benzo(a)pyrene	0.04	<220	520	<220	<240	<200	<210	<180	<220	<220	870	<220
indeno(1,2,3-cd)pyrene	0.04	<220	270	<220	<240	<200	<210	<180	<220	<220	<220	<220
dibenz(a,h)anthracene	1,000	<220	<220	<220	<240	<200	<210	<180	<220	<220	<220	<220
benzo(g,h,l)perylene	0.04	<220	350	<220	<240	<200	<210	<180	<220	<220	<220	<220
Total Semi-VOCs	-	890	5,872	BDL	BDL	BDL	220	BDL	BDL	BDL	14,640	8,100

BDL = below detection limits

VOCs = volatile organic compounds

<240 = below detection limit of 240 ppb

* = guidance values according to NYSDEC "STARS" Memo #1

No MtBE detected in any of the samples analyzed

TABLE 2

Metals in Soil Samples: Analytical Results (ppm)

City of Troy: Former Sperry Warehouse
King Street, Troy, New York

March 25 - 30, 1999

f:\kingmain.xls sheet2

Parameter	Guidance Value *	B-1 10-12'	B-1 17-20'	B-2 10-15'	B-2 15-17'	B-3 7-10'	B-3 16-17'	B-4 10-15'	B-5 15-17'	B-6 15-17'	B-7 15-17'	B-7 17-18'
arsenic	7.5 or SB (3-12)	<5	10.6	13.5	12	11	13.4	43.4	5.6	9.4	120	10.6
barium	300 or SB (15-600)	94	143	252	181	210	176	14.2	184	148	23.8	123
cadmium	1 or SB (0.1-1)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2	<0.5	<0.5	<0.5	<0.5
chromium	10 or SB (1.5-40)	16	17.3	26.3	21.9	17.9	16	17.8	14.8	14.6	50	18.6
lead	SB (4-500)	8	11.8	7.6	15	12.4	10.5	3,7	10.4	17.2	11	10
mercury	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
selenium	2 or SB (0.l-3.9)	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
silver	SB	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

* guidance values according to TAGM HWR-94-4046; Appendix A; Table 4 SB = site background levels

TABLE 3

Water Sample Analytical Results (ppb)

City of Troy: Former Sperry Warehouse
King Street, Troy, New York

March 25 - 30, 1999 f:\kingmain.xls sheet 3

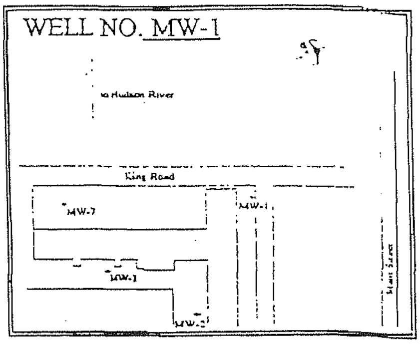
Parameter	Guidance Value *	MW-1	MW-2	MW-3	MW-4	B-5	MW-6	MW-7
benezene	0.7	BDL	BDL	BDL	0.8	5	BDL	2,500
toluene	5	BDL	BDL	BDL	BDL	2	BDL	910
ethylbenzene	5	BDL	BDL	BDL	BDL	BDL	BDL	81
o-,m-,p-xylenes	5 ea	3	2	2	BDL	BDL	BDL	750
Total BTEX	-	3	2	2	0.8	7	0	4,241
isopropylbenzene	5	BDL	<25	BDL	BDL	BDL	BDL	<10
n-propylbenzene	5	BDL	<25	BDL	BDL	BDL	BDL	14
1,3,5 trimethylbenzene	5	BDL	<25	BDL	BDL	BDL	BDL	36
tert-butylbenzene	5	BDL	<25	BDL	BDL	BDL	BDL	<10
1,2,4 trimethylbenzene	5	1	<25	BDL	BDL	BDL	BDL	100
sec-butylbenzene	5	1	<25	BDL	BDL	BDL	BDL	<10
p-cymene	5	BDL	<25	BDL	BDL	BDL	BDL	<10
n-butylbenzene	5	1	<25	BDL	BDL	BDL	BDL	36
naphthalene	10	5	<25	BDL	BDL	BDL	BDL	4,200
Total VOCs	-	11	2	2	0.8	7	0	8,627
acenaphthene	20	<25	<25	<5	<5	<6	<6	11
fluorene	50	<25	<25	<5	<5	<6	<6	35
phenanthrene	50	50	<25	<5	<5	<6	<6	75
anthracene	50	<25	<25	<5	<5	<6	<6	16
fluoranthene	50	30	<25	<5	<5	<6	<6	21
pyrene	50	30	<25	<5	<5	<6	<6	29
chrysene	0.002	<25	<25	<5	<5	<6	<6	10
benzo(a)anthracene	0.002	<25	<25	<5	<5	<6	<6	10
benzo(b)fluoranthene	0.002	<25	<25	<5	<5	<6	<6	<6
benzo(k)fluoranthene	0.002	<25	<25	<5	<5	<6	<6	<6
benzo(a)pyrene	0.002	<25	<25	<5	<5	<6	<6	6
indeno(1,2,3-cd)pyrene	0.002	<25	<25	<5	<5	<6	<6	<6
dibenz(a,h)anthracene	50	<25	<25	<5	<5	<6	<6	<6
benzo(g,h,l)perylene	0.002	<25	<220	<5	<5	<6	<6	<6
Total Semi-VOCs	-	110	BDL	BDL	BDL	BDL	BDL	213

BDL = below detection limits
* = guidance values according to NYSDEC Ambient Water Quality Guidelines
VOCs = volatile organic compounds

North American Environmental Services
9 Monroe Street
Troy, New York 12180

SITE: King & Main Street
Troy, NY

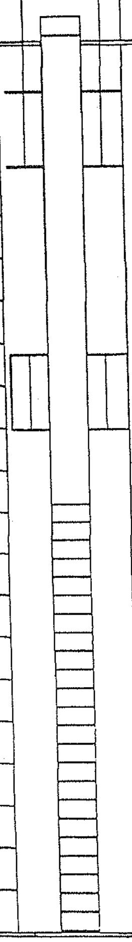
WELL NO. MW-1



Drill Rig: DeepRock RAM
OPERATOR: H. Stohl
INSPECTOR: P. Evans
START DATE: 3/25/99
FINISHDATE: 3/25/99

BORING: 20' deep
WELL DEPTH: 20'
RISER: 10'
SCREEN: 10'
SIZE: 2"

PAGE 1 OF PAGE 1

DEPTH (FT)	NO.	RANGE (FT)	SAMPLER		PPM	WELL	FIELD CLASSIFICATION AND REMARKS
			BLOWS	REC			
0'							*Locking wellcap & Stickup.*
							0-0.5': Vegetation & topsoil.
	S-1	1-4'	TFF	-	0.1		*Concrete grout.*
							0.5-6': Black GRAVEL w/ cinders,
							iron ore (galena & hematite) cobbles
5'	SS-2	5-7'	50/R	0	ND		and slag.
							2" PVC riser; Native fill.
							6-10': Moist, black GRAVEL w/
	S-3	7-10'	TFF	-	0.2		cinders and some silt and clay.
							Bentonite seal.
10'	SS-4	10-12'	2-4-5-4	13"	88		Water at 11.9 feet below top of
							casing. Sheen.
	S-5	12-15'	TFF	-	0.8		10-12': Mottled brown/gray CLAY.
							Petroleum odor.
							No. 0 quartz sand.
15'	S-6	15-17'	TFF	-	14.6		12-20': Moist, gray, plastic CLAY.
							2" PVC 0.01" threaded screen.
	S-7	17-20'	TFF	-	27		
		TFF =	taken from	auger	flight		
20'		ND =	no data				Boring terminated at 20'below grade

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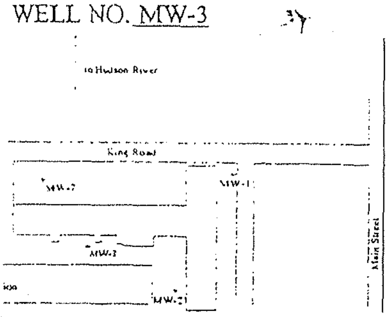
Troy, New York 12180

SITE: King
& Main Street
Troy, NY

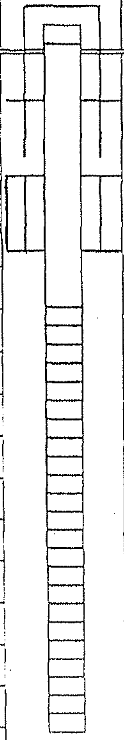
WELL NO. MW-3



Drill Rig: DeepRock RAM
OPERATOR: H. Stohl
INSPECTOR: P. Evans
START DATE: 3/26/99
FINISHDATE: 3/26/99

BORING: 17' deep
WELL DEPTH: 15'
RISER: 10'
SCREEN: 10'
SIZE: 2"

PAGE 1 OF PAGE 1

DEPTH (FT)	NO.	RANGE (FT)	SAMPLER		PPM	WELL	FIELD CLASSIFICATION AND REMARKS
			BLOWS	REC			
0'							*Locking wellcap & Grouted Stickup.*
	S-1	2-4'	TFF	-	14		*2" PVC threaded riser.*
							Bentonite seal.
							0-5': Black cinder GRAVEL with
5'	SS-2	5-7'	14-21-50R	13"	15.6		bricks, slag cobbles, ashes. Needed
							backhoe to penetrate cobbles.
							Water at 5.5 feet below grade-sheen.
	S-3	7-10'	TFF	-	17		5-7': Orange/brown GRAVEL with
							cinders.
10'	SS-4	10-12'	6-5-4-3	10"	113		7-10': Brown GRAVEL with ashes.
							Some silt and clay.
	S-5	12-15'	TFF	-	26		10-15': Black, wet, coarse, cinder
							GRAVEL w/ some foundry sand.
							2" PVC 0.01" threaded screen.
15'	S-6A	15-15.5'	4-4-	8"	40		15-17': Brown CLAY w/ some silt.
	S-6B	15.5-17'	-5-9	16"	33		*No. 0 quartz sand.*
							Boring terminated at 17' below
							grade.
		TFF =	taken from	auger	flight		
20'		ND =	no data				

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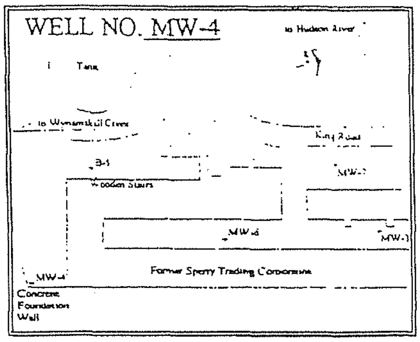
SITE: King
& Main Street
Troy, NY

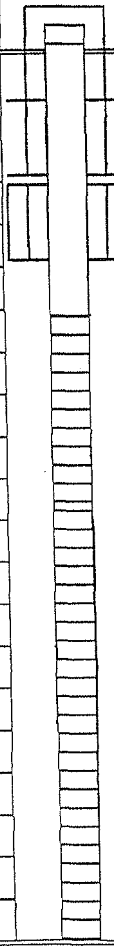
WELL NO. MW-4



Drill Rig: DeepRock RAM
OPERATOR: H. Stohl
INSPECTOR: P. Evans
START DATE: 3/25/99
FINISHDATE: 3/25/99

BORING: 20' deep
WELL DEPTH: 20'
RISER: 10'
SCREEN: 15'
SIZE: 2"

PAGE 1 OF PAGE 1

DEPTH (FT)	NO.	RANGE (FT)	SAMPLER		PPM	WELL	FIELD CLASSIFICATION AND REMARKS
			BLOWS	REC			
0'							*Locking wellcap & Stickup.*
							0-0.5': Vegetation & topsoil.
	S-1	1-5'	TFF	-	0.1		*Concrete grout.*
							Bentonite seal.
							2" PVC riser.
5'	SS-2	5-7'	TFF	-	0.1		0.5-20': Black GRAVEL w/ cinders,
							fire brick, slag, cobbles, sand, red &
							yellow brick, and ashes. Used back-
	S-3	7-10'	TFF	-	1.7		hoe to dig to 7 feet because auger
							would not penetrate cobbles.
10'	SS-4	10-12'	7-12-7-8	12"	3.4		Water at 11.5 feet below top of
							casing.
	S-5	12-15'	TFF	-	3.1		
							No. 0 quartz sand.
15'	S-6	15-17'	6-5-4-6	14"	0.7		
							2" PVC 0.01" threaded screen.
	S-7	17-20'	TFF	-	0.9		
		TFF =	taken from	auger	flight		
20'		ND =	no data				Boring terminated at 20'below grade

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SITE: King
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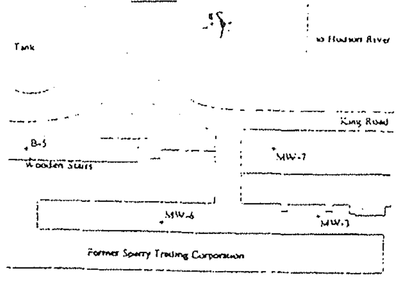
Troy, NY

WELL NO. B-5



Drill Rig: DeepRock RAM
OPERATOR: H. Stohl
INSPECTOR: P. Evans
START DATE: 3/29/99
FINISHDATE: 3/29/99

BORING: 17' deep
WELL DEPTH: -
RISER: no well set
SCREEN: -
SIZE: 8"

PAGE 1 OF PAGE 1

DEPTH (FT)	NO.	RANGE (FT)	SAMPLER		PPM	FIELD CLASSIFICATION AND REMARKS
			BLOWS	REC		
0'						
						0-1': Asphalt and subbase.
	S-1	1-5'	TFF	-	0.5	
						0-14.9': Black cinder GRAVEL with
5'	SS-2	5-7'	50R	1"	2.0	bricks, slag, cobbles, and ashes.
						Cobbles impeded drilling from
						2 - 5 feet below grade.
	S-3	7-10'	TFF	-	1.1	
						Water at 11 feet below grade-sheen.
10'	SS-4	10-12'	4-6-2-3	0"	-	
	S-5	12-15'	TFF	-	1.7	14.9-15': Coarse, gray SAND.
15'	S-6A	15-17'	1-1-1-2	20"	0.7	15-17': Gray CLAY w/ some silt.
						Boring terminated at 17' below grade.
		TFF =	taken from	auger	flight	
20'		ND =	no data			

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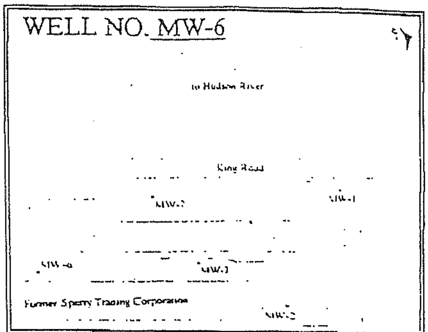
Troy, New York 12180

SITE: King
& Main Street
Troy, NY

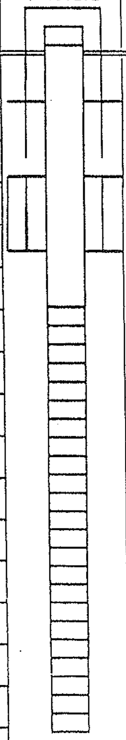
WELL NO. MW-6



Drill Rig: DeepRock RAM
OPERATOR: H. Stohl
INSPECTOR: P. Evans
START DATE: 3/30/99
FINISHDATE: 3/30/99

BORING: 17' deep
WELL DEPTH: 15'
RISER: 10'
SCREEN: 10'
SIZE: 2"

PAGE 1 OF PAGE 1

DEPTH (FT)	NO.	RANGE (FT)	SAMPLER		PPM	WELL	FIELD CLASSIFICATION AND REMARKS
			BLOWS	REC			
0'							*Locking wellcap & Grouted Stickup.*
	S-1	1-5'	TFF	-	0.1		*2" PVC threaded riser.*
							Bentonite seal.
							0-15': Black GRAVEL with cinders,
5'	SS-2	5-7'	16-13-50R	11"	1.8		bricks, slag, cobbles, ashes. Needed
							backhoe to penetrate cobbles.
							2" PVC 0.01" threaded screen.
	S-3	7-10'	TFF	-	0.1		*No. 0 quartz sand.*
10'	SS-4	10-12'	50R	3"	0.1		Water at 10 feet below grade.
	S-5	12-15'	TFF	-	0.2		15-16': Coarse, wet, iron foundry
							SAND.
15'	S-6A	15-16'	3-4-	11"	2.0		16-17': Gray, plastic CLAY.
	S-6B	16-17'	-2-2	11"	0.5		
							Boring terminated at 17' below
							grade.
		TFF =	taken from	auger	flight		
20'		ND =	no data				

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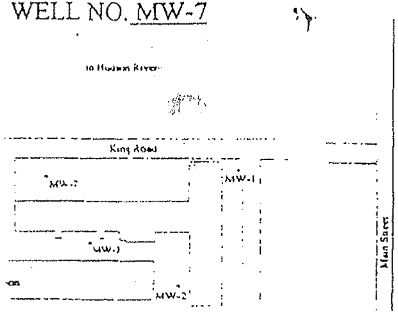
WELL NO. MW-7



Drill Rig: DeepRock RAM
OPERATOR: H. Stohl
INSPECTOR: P. Evans
START DATE: 3/30/99
FINISHDATE: 3/30/99

BORING: 18' deep
WELL DEPTH: 18'
RISER: 10'
SCREEN: 10'
SIZE: 2"

PAGE 1 OF PAGE 1

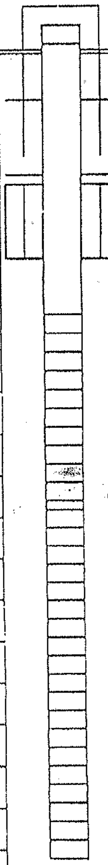
DEPTH (FT)	NO.	RANGE (FT)	SAMPLER		PPM	WELL	FIELD CLASSIFICATION AND REMARKS
			BLOWS	REC			
0'							*Locking wellcap & grouted Stickup.*
							0-0.5': Vegetation & topsoil.
	S-1	1-3'	TFF	-	7.5		0.5-3': Black fibrous soil.
							Bentonite seal.
	S-2	3-5'	TFF	-	5.4		*2" PVC riser.* .
5'	SS-3	5-7'	12-5-2-2	12"	1.1		3-5': Black GRAVEL w/ silt and
							clay and wood fibers. Creosote odor.
							5-10': Black and brown GRAVEL w
	S-4	7-10'	TFF	-	4.0		cinders, ash, slag, and bricks. Moist
							at 6 feet. Smells like creosote.
10'	SS-5	10-12'	7-12-7-8	11"	18		Water at 11 feet below top of riser.
							10-15': Black GRAVEL w/ cinders,
	S-6	12-15'	TFF	-	4.7		rust, and some silt. Creosote odor.
							No. 0 quartz sand.
							2" PVC 0.01" threaded screen.
15'	S-7	15-17'	6-5-4-6	23"	48.8		15-17': Black GRAVEL w/ cinders,
	S-8	17-18'	TFF	-	5.5		rust, silt and some fine sand.
							Creosote odor.
	S-7	17-20'	TFF	-	0.9		17-18': Gray, plastic CLAY.
		TFF =	taken from	auger	flight		Boring terminated at 18' below
20'		ND =	no data				Grade.

FIGURE 5

STERLING
Sterling Environmental Engineering, P.C.
24 Wade Road • Latham, New York 12110

FORMER KING FUELS NORTH ("THE ALAMO")
PROPERTY AOC – SOIL SAMPLING PLAN
CITY OF TROY
SOUTH TROY BROWNFIELD STUDY AREA

CITY OF TROY								RENSSELAER CO., N.Y.	
PROJ. No.:	22026	DATE:	01/14/05	SCALE:	1" = 40'	DWG. NO.	22026008	FIGURE	5

By: AK Date: 5/16/2005
Chk by: Date:

South Troy
Phase II Sampling Results

ANALYTE	UNITS	RECOMMENDED SOIL CLEANUP OBJECTIVES	**BACKGROUND-1** C1463-11A 11/17/2004	Lab	Val	**BACKGROUND-2** C1463-12A 11/17/2004	Lab	Val	**A-B-1-0-0.5** D0188-05B 02/15/2005	Lab	Val	**A-B-1-6-10** D0161-06A 02/15/2005	Lab	Val
Antimony	mg/Kg	0.655	0.42	UN	J	0.89	BN	J	**4.6**	**BN**	**J**	**17.8**	**E**	**J**
Arsenic	mg/Kg	10.7	14.1			7.3			5.1			4.7		J
Beryllium	mg/Kg	0.37	0.47	B		0.27	B		**0.82**			**1.9**		**J**
Cadmium	mg/Kg	1	0.042	UN	J	0.038	UN	J	**4.9**	***E**	**J**	**20.6**	**E**	**J**
Chromium	mg/Kg	11.1	13.9			8.3			**16.9**	***E**	**J**	**67.4**	**E**	**J**
Copper	mg/Kg	31.35	37.0	E	J	25.7	E	J	**32.4**	**NE**	**J**	18.1		J
Lead *	mg/Kg	400	94.1			12.5			45.5	E	J	17.5	E	J
Nickel	mg/Kg	16.15	17.4			14.9			**23.8**	***E**	**J**	10.3	E	J
Selenium	mg/Kg	2	0.99	BN	J	0.57	UN	J	0.48	UN	R	0.57	U	
Silver	mg/Kg	4.49	8.6			0.38	U		**13.7**	**N*E**	**J**	**46.1**	**E**	**J**
Thallium	mg/Kg	2.44	4.2	N	J	0.68	BN	J	1.7			**4.7**		**J**
Zinc	mg/Kg	75.6	100			51.2			**154**	**N*E**	**J**	29.0	E	J
Mercury	mg/Kg	0.145	0.23			0.060	B		0.11			0.049	U	

*See Document titled "Data Qualifiers" for information regarding qualifiers and data interpretation

By: AK Date: 5/16/2005
Chk by: Date:

South Troy
Phase II Sampling Results

ANALYTE	UNITS	RECOMMENDED SOIL CLEANUP OBJECTIVES	A-B-1-14-16 D0188-07B 02/15/2005	Lab	Val	A-B-2-0-0.5 D0188-06B 02/15/2005	Lab	Val	A-B-2-4-6 D0188-04A 02/15/2005	Lab	Val	A-B-2-12-16 D0161-07A 02/15/2005	Lab	Val	A-W-1-0-0.5 D0188-08A 02/15/2005	Lab	Val
Antimony	mg/Kg	0.655	**6.0**	**BN**	**J**	**3.1**	**BN**	**J**	**5.1**	**BN**	**J**	**4.8**	**BE**	**J**	**1.8**	**BN**	**J**
Arsenic	mg/Kg	10.7	4.0			1.2	B		8.8			3.3		J	0.87	B	
Beryllium	mg/Kg	0.37	**1.1**			**0.48**	**B**		**1.2**			**0.78**	**B**	**J**	0.31	B	
Cadmium	mg/Kg	1	**6.6**	*E	**J**	**3.8**	*E	**J**	**5.5**	*E	**J**	**4.3**	**E**	**J**	**1.5**	***E**	**J**
Chromium	mg/Kg	11.1	**26.6**	*E	**J**	**296**	*E	**J**	**12.0**	*E	**J**	**13.2**	**E**	**J**	5.1	*E	J
Copper	mg/Kg	31.35	25.2	NE	J	**50.8**	**NE**	**J**	20.5	NE	J	23.7		J	8.5	NE	J
Lead *	mg/Kg	400	18.0	E	J	82.0	E	J	39.6	E	J	21.3	E	J	3.8	E	J
Nickel	mg/Kg	16.15	**25.7**	*E	**J**	**166**	*E	**J**	12.0	*E	J	**18.9**	**E**	**J**	6.4	B*E	J
Selenium	mg/Kg	2	0.58	UN	R	0.60	UN	R	0.54	UN	R	0.56	U		0.59	UN	R
Silver	mg/Kg	4.49	**21.9**	**N*E**	**J**	**8.9**	**N*E**	**J**	**11.7**	**N*E**	**J**	**13.3**	**E**	**J**	**5.7**	**N*E**	**J**
Thallium	mg/Kg	2.44	0.68	B	---	0.40	U		0.36	U		1.9	B	J	0.39	U	
Zinc	mg/Kg	75.6	**87.3**	**N*E**	**J**	**170**	**N*E**	**J**	69.5	N*E	J	66.4	E	J	25.7	N*E	J
Mercury	mg/Kg	0.145	0.058	U		**0.50**			0.065	B	J	0.068	B	J	0.050	U	

*See Document titled "Data Qualifiers" for i
qualifiers and data interpretation

By: AK Date: 5/16/2005
Chk by: Date:

South Troy
Phase II Sampling Results

ANALYTE	UNITS	RECOMMENDED SOIL CLEANUP OBJECTIVES	**A-W-1-12-14** D0188-09B 02/15/2005	Lab	Val	**A-W-1-18-20** **DUP OF A-W-1-12-14** D0188-10B 02/15/2005	Lab	Val	**A-W-1-16-18** **DUP OF A-W-1-12-14** D0188-11B 02/15/2005	Lab	Val
Antimony	mg/Kg	0.655	**3.8**	**BN**	**J**	**3.9**	**BN**	**J**	**5.2**	**BN**	**J**
Arsenic	mg/Kg	10.7	2.5			2.7			3.0		
Beryllium	mg/Kg	0.37	**0.89**	**B**		**0.89**	**B**		**1.3**		
Cadmium	mg/Kg	1	**4.0**	***E**	**J**	**4.0**	***E**	**J**	**5.4**	***E**	**J**
Chromium	mg/Kg	11.1	**17.1**	***E**	**J**	**17.4**	***E**	**J**	**23.5**	***E**	**J**
Copper	mg/Kg	31.35	22.7	NE	J	21.5	NE	J	**36.4**	**NE**	**J**
Lead *	mg/Kg	400	14.1	E	J	13.9	E	J	24.5	E	J
Nickel	mg/Kg	16.15	**23.4**	***E**	**J**	**23.6**	***E**	**J**	**32.5**	***E**	**J**
Selenium	mg/Kg	2	0.64	UN	R	0.66	UN	R	0.70	UN	R
Silver	mg/Kg	4.49	**15.6**	**N*E**	**J**	**15.9**	**N*E**	**J**	**19.4**	**N*E**	**J**
Thallium	mg/Kg	2.44	0.64	B		0.72	B		0.47	U	
Zinc	mg/Kg	75.6	**83.2**	**N*E**	**J**	**85.7**	**N*E**	**J**	**115**	**N*E**	**J**
Mercury	mg/Kg	0.145	0.071	B	J	0.064	U		0.12	B	J

*See Document titled "Data Qualifiers" for i
qualifiers and data interpretation

South Troy
Phase II Sampling Results

ANALYTE	Units	RECOMMENDED SOIL CLEANUP OBJECTIVES	A-B-1-0-0.5 D0188-05A 02-15-05	Lab	Val	A-B-1-0-0.5 D0188-05ARE 02-15-05	Lab	Val	A-B-1-6-10 D0161-06A 02-15-05	Lab	Val	A-B-1-14-16 D0188-07A 02-15-05	Lab	Val	A-B-1-14-16 D0188-07ARE 02-15-05	Lab	Val
Naphthalene	UG/KG	13000	69	J		42	J		390	U		460	U		460	U	
Acenaphthene	UG/KG	50000	390	U		390	U		390	U		460	U		460	U	
Fluorene	UG/KG	50000	140	J		90	J		390	U		460	U		460	U	
Phenanthrene	UG/KG	50000	2100			1100			390	U		460	U		460	U	
Anthracene	UG/KG	50000	410			230	J		390	U		460	U		460	U	
Fluoranthene	UG/KG	50000	3600	D		3000			390	U		460	U		460	U	
Pyrene	UG/KG	50000	6300	D		1700			390	U		460	U		460	U	
Benzo(a)anthracene	UG/KG	224	**2000**			**1200**			390	U		460	U		460	U	
Chrysene	UG/KG	400	**1500**			**840**			390	U		460	U		460	U	
Benzo(b)fluoranthene	UG/KG	1100	**2900**			**1400**			390	U		460	U		460	U	
Benzo(k)fluoranthene	UG/KG	1100	900			660			390	U		460	U		460	U	
Benzo(a)pyrene	UG/KG	61	**1900**			**1000**			390	U		460	U		460	U	
Indeno(1,2,3-cd)pyrene	UG/KG	3200	750			300	J		390	U		460	U		460	U	
Dibenzo(a,h)anthracene	UG/KG	14	**230**	**J**		**120**	**J**		390	U		460	U		460	U	
Benzo(g,h,i)perylene	UG/KG	50000	570			130	J		390	U		86	J		460	U	
Total SVOC	UG/KG	50000	23369			11812			0			86			0		

*See Document titled "Data Qualifiers" for information regarding qualifiers and data interpretation

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South Troy
Phase II Sampling Results

ANALYTE	Units	RECOMMENDED SOIL CLEANUP OBJECTIVES	A-B-2-0-0.5 D0188-06A 02-15-05	Lab	Val	A-B-2-0-0.5RE D0188-06ARE 02-15-05	Lab	Val	A-B-2-4-6 D0188-04A 02-15-05	Lab	Val	A-B-2-4-6RE D0188-04ARE 02-15-05	Lab	Val	A-B-2-4-6RA D0188-04ARA 02-15-05	Lab	Val	A-B-2-12-16 D0161-07A 02-15-05	Lab	Val	A-B-2-12-16RA D0161-07ARA 03-03-05	Lab	Val
Naphthalene	UG/KG	13000	380	U		380	U		65	J		54	J		72	J		450	U		450	U	
Acenaphthene	UG/KG	50000	46	J		35	J		420	U		420	U		410	U		450	U		450.	U	
Fluorene	UG/KG	50000	45	J		35	J		56	J		420	U		410	U		69	J		76	J	
Phenanthrene	UG/KG	50000	1200			970			360	J		250	J		420			51	J		58	J	
Anthracene	UG/KG	50000	160	J		170	J		110	J		420	U		120	J		58	J		53	J	
Fluoranthene	UG/KG	50000	2100	D		7200	E		890			1600			680			100	J		95	J	
Pyrene	UG/KG	50000	4300	D		2700			1200			1200			1900			310	J		420	J	
Benzo(a)anthracene	UG/KG	224	**1300**			**1400**			**630**			**520**			**630**			120	J		130	J	
Chrysene	UG/KG	400	**1300**			**1500**			**660**			**530**			**730**			230	J		150	J	
Benzo(b)fluoranthene	UG/KG	1100	**2800**			**3300**	**E**		1100			600			750			130	J		120	J	
Benzo(k)fluoranthene	UG/KG	1100	960			1100			300	J		180	J		290	J		450	U		450	U	
Benzo(a)pyrene	UG/KG	61	**1600**			**1800**			**690**			**400**	**J**		**570**			**130**	**J**		**110**	**J**	
Indeno(1,2,3-cd)pyrene	UG/KG	3200	520			590			150	J		150	J		310	J		450	U		450	U	
Dibenzo(a,h)anthracene	UG/KG	14	**200**	**J**		**160**	**J**		**53**	**J**		**48**	**J**		**89**	**J**		450	U		450	U	
Benzo(g,h,i)perylene	UG/KG	50000	330	J		430			180	J		85	J		260	J		450	U		450	U	
Total SVOC	UG/KG	50000	16861			21390			6444			5617			6821			1198			1212		

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South Troy
Phase II Sampling Results

ANALYTE	Units	RECOMMENDED SOIL CLEANUP OBJECTIVES	A-W-1-0-0.5 D0188-08A 02-15-05	Lab	Val	A-W-1-0-0.5RE D0188-08ARE 02-15-05	Lab	Val	A-W-1-0-0.5RA D0188-08ARA 02-15-05	Lab	Val	A-W-1-12-14 D0188-09A 02-15-05	Lab	Val
Naphthalene	UG/KG	13000	420	U		420	U		420	U		460	U	
Acenaphthene	UG/KG	50000	420	U		420	U		420	U		460	U	
Fluorene	UG/KG	50000	420	U		420	U		420	U		460	U	
Phenanthrene	UG/KG	50000	420	U		420	U		420	U		460	U	
Anthracene	UG/KG	50000	420	U		420	U		420	U		460	U	
Fluoranthene	UG/KG	50000	420	U		420	U		420	U		460	U	
Pyrene	UG/KG	50000	420	U		420	U		420	U		460	U	
Benzo(a)anthracene	UG/KG	224	420	U		420	U		420	U		460	U	
Chrysene	UG/KG	400	420	U		420	U		420	U		460	U	
Benzo(b)fluoranthene	UG/KG	1100	420	U		420	U		420	U		460	U	
Benzo(k)fluoranthene	UG/KG	1100	420	U		420	U		420	U		460	U	
Benzo(a)pyrene	UG/KG	61	420	U		420	U		420	U		270	J	
Indeno(1,2,3-cd)pyrene	UG/KG	3200	420	U		420	U		420	U		460	U	
Dibenzo(a,h)anthracene	UG/KG	14	420	U		420	U		420	U		460	U	
Benzo(g,h,i)perylene	UG/KG	50000	420	U		420	U		420	U		460	U	
Total SVOC	UG/KG	50000	0			0			0			270		

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Phase II Sampling Results

ANALYTE	Units	RECOMMENDED SOIL CLEANUP OBJECTIVES	**A-W-1-12-14RE** D0188-09ARE 02-15-05	Lab	Val	**A-W-1-12-14RA** D0188-09ARA 02-15-05	Lab	Val	**A-W-1-16-18** D0188-11A 02-15-05	Lab	Val	**A-W-1-16-18RE** D0188-11ARE 02-15-05	Lab	Val	**A-W-1-18-20** **DUP OF A-W-1-12-14** D0188-10A 02-15-05	Lab	Val	**A-W-1-18-20RE** **DUP OF A-W-1-12-14** D0188-10ARE 02-15-05	Lab	Val
Naphthalene	UG/KG	13000	460	U		460	U		450	U		450	U		450	U		450	U	
Acenaphthene	UG/KG	50000	460	U		460	U		450	U		450	U		450	U		450	U	
Fluorene	UG/KG	50000	460	U		460	U		450	U		450	U		450	U		450	U	
Phenanthrene	UG/KG	50000	130	J		460	U		92	J		71	J		450	U		100	J	
Anthracene	UG/KG	50000	460	U		460	U		450	U		450	U		450	U		450	U	
Fluoranthene	UG/KG	50000	140	J		460	U		72	J		77	J		450	U		130	J	
Pyrene	UG/KG	50000	120	J		460	U		99	J		60	J		450	U		120	J	
Benzo(a)anthracene	UG/KG	224	94	J		460	U		49	J		46	J		450	U		91	J	
Chrysene	UG/KG	400	81	J		460	U		46	J		49	J		450	U		94	J	
Benzo(b)fluoranthene	UG/KG	1100	110	J		460	U		450	U		47	J		450	U		130	J	
Benzo(k)fluoranthene	UG/KG	1100	36	J		460	U		450	U		450	U		450	U		49	J	
Benzo(a)pyrene	UG/KG	61	**65**	**J**		460	U		450	U		450	U		300	J		**78**	**J**	
Indeno(1,2,3-cd)pyrene	UG/KG	3200	460	U		460	U		450	U		450	U		450	U		450	U	
Dibenzo(a,h)anthracene	UG/KG	14	460	U		460	U		450	U		450	U		450	U		450	U	
Benzo(g,h,i)perylene	UG/KG	50000	460	U		460	U		450	U		450	U		450	U		450	U	
Total SVOC	UG/KG	50000	776			0			358			350			300			792		

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Phase II Sampling Results

ANALYTE	Units	RECOMMENDED SOIL CLEANUP OBJECTIVES	A-W-1-18-20RA D0188-10ARA 02-15-05	Lab	Val
Naphthalene	UG/KG	13000	450	U	
Acenaphthene	UG/KG	50000	450	U	
Fluorene	UG/KG	50000	450	U	
Phenanthrene	UG/KG	50000	450	U	
Anthracene	UG/KG	50000	450	U	
Fluoranthene	UG/KG	50000	450	U	
Pyrene	UG/KG	50000	450	U	
Benzo(a)anthracene	UG/KG	224	450	U	
Chrysene	UG/KG	400	450	U	
Benzo(b)fluoranthene	UG/KG	1100	450	U	
Benzo(k)fluoranthene	UG/KG	1100	450	U	
Benzo(a)pyrene	UG/KG	61	450	U	
Indeno(1,2,3-cd)pyrene	UG/KG	3200	450	U	
Dibenzo(a,h)anthracene	UG/KG	14	450	U	
Benzo(g,h,i)perylene	UG/KG	50000	450	U	
Total SVOC	UG/KG	50000	0		

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ANALYTE	Units	RECOMMENDED SOIL CLEANUP OBJECTIVES	A-B-1-6-10 D0161-06B 02-15-05	Lab	Val	A-B-1-6-10RE D0161-06BRE 02-15-05	Lab	Val	A-B-1-6-10RE D0161-06BRE 02-15-05	Lab	Val	A-B-2-12-16 D0161-07B 02-15-05	Lab	Val	A-B-2-12-16RE D0161-07BRE 02-15-05	Lab	Val
	UG/KG	120	NA			6	U	J	NA			NA			7	U	J
Benzene	UG/KG	60	12	U	J	6	U	J	12	U		14	U		7	U	J
Toluene	UG/KG	1500	1	J	J	6	U	J	12	U	J	14	U	J	7	U	J
Ethylbenzene	UG/KG	5500	12	U	J	6	U	J	12	U	J	14	U	J	7	U	J
m,p-Xylene	UG/KG	-	NA			6	U	J	NA			NA			7	U	J
o-Xylene	UG/KG	-	NA			6	U	J	NA			NA			7	U	J
Xylene (Total)	UG/KG	1200	12	U	J	6	U	J	12	U	J	14	U	J	7	U	J
Isopropylbenzene	UG/KG	5000	12	U	J	6	U	J	12	U	J	14	U	J	7	U	J
n-Propylbenzene	UG/KG	14000	NA			6	U	J	NA			NA			7	U	J
1,3,5-Trimethylbenzene	UG/KG	3300	NA			6	U	J	NA			NA			7	U	J
tert-Butylbenzene	UG/KG	-	NA			6	U	J	NA			NA			7	U	J
1,2,4-Trimethylbenzene	UG/KG	13000	NA			6	U	J	NA			NA			7	U	J
sec-Butylbenzene	UG/KG	25000	NA			6	U	J	NA			NA			7	U	J
4-Isopropyltoluene	UG/KG	11000	NA			6	U	J	NA			NA			7	U	J
n-Butylbenzene	UG/KG	18000	NA			6	U	J	NA			NA			7	U	J
Naphthalene	UG/KG	-	NA			5	JB	UJ	NA			NA			7	U	J

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2" PVC
Permanent well

South Troy
Phase II Sampling Results

ANALYTE	Units	Water Quality Standards	A-W-1 D0257-04B 03/03/2005	Lab	Val	S-W-1 D0257-01B 03/03/2005	Lab	Val	S-W-2 D0257-02B 03/03/2005	Lab	Val	S-W-3 D0257-03B 03/03/2005	Lab	Val
Antimony	ug/L	3	**39.5**	**BN**		**10.3**	**BN**		**18.1**	**BN**		2.2	BN	
Arsenic	ug/L	25	**179**			20.9			**29.3**			**26.1**		
Beryllium	ug/L	3	**33.7**	**E**		**4.7**	**BE**		**3.1**	**BE**		**10.8**	**E**	
Cadmium	ug/L	5	**104**	**E**		**17.3**	**E**		**19.8**	**E**		**10.4**	**E**	
Chromium	ug/L	50	**329**	**E**		**55.5**	**E**		**86.1**	**E**		49.5	E	
Copper	ug/L	200	**861**			**367**			**884**			**394**		
Lead	ug/L	25	**419**	**E**		**902**	**E**		**1590**	**E**		**106**	**E**	
Nickel	ug/L	100	**550**	**E**		**115**	**E**		**106**	**E**		89.2	E	
Selenium	ug/L	10	3.0	UN		3.0	UN		3.0	UN		3.0	UN	
Silver	ug/L	50	**275**	**E**		30.2	E		41.8	E		29.0	E	
Thallium	ug/L	.5	**29.6**			**15.2**			**8.5**	**B**		2.0	U	
Zinc	ug/L	2000	**2570**	**E**		839	E		989	E		730	E	
Mercury	ug/L	.7	**2.7**	**N**		**3.7**	**N**		**8.0**	**N**		0.14	UN	

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ANALYTE	Units	Water Quality Standards	**S-W-1** D0257-01A 03-03-05	Lab	Val	**S-W-2** D0257-02A 03-03-05	Lab	Val	**S-W-3** D0257-03A 03-03-05	Lab	Val	**A-W-1** D0257-04A 03-03-05	Lab	Val
Naphthalene	UG/L	10	10	U		10	U		10	U		10	U	
Acenaphthene	UG/L	20	10	U		10	U		10	U		10	U	
Fluorene	UG/L	50	10	U		10	U		10	U		10	U	
Phenanthrene	UG/L	50	10	U		4	J		10	U		10	U	
Anthracene	UG/L	50	10	U		1	J		10	U		10	U	
Fluoranthene	UG/L	50	1	J		5	J		10	U		10	U	
Pyrene	UG/L	50	10	U		4	J		10	U		10	U	
Benzo(a)anthracene	UG/L	0.002	10	U		**2**	**J**		10	U		10	U	
Chrysene	UG/L	0.002	10	U		**2**	**J**		10	U		10	U	
Benzo(b)fluoranthene	UG/L	0.002	10	U		**2**	**J**		10	U		10	U	
Benzo(k)fluoranthene	UG/L	0.5	10	U		**1**	**J**		10	U		10	U	
Benzo(a)pyrene	UG/L	--	10	U		2	J		10	U		10	U	
Indeno(1,2,3-cd)pyrene	UG/L	0.002	10	U		10	U		10	U		10	U	
Dibenzo(a,h)anthracene	UG/L	--	10	U		10	U		10	U		10	U	
Benzo(g,h,i)perylene	UG/L	---	10	U		10	U		10	U		10	U	

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Phase II Sampling Results

Analyte	Water Quality Standards	Units	**A-W-1** D0257-04C	Lab	Val
Methyl tert-butyl ether	10		03-03-05		
Benzene	1	UG/L	5	U	
Toluene	5	UG/L	5	U	
Ethylbenzene	5	UG/L	5	U	
m,p-Xylene	5	UG/L	5	U	
o-Xylene	5	UG/L	5	U	
Xylene (Total)	5	UG/L	5	U	
Isopropylbenzene	5	UG/L	5	U	
n-Propylbenzene	5	UG/L	5	U	
1,3,5-Trimethylbenzene	5	UG/L	5	U	
tert-Butylbenzene	5	UG/L	5	U	
1,2,4-Trimethylbenzene	5	0.5	5	U	
sec-Butylbenzene	5	UG/L	5	U	
4-Isopropyltoluene	5	UG/L	5	U	
n-Butylbenzene	5	UG/L	5	U	
Naphthalene	10	UG/L	5	U	

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Phase II Sampling Results

ANALYTE	UNITS	RECOMMENDED SOIL CLEANUP OBJECTIVES	**BACKGROUND-1** C1463-11A 11/17/2004	Lab	Val	**BACKGROUND-2** C1463-12A 11/17/2004	Lab	Val	**A-S-1-0-6** C1463-13A 11/15/2004	Lab	Val	**A-S-4-0-6** **DUP A-S-1-0-6** C1463-19A 11/15/2004	Lab	Val
Antimony	mg/Kg	0.655	0.42	UN	J	0.89	BN	J	**0.78**	**BN**	**J**	0.44	UN	J
Arsenic	mg/Kg	10.7	14.1			7.3			**29.7**			**32.0**		
Beryllium	mg/Kg	0.37	0.47	B		0.27	B		**1.3**			**2.1**		
Cadmium	mg/Kg	1	0.042	UN	J	0.038	UN	J	0.038	UN	J	0.044	UN	J
Chromium	mg/Kg	11.1	13.9			8.3			6.3			6.2		
Copper	mg/Kg	31.35	37.0	E	J	25.7	E	J	**39.0**	**E**	**J**	**47.6**	**E**	**J**
Lead *	mg/Kg	400	94.1			12.5			38.8			54.7		
Nickel	mg/Kg	16.15	17.4			14.9			11.4			13.4		
Selenium	mg/Kg	2	0.99	BN	J	0.57	UN	J	0.57	UN	J	1.4	N	J
Silver	mg/Kg	4.49	8.6			0.38	U		**12.1**			**10.1**		
Thallium	mg/Kg	2.44	4.2	N	J	0.68	BN	J	**5.3**	**N**	**J**	**6.6**	**N**	**J**
Zinc	mg/Kg	75.6	100			51.2			**238**			**345**		
Mercury	mg/Kg	0.145	0.23			0.060	B		0.13			0.096	B	

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Phase II Sampling Results

ANALYTE	UNITS	RECOMMENDED SOIL CLEANUP OBJECTIVES	**A-S-1-12-18** C1463-14A 11/15/2004	Lab	Val	**A-S-2-0-6** C1463-15A 11/17/2004	Lab	Val	**A-S-2-12-18** C1463-16A 11/17/2004	Lab	Val	**A-S-3-0-6** C1463-17A 11/17/2004	Lab	Val	**A-S-5-0-6** **COL A-S-3-0-6** C1463-20A 11/17/2004	Lab	Val	**A-S-3-12-18** C1463-18A 11/17/2004	Lab	Val
Antimony	mg/Kg	0.655	0.45	UN	J	0.56	BN	J	**0.86**	**BN**	**J**	0.41	UN	J	0.45	UN	J	0.51	BN	J
Arsenic	mg/Kg	10.7	**26.5**			**14.0**			**24.3**			3.7			3.8			**13.3**		
Beryllium	mg/Kg	0.37	**1.7**			**0.48**	**B**		**0.81**	**B**		0.14	B		0.12	B		**1.3**		
Cadmium	mg/Kg	1	0.045	UN	J	0.043	UN	J	0.041	UN	J	0.041	UN	J	0.045	UN	J	0.043	UN	J
Chromium	mg/Kg	11.1	4.4			**12.1**			**15.5**			4.1			4.3			**15.0**		
Copper	mg/Kg	31.35	**37.4**	**E**	**J**	**33.8**	**E**	**J**	**54.4**	**E**	**J**	12.8	E	J	11.4	E	J	29.8	E	J
Lead *	mg/Kg	400	36.6			38.3			96.7			7.8			6.3			50.1		
Nickel	mg/Kg	16.15	10.6			16.0			14.4			10.4			8.4	B		**108**		
Selenium	mg/Kg	2	0.68	UN	J	0.65	UN	J	0.62	UN	J	0.62	UN	J	0.68	UN	J	0.64	UN	J
Silver	mg/Kg	4.49	**8.7**		**J**	**7.7**		**J**	**10.9**			2.8		J	2.9		J	**8.9**		
Thallium	mg/Kg	2.44	**5.0**	**N**	**J**	**5.2**	**N**	**J**	**6.7**	**N**	**J**	1.0	BN	J	0.98	BN	J	**8.6**	**N**	**J**
Zinc	mg/Kg	75.6	127			94.3			246			36.1			30.4			138		
Mercury	mg/Kg	0.145	0.13			0.090	B		0.42			0.048	B		0.087	B		0.058	U	

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ANALYTE	Units	RECOMMENDED SOIL CLEANUP OBJECTIVES	**A-S-1-0-6** C1463-13A 11-15-04	Lab	Val	**A-S-4-0-6** **DUP A-S-1-0-6** C1463-19A 11-15-04	Lab	Val	**A-S-1-12-18** C1463-14A 11-15-04	Lab	Val	**A-S-2-0-6** C1463-15A 11-17-04	Lab	Val	**A-S-2-0-6RE** C1463-15ARE 11-17-04	Lab	Val	**A-S-2-12-18** C1463-16A 11-17-04	Lab	Val
Naphthalene	UG/KG	13000	380	U		380	U		390	U		100	J		100	J		270	J	
Acenaphthene	UG/KG	50000	380	U		380	U		390	U		370	U		370	U		1900	U	
Fluorene	UG/KG	50000	160	J		78	J		390	U		210	J		170	J		490	J	
Phenanthrene	UG/KG	50000	1400			640			130	J		860			840			4800		
Anthracene	UG/KG	50000	250	J		120	J		390	U		200	J		200	J		1200	J	
Fluoranthene	UG/KG	50000	1700			730			200	J		710			700			11000		
Pyrene	UG/KG	50000	1900			910			280	J		1400		J	1500		J	11000		
Benzo(a)anthracene	UG/KG	224	**1100**			**530**			210	J		**600**		**J**	**620**		**J**	**6000**		
Chrysene	UG/KG	400	**1100**			**510**			190	J		**480**		**J**	**440**		**J**	**5000**		
Benzo(b)fluoranthene	UG/KG	1100	1100			530			200	J		830		J	690		J	**6300**		**J**
Benzo(k)fluoranthene	UG/KG	1100	410			210	J		49	J		270	J	J	390		J	**2000**		**J**
Benzo(a)pyrene	UG/KG	61	**750**			**360**	**J**		**110**	**J**		**530**		**J**	**420**		**J**	**4200**		**J**
Indeno(1,2,3-cd)pyrene	UG/KG	3200	360	J		180	J		70	J		220	J	J	190	J	J	2100		J
Dibenzo(a,h)anthracene	UG/KG	14	**150**	**J**		380	U		390	U		**110**	**J**	**J**	**120**	**J**	**J**	**1000**	**J**	**J**
Benzo(g,h,i)perylene	UG/KG	50000	490			170	J		77	J		270	J	J	240	J	J	1900	J	J
Total SVOC	UG/KG	50000	10870			4968			1516			6790			6620			**57260**		

*See Document titled "Data Qualifiers" for information regarding qualifiers and data interpretation

South Troy
Phase II Sampling Results

ANALYTE	Units	RECOMMENDED SOIL CLEANUP OBJECTIVES	**A-S-2-12-18RE** C1463-16ARE 11-17-04	Lab	Val	**A-S-3-0-6** C1463-17A 11-17-04	Lab	Val	**A-S-3-0-6RE** C1463-17ARE 11-17-04	Lab	Val	**A-S-5-0-6** **COL A-S-3-0-6** C1463-20A 11-17-04	Lab	Val	**A-S-3-12-18** C1463-18A 11-17-04	Lab	Val
Naphthalene	UG/KG	13000	270	J		1900	U		1900	U		380	U		75	J	
Acenaphthene	UG/KG	50000	1900	U		1900	U		1900	U		380	U		390	U	
Fluorene	UG/KG	50000	600	J		1900	U		1900	U		380	U		390	U	
Phenanthrene	UG/KG	50000	4600			440	J	J	540	J		120	J		140	J	
Anthracene	UG/KG	50000	1100	J		380	J	J	420	J		380	U		130	J	
Fluoranthene	UG/KG	50000	7800			1100	J	J	1300	J		150	J		610		
Pyrene	UG/KG	50000	12000			4600		J	5200			370	J		2900		
Benzo(a)anthracene	UG/KG	224	**5900**			**2400**		**J**	**2500**			220	J		**1100**		
Chrysene	UG/KG	400	**4200**		**J**	**3300**		**J**	**2900**		**J**	330	J		**1400**		
Benzo(b)fluoranthene	UG/KG	1100	**7000**		**J**	**4600**		**J**	**5600**		**J**	290	J		**1700**		
Benzo(k)fluoranthene	UG/KG	1100	**2400**		**J**	1000	J	J	**1500**	**J**	**J**	130	J		510		
Benzo(a)pyrene	UG/KG	61	**4300**		**J**	**5800**		**J**	**5700**		**J**	**290**	**J**		**2100**		
Indeno(1,2,3-cd)pyrene	UG/KG	3200	1400	J	J	3200		J	2100		J	130	J		890		
Dibenzo(a,h)anthracene	UG/KG	14	**720**	**J**	**J**	**1400**	**J**	**J**	**910**	**J**	**J**	380	U		**370**	**J**	
Benzo(g,h,i)perylene	UG/KG	50000	1400	J	J	4600		J	3000		J	170	J		1300		
Total SVOC	UG/KG	50000	**53690**			32820			31670			2200			13225		

*See Document titled "Data Qualifiers" for informatior
qualifiers and data interpretation

SOUTH TROY BROWNFIELDS
DATA QUALIFIERS

General:

Sample ID:	**A-W-1**
Laboratory Delivery Group:	D0257-04B
Date Sampled:	3/3/2005

ug/L = Micrograms per Liter of water - parts per billion (ppb)
ug/kg = Micrograms per Kilogram of soil – parts per billion (ppb)
mg/L = Milligrams per Liter of water - parts per million (ppm)
mg/kg = Milligrams per Kilogram of soil – parts per million (ppm)

Laboratory Flags/Qualifiers (Lab):

U Not Detected. This compound was analyzed-for but not detected. For Organics analysis the reporting limit (lowest standard concentration) is the value listed. For Inorganics analysis, the value listed is the detection limit. For Inorganics analyzed using SW-846 methods, the detection limit is the Method Detection Limit, for Inorganics analyzed using EPA CLP and NY ASP CLP methods, the detection limit is the Instrument Detection Limit.

J For Organics analysis, this flag indicates an estimated value due to either:

- the compound was detected below the reporting limit, or
- estimated concentration for Tentatively Identified Compound

B For Organic analyses, this flag indicates the compound was also detected in the associated Method Blank. The B flag has an alternative meaning for Inorganics analyses, indicating a "trace" concentration below the reporting limit and equal to or above the detection limit.

D For Organics analysis, this flag indicates the compound concentration was obtained from a diluted analysis.

E For Organics analysis, this flag indicates the compound concentration exceeded the Calibration Range. The E flag has an alternative meaning for Inorganics analyses, indicating an estimated concentration due to the presence of interferences, as determined by the serial dilution analysis.

P This flag is used for Pesticides/PCB/Herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for Primary and Confirmation analyses. This difference typically indicates an interference, causing one value to be unusually high. The **lower** of the two values is reported in the Analysis Report.

A Used to flag Semivolatile Organic Tentatively Identified Compound library search results for compounds identified as aldol condensation byproducts.

N	Used to flag results for Volatile and Semivolatile Organics analysis Tentatively Identified Compounds where an analyte has passed the identification criteria, and is considered to be positively identified. For Inorganics analysis, the N flag indicates the matrix spike recovery falls outside of the control limit.

For Inorganics analysis the * flag indicates Relative Percent Difference for duplicate analyses is outside of the control limit.

Data Validation Qualifiers Used in the QA/QC Reviews for USEPA Region II (Val):

U	Not detected. The associated number indicates the approximate sample concentration necessary to be detected significantly greater than the level of the highest associated blank.
R	Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample. Supporting data or information is necessary to confirm the result.
N	Tentative identification. Analyte is considered present. Special methods may be needed to confirm its presence or absence during future sampling efforts.
J	Analyte is present. Reported value may be associated with a higher level of uncertainty than is normally expected with the analytical method.
UJ	Not detected, quantitation limit may be inaccurate or imprecise.

Note: These qualifiers are used for data validation purposes. The data validation qualifiers may differ from the qualifiers that the laboratory assigns to the data. Refer to the laboratory analytical report for the definitions of the laboratory qualifiers.

SOIL DATA:

Notes:

Samples analyzed by Mitkem Corp., based in Warwick, R.I.

Values in **BOLD** indicate reported concentrations above applicable Recommended Soil Cleanup Objectives.

"**"	Soil Standards obtained from NYSDEC DHWR TAGM 4046 (1994), "Determination of Soil Cleanup Objectives and Cleanup Levels" and supporting NYSDEC Memorandums dated: 12/20/00, 4/10/01, and 7/10/01.
"***"	As per TAGM #4046, Total Semi-VOCs <500,000 ug/L and Individual Semi-Volatile <50,000 ug/L.
"<"	Indicates the parameter was not detected at the laboratory detection limit shown.
"DUP"	Denotes that a duplicate sample was taken at the location specified.
"COL"	Denotes that a sample was collected from the same area as the location specified.
"NA"	Denotes not analyzed.

GROUNDWATER DATA:

Notes:

Samples analyzed by Mitkem Corp., based in Warwick, R.I.

Values in **BOLD** indicate an exceedance of applicable standard or guidance value provided by Technical and Operational Guidance Series (TOGS) 1.1.1.

"NA"	Denotes not analyzed.

EXHIBIT 6

DATA USABILITY SUMMARY REPORTS

Data Validation Services
120 Cobble Creek Road P. O. Box 208
North Creek, N. Y. 12853
Phone 518-251-4429
Facsimile 518-251-4428

June 24, 2005

Kurt Moline
C. T. Male Associates
50 Century Hill Dr.
Latham, NY 12110

RE: South Troy Industrial Park (STIP)
Data Usability Summary Report (DUSR) for the STIP site
Chemtech SDG Nos. S4821, S4885, S4964, S4989, S5072, S5116, S5301, S5365, S5443,
S5560, S5842, S5931, S5952, S5996, and T1092

Dear Mr. Moline:

Review has been completed for the data packages generated by Chemtech Laboratories that pertain to samples collected 9/20/05 through 01/07/05 at the STIP site. Sixty six soil samples and fifteen aqueous samples (including field duplicates) were processed for TCL volatiles, TCL semivolatiles, and TAL metals. Twenty-six additional soil samples were processed for TCL semivolatiles and TAL metals. Equipment blanks and trip blanks were also analyzed. Methodologies utilized are those of the USEPA SW846, with QC requirements of the NYSDEC ASP and project QAPP.

The data packages submitted contained full deliverables for validation, but this usability report is generated from review of the summary form information, with full review of sample raw data, and limited review of associated QC raw data. Full validation has not been performed. However, the reported summary forms have been reviewed for application of validation qualifiers, per the USEPA Region 2 validation SOPs and the USEPA National Functional Guidelines for Data Review, with consideration of the requirements of the project QAPP. The following items were reviewed:

- Laboratory Narrative Discussion
- Case Narratives
- Custody Documentation
- Holding Times
- Surrogate and Internal Standard Recoveries
- Matrix Spike Recoveries/Duplicate Correlations
- Field Duplicates
- Preparation/Calibration Blanks
- Control Spike/Laboratory Control Samples
- Instrumental Tunes
- Calibration/CRI/CRA Standards
- ICP Interference Check Standards
- ICP Serial Dilution Correlations
- Method Compliance
- Sample Result Verification

Those items listed above which show deficiencies are discussed within the text of this narrative. All of the other items were determined to be acceptable for this level of review.

In summary, most sample results are usable as reported, or usable with minor qualification due to sample matrix or to typical processing outliers. However, a few of the semivolatile analyte results are not usable in a limited number of samples due to processing or matrix.

Included with this report are summaries of sample IDs, and red-ink qualified client results forms. The following text discusses quality issues of concern.

Data Completeness

Many of the Tentatively Identified Compounds (TICs) were not correctly identified by the laboratory (i.e. not in compliance with the protocol requirements). Identifications were made based on best library matches, and in most instances they were very poor matches. In some cases target compounds and even surrogate standards were reported as TICs. If the characterization of TICs is important for this project, the laboratory would need to re-review and re-submit those forms. During this review, the target analytes and surrogate compounds have been removed from those lists on the (attached) sample forms.

The matrix spike, duplicate, and serial dilution evaluations reported in SDG T1092 were initially submitted in the data package using an incorrect parent sample. These were resubmitted on request, and the correct ones were used for those evaluations.

Resubmissions were made for raw ICP data for SDG T1092.

Matrix spikes of semivolatiles consistently show outlying internal and surrogate standard responses that are evidently related to processing rather than sample matrix (the parent samples do not show similar excursions). This has limited the evaluation for accuracy and precision; the matrix spike analyses should have been repeated.

The data package should include a statement as to the methodologies used for analysis.

Although required by the QAPP, the QC requirements of the NYSDEC ASP were not always applied by the laboratory for QC evaluation of matrix spike recoveries, duplicate correlations, and calibration standards. Metals' report forms do not show the "E" qualifier for outlying serial dilution evaluations. In most instances, raw data are not identified with the client ID.

General

Reporting limits for organic analytes are to be derived from the "RL" column of the report forms, not the "Conc" column. The latter should be used only for the detected values.

Blind field duplicate correlations were performed on Trench 5 Lower-1, Trench1 Lower-1, SB-9, CTM-10, and SS-22. All correlations were within validation guidelines, with the following exceptions, results for which are qualified as estimated in the corresponding parent sample and duplicate:

- zinc in CTM-10(>+-CRDL)
- fluoranthene, pyrene, benoz(a)anthracene, barium, calcium, mercury, and silver in SS-22

Many of the other elements in SS-22 varied by more than twofold.

TCL Volatiles by USEPA CLP

The following samples exhibited outlying low surrogate standard responses, and results are qualified as estimated, with a possible low bias: Trench 4 Upper, Trench 4 Upper-1, Trench 3 Upper-1, Trench 3 Upper-2, Test Pit 4 Lower, and SB-11. Samples Trench 3 Upper-1, Trench 3 Upper –2, TestPit 4 Upper, SB-11also show low response for one of the internal standards.

Test Pit 4 Lower shows low responses for two internal standards, and the results for associated compounds are qualified as estimated.

Matrix spike evaluations were performed on project samples Trench 5 Upper, Trench 1 Upper-1, SB-1, and CTM-1.

Those for Trench 1 Upper-1 and SB-1 were acceptable.

The matrix spikes of CTM-1 show low recovery of benzene (74% and 76%, below 79%), and the result for that compound in the parent sample is qualified as estimated.

The matrix spikes of Trench 5 Upper were not useful for evaluation due to poor processing. The spikes show low surrogate and matrix spike compound recoveries. However, the parent sample showed acceptable surrogate recoveries (indicating a non-hostile matrix), and the matrix spikes should have been re-analyzed.

The detection of isopropyl benzene in SB-11 is qualified as tentative in identification ("NJ") due to non-subtractive mass spectral interferences.

Due to consistent presence of methylene chloride in associated method, equipment, and/or trip blanks, the detections of that compound in the project samples are considered external contamination, and are edited to reflect nondetection at the CRDL.

Detected results for acetone in the samples reported in SDG S5301 and S5366 are similarly edited due to method blank constituency.

The analytical columns used in instruments I and K (soils) and D (waters) showed severe tailing, indicating that they should have been replaced. This results in a spreading of the eluent, poor signal/noise ratio, and loss of sensitivity (basically, smearing the analytes into the background). Consequently, the calibration standards required manual intervention and integration. This affects soil samples in SDGs S4885, S4964, S4989, S5072, and S5931. Although no qualification of the data is made in most cases, it was so severe that results for the four gases are qualified as estimated in the samples reported in SDG S5931. Similarly, results for Equipment Blanks #1 through #4 are qualified as estimated due to very poor tailing and low concentration calibration standard performance.

Calibrations standard responses were generally within laboratory guidelines, but some exceed validation criteria. Results for these analytes (primarily bromomethane, chloroethane, methylene choride, methyl acetate, and ketones) have been qualified as estimated on the associated sample report forms.

Tentatively Identified Compounds (TICs) flagged as "B" by the laboratory are considered external contamination (indicated by presence in associated blanks), and results should be rejected as sample components.

TICs reported with a CAS number should also have been flagged as "N" (indicating tentative ID) by the laboratory. See the discussion above regarding characterization. Target analytes should not have been reported as TICs, and are removed. The TIC reported for the Equipment Blank #4 was rejected by the analyst (likely a CO2 peak), and should not have been reported; it has been rejected.

A surrogate standard recovery acceptance range of 75% to 125% was used. The laboratory should have used either ASP ranges, or their laboratory-determined ranges (per protocol).

Semivolatile Analyses by USEPA CLP

All detected results for benzo(b)fluoranthene and benzo(k)fluoranthene are qualified as estimated due to poor resolution of those responses from one another. The analysis oven temperature programming cycle was very short, in effect merging the compounds, and reducing resolution.

Results for the phenolic compounds in CTM-1 and CTM-7 are not usable ("R" qualifier) due to lack of recovery of two of the acid surrogates in those samples indicating a matrix effect).

Due to low response for internal standard d12-perylene (indicating matrix effect), the results for the seven associated compounds are qualified as estimated in Trench 4 Upper-1, Trench 2 Upper, Surface Soil#5, Surface Soil#6, and SS#21 (unless used from a dilution analysis).

Due to low response for internal standards (IS) d12-chrysene and d12-perylene (indicating matrix effect), the results for the thirteen associated compounds are qualified as estimated in Surface Soil#1 and Surface Soil#20 Results for the seven analytes associated with the latter IS are to be derived from the dilution analyses.

All results for Surface Soil#17 except that for hexachlorocyclopentadiene are qualified as estimated due to low internal standard recoveries and subsequent high surrogate recoveries. The excursions were less evident in the matrix spikes of that sample. The result for hexachlorocyclopentadiene is not usable ("R" qualifier) due to recoveries below 30% in the matrix spikes.

The low level detection of dimethyl phthalate in Trench 2 Lower 2 is edited to nondetection at the CRDL due to incorrect identification (artifact of IS d10-anthracene).

The detection of n-nitrosodiphenylamine in Surface Soil#5 is edited to nondetection at the originally reported concentration due to incorrect identification (artifact of surrogate d5-nitrobenzene).

Detected results for bis(2-ethylhexyl)phthalate in the samples reported in SDG S5116, S5072, S5931, S5952, and S5996, and the detected results for di-n-butylphthalate in samples reported in SDG S5842 are considered external contamination (they are also present in associated blanks), and are edited to reflect nondetection at the CRDL. Other detections of this compound should be used with caution. Low level detected results for naphthalene and 2-methylnaphthalene are also edited to reflect nondetection due to Equipment Blank constituency.

Results for sample analytes initially reported with the "E" flag are to be derived from the dilution ("-DL") analyses of the samples. All other target analyte results can be derived from the initial analyses.

Calibrations standard responses were generally within protocol guidelines (although continuing standards were analyzed at the less strict, non-compliant, highest concentration level), but some exceed validation criteria. Results for these analytes (primarily phenolics and hexachlorocyclopentadiene) have been qualified as estimated on the associated sample report forms. The following exceedences were also observed:

- For some samples, the reporting limit of hexachlorocyclopentadiene is raised by 2.5X due to very poor response in the low concentration initial calibration standard.
- The result for 4-bromomphenylphenyl ether is not usable in the Equipment Blank #4 due to poor instrument response (RRF=0.023). Two other compound results are qualified as estimated in that blank.
- Caprolactum results are not usable in SB-1, SB-7, DUP#3, and Equipment Blanks #5 and #6 due to poor continuing calibration response (RRF=0.011).
- The results for 4-nitrophenol in the samples reported in SDG S4885 are not usable ("R" qualifier) due to calibration standard evaluation. The response utilized for that compound is not resolved from a contributing response from dibenzofuran (see the above comment on temperature ramping).

Matrix spike evaluations were performed on project samples Trench 7 Lower, Trench 5 Upper, Trench 3 Lower, Trench 2 SS-2, Trench 1 Upper, SB-11, SB-1, SB-8, Surface Soil#17, SS#23, and CTM-1. Results fall within laboratory guidelines, with the following exceptions, results for which are qualified as estimated in the parent sample:

- Acenaphthene, 4-nitrophenol, benzo(a)anthracene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, benzo(g,h,i)perylene in Trench 7 Lower (the matrix spikes (MS/MSD) exhibited low internal standard responses not shown by the parent sample)
- Four compounds show low recoveries in one of the matrix spikes of Trench 5 Upper. This MS also showed low response of the associated internal standard (not shown in the parent or MSD). An extract specific anomaly is suspected.
- The matrix spikes of Trench 3 Lower show very poor recovery for 4,6-dinitro-3-methylphenol (below 10%) and 2,4-dinitrophenol (10% and 11%), and low recoveries for indeno(1,2,3-cd)pyrene and benzo(g,h,i)perylene. The result for the 4,6-dinitro-3-methylphenol is not usable in the parent sample, and the results for the other three compounds are qualified as estimated in that sample. Those matrix spikes show outlying low responses for two internal standards not exhibited by the parent sample.
- The matrix spikes of SB-11 show four outlying low recoveries in the MS. No qualification is made because the MSs exhibited low internal standard responses not shown in the parent sample. The same instrument response was evaluated as both phenanthrene and anthracene in those spikes.

- The matrix spikes of SB-8 show very poor recovery for 4,6-dinitro-3-methylphenol (below 29%) and 2,4-dinitrophenol (8% and 11%). The result for 4,6-dinitro-3-methylphenol is not usable in the parent sample, and the result for the other compound is qualified as estimated in that sample.
- Matrix spikes of Trench 1 Upper show recoveries below 10% for hexachlorocyclopentadiene, 2,4-dinitrophenol, and 4,6-dinitro-3-methylphenol, and low recoveries for indeno(1,2,3-cd)pyrene and n-nitrosodiphenyl amine. Results for the first three are not usable, and those for the latter two are qualified as estimated, in the parent sample. These matrix spikes were reported as having twofold high surrogate standard recoveries. Inspection of the raw data (response ratios of d5-phenol to phenol and d5-nitrobenzene to nitrobenzene) shows that the surrogate standards were likely spiked twice into those matrix spikes. The parent sample is unaffected.
- The MS of SB-1 shows low response for four of the six surrogate standards, none of which were outlying in the sample or MSD. That extract also reports 23 elevated target compound spike recoveries, not elevated in the MSD. No qualification is made to the parent sample results.
- The result for hexachlorocyclopentadiene is not usable ("R" qualifier) in Surface Soil#17 due to recoveries below 30% in the matrix spikes.
- The matrix spikes of CTM-1 show target analyte recoveries about twice of those expected. Inspection of the raw data (recovery ratios of d5-phenol to phenol and d5-nitrobenzene to nitrobenzene) shows that the targets analytes were likely spiked twice into those matrix spikes. The parent sample is therefore not qualified for the elevated MS recoveries.
- Matrix spikes of SS#23 show recoveries below 10% for hexachlorocyclopentadiene, 2,4-dinitrophenol, and 4,6-dinitro-3-methylphenol, and low recoveries for about forty-five other compounds. Results for the first three are not usable. All other results for that sample are qualified as estimated. The spikes show low recoveries for internal standards that are not observed in the parent sample, so it is not known if the recoveries are low due to sample matrix.

Tentatively Identified Compounds (TICs) flagged as "B" or "A" by the laboratory are considered external contamination (indicated by presence in associated blanks), and results should be rejected as sample components.

TICs reported with a CAS number should also have been flagged as "N" (indicating tentative ID) by the laboratory. See the discussion above regarding characterization. Target analytes and surrogate standards should not have been reported as TICs, and are removed. Some of the TIC retention times are not reported correctly on the sample report forms.

TAL Metals/CN by CLP

The results for sodium and silver in TestPit 1 Upper are derived from the dilution analysis (therefore tenfold higher reporting limits) due to large negative response in the undiluted analysis.

Due to low level detection in the associated Equipment Blank, detections of zinc in the samples reported in SDG S5952 are considered external contamination, and are edited to nondetection.

Matrix spike recoveries and duplicate correlations were performed on samples Trench 5 Upper, Trench 1 Upper-1, Test Pit 4 Upper, SB-1, Surface Soil#13, Surface Soil#17, CTM-1S, CTM-1, and SS-23. Those for SB-1, Surface Soil#13, Surface Soil#17, CTM-1S, and SS-23 show acceptable accuracy and precision. The following table outlines the outlying values, and the affected samples, results for which are qualified as estimated:

Parent Sample	Element	Recovery	Dupl. Correlation	Affected Samples
Trench 5 Upper	Cadmium	66% and 67%		S4821,S4885,Trench3Lower, and Trench 3 Upper
	Silver		>2X±CRDL	
Trench 1 Upper-1	Silver	47%		6 from S4964, S4989, S5072
	Thallium	73%		
TestPit 4 Upper	Silver	-11% and –14%		S5116
	Sodium	50% and 60%		
	Thallium	71% and 71%		

The ICP serial dilution evaluations of Trench 5 Upper, and Surface Soil#17 were acceptable.

The ICP serial dilution evaluation of Trench 1 Upper-1 shows outlying correlations for barium, copper, lead, nickel, potassium, and zinc (correlations between 12%D and 32%D). Detected results for those elements in the samples reported in SDGs S4964, S4989, and S5072 are therefore qualified as estimated.

The ICP serial dilution evaluation of TestPit 4 Upper shows outlying correlations for copper and potassium (correlations of 12%D and 20%D). Detected results for those elements in the samples reported in SDG S5116 are therefore qualified as estimated.

The ICP serial dilution evaluation of SB-1 shows outlying correlations for cobalt, copper, lead, potassium, and vanadium (correlations between 11%D and 22%D). Detected results for those elements in the samples reported in SDGs S5301, S5366, S5443, and S5560 (all SBs) are therefore qualified as estimated.

The ICP serial dilution evaluation of Surface Soil#13 shows outlying correlations for calcium, chromium, iron, lead, magnesium, and potassium (correlations between 11%D and 17%D). Detected results for those elements in ten of the samples reported in SDG 5842 are therefore qualified as estimated.

The ICP serial dilution evaluation of CTM-1S shows outlying correlations for calcium and sodium (correlations of 11%D and 12%D). Detected results for those elements in the samples reported in SDG S5931 and S5952 are therefore qualified as estimated.

The ICP serial dilution evaluation of CTM-1 shows outlying correlations for calcium, magnesium, sodium, and potassium (correlations between 23%D and 73%D). Detected results for those elements in the samples reported in SDG 5996 are therefore qualified as estimated.

The ICP serial dilution evaluation of SS-23 shows outlying correlations for aluminum, barium, calcium, chromium, iron, lead, magnesium, manganese, potassium, and zinc (correlations between 13%D and 29%D). Detected results for those elements in the samples reported in SDG T1092 are therefore qualified as estimated.

Please do not hesitate to contact me if you have comments or questions regarding this report.

Very truly yours,

Judy Harry

CHEMTECH

284 Sheffield Street, Mountainside NJ 07092
Tel: 908-789-8900 Fax 908-789-8922

COVER PAGE

ProjectID: Rensselaer Cty Indust. Dev.

OrderID: S4821

CustomerName: C.T. Male & Associates

LAB SAMPLE NO.	CLIENT SAMPLE NO
S4821-01	TRENCH7UPPER
S4821-02	TRENCH7LOWER
S4821-03	TRENCH7LOWER-1
S4821-04	TRENCH7UPPER-1
S4821-05	TRENCH4LOWER
S4821-06	TRENCH4UPPER
S4821-07	TRENCH4LOWER-1
S4821-08	TRENCH4UPPER-1

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature: Name: Krupa Doshy

Date: 10/6/04 Title: QA/QC

NYDOH CERTIFICATION NO.11376

NJDEP CERTIFICATION NO. 20012

CHEMTECH

284 Sheffield Street, Mountainside NJ 07092
Tel: 908-789-8900 Fax 908-789-8922

COVER PAGE

ProjectID: Rensselaer Cty Indust. Dev.

OrderID: S4885

CustomerName: C.T. Male & Associates

LAB SAMPLE NO.	CLIENT SAMPLE NO
S4885-01	TRENCH4UPPER-2
S4885-02	TRENCH4LOWER-2
S4885-03	TRENCH6LOWER
S4885-04	TRENCH6UPPER
S4885-05	TRENCH6LOWER-1
S4885-06	TRENCH6UPPER-1
S4885-07	TRENCH5LOWER
S4885-08	TRENCH5UPPER
S4885-09	TRENCH5LOWER-1
S4885-10	TRENCH5UPPER-1
S4885-11	TRENCH5UPPER-1MS
S4885-12	TRENCH5UPPER-1MSD
S4885-13	DUP
S4885-14	EQUIPBLANK#1
S4885-15	EQUIPBLANK#2

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature: ______________ Name: Kalpa [illegible]

Date: 10/8/04 Title: QA/QC

CHEMTECH

284 Sheffield Street, Mountainside NJ 07092
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COVER PAGE

ProjectID: Rensselaer Cty Indust. Dev.

OrderID: S4964

CustomerName: C.T. Male & Associates

LAB SAMPLE NO.	CLIENT SAMPLE NO
S4964-01	TRENCH3LOWER
S4964-02	TRENCH3UPPER
S4964-03	TRENCH3LOWER-1
S4964-04	TRENCH3UPPER-1
S4964-05	TRENCH3LOWER-2
S4964-06	TRENCH3UPPER-2
S4964-07	TRENCH2UPPER
S4964-08	TRENCH2SS-1

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Signature: ______________ Name: Anupa Dubey

Date: 10/15/04 Title: QA QC

NYDOH CERTIFICATION NO.11376 NJDEP CERTIFICATION NO. 20012

CHEMTECH

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Tel: 908-789-8900 Fax 908-789-8922

COVER PAGE

ProjectID: Rensselaer Cty Indust. Dev.

OrderID: S4989

CustomerName: C.T. Male & Associates

LAB SAMPLE NO.	CLIENT SAMPLE NO
S4989-01	TRENCH2SS-2
S4989-02	TRENCH2SS-3
S4989-03	TRENCH2LOWER-1
S4989-04	TRENCH2UPPER-1
S4989-05	TRENCH2LOWER-2
S4989-06	TRENCH2UPPER-2

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature:__________ Name: Krupa Desai

Date: 10/16/04 Title: QA/QC

CHEMTECH

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Tel: 908-789-8900 Fax 908-789-8922

COVER PAGE

ProjectID: Rensselaer Cty Indust. Dev.

OrderID: S5072

CustomerName: C.T. Male & Associates

LAB SAMPLE NO.	CLIENT SAMPLE NO
S5072-01	TRENCH1UPPER
S5072-02	TRENCH1LOWER
S5072-03	TRENCH1UPPER-1
S5072-04	TRENCH1UPPER-1MS
S5072-05	TRENCH1UPPER-1MSD
S5072-06	TRENCH1LOWER-1
S5072-07	DUP2
S5072-08	EQUIPBLANK#3
S5072-09	TRENCH1LOWER-2
S5072-10	TRENCH1UPPER-2
S5072-11	TRENCH1LOWER-3
S5072-12	ERDSB-2

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature:______________ Name: Krupa Dubey

Date: 10/25/04 Title: QA/QC

CHEMTECH
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Tel: 908-789-8900 Fax 908-789-8922

COVER PAGE

ProjectID: Rensselaer Cty Indust. Dev.

OrderID: S5116

CustomerName: C.T. Male & Associates

LAB SAMPLE NO.	CLIENT SAMPLE NO
S5116-01	EQUIPBLANK4
S5116-02	TESTPIT1UPPER
S5116-03	TESTPIT1LOWER
S5116-04	TESTPIT2UPPER
S5116-05	TESTPIT2LOWER
S5116-06	TESTPIT3UPPER
S5116-07	TESTPIT3LOWER
S5116-08	TESTPIT4UPPER
S5116-09	TESTPIT4LOWER

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature: Name: Krupa Dubey

Date: 10/26/04 Title: QA/QC

NYDOH CERTIFICATION NO.11376 NJDEP CERTIFICATION NO. 20012

CHEMTECH

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COVER PAGE

ProjectID: Rensselaer Cty Indust. Dev.

OrderID: S5301

CustomerName: C.T. Male & Associates

LAB SAMPLE NO.	CLIENT SAMPLE NO
S5301-01	SB-3A
S5301-02	SB-6
S5301-03	SB-5
S5301-04	SB-11

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Signature:__________ Name: Krupa Dalal

Date: 11/10/04 Title: QA/QC

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COVER PAGE

ProjectID: Rensselaer Cty Indust. Dev.

OrderID: S5366

CustomerName: C.T. Male & Associates

LAB SAMPLE NO.	CLIENT SAMPLE NO
S5366-01	SB-10

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature:
Name: Krupa Dubey
Date: 1/19/04
Title: Office

NYDOH CERTIFICATION NO.11376

NJDEP CERTIFICATION NO. 20012

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ProjectID: Rensselaer Cty Indust. Dev.

OrderID: S5443

CustomerName: C.T. Male & Associates

LAB SAMPLE NO.	CLIENT SAMPLE NO
S5443-01	SB-13
S5443-02	SB-2
S5443-03	SB-8

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature:__________ Name: Krupa Duby

Date: 11/16/04 Title: QA/QC

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COVER PAGE

ProjectID: Rensselaer Cty Indust. Dev.

OrderID: S5560

CustomerName: C.T. Male & Associates

LAB SAMPLE NO.	CLIENT SAMPLE NO
S5560-01	SB-9
S5560-02	DUP#3
S5560-03	EQUIPBLANK#5
S5560-04	EQUIPBLANK#6
S5560-05	SB-7
S5560-06	SB-1
S5560-07	SB-1MS
S5560-08	SB-1MSD

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature:______________ Name: [illegible]

Date: 11/23/04 Title: QA/QC

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COVER PAGE

ProjectID: Rensselaer Cty Indust. Dev.

OrderID: S5842

CustomerName: C.T. Male & Associates

LAB SAMPLE NO.	CLIENT SAMPLE NO
S5842-01	SURFACESOIL#1
S5842-02	SURFACESOIL#6
S5842-03	SURFACESOIL#3
S5842-04	SURFACESOIL#5
S5842-05	SURFACESOIL#4
S5842-06	SURFACESOIL#8
S5842-07	SURFACESOIL#7
S5842-08	SURFACESOIL#9
S5842-09	SURFACESOIL#12
S5842-10	SURFACESOIL#21
S5842-11	SURFACESOIL#13
S5842-12	SURFACESOIL#10
S5842-13	SURFACESOIL#14
S5842-14	SURFACESOILDUP
S5842-15	SURFACESOIL#15
S5842-16	SURFACESOIL#11
S5842-17	SURFACESOIL#16
S5842-18	SURFACESOIL#17
S5842-19	SURFACESOIL#17MS
S5842-20	SURFACESOIL#17MSD
S5842-21	SURFACESOIL#19
S5842-22	SURFACESOIL#20

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature: Name: Alupa Audey

Date: 12/10/04 Title: Office

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COVER PAGE

ProjectID: Rensselaer Cty Indust. Dev.

OrderID: S5842

CustomerName: C.T. Male & Associates

LAB SAMPLE NO.	CLIENT SAMPLE NO
S5842-23	SURFACESOIL#2
S5842-24	SURFACESOILEQUIP.B

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Signature:________________________________Name: __________________________

Date:___________________________________ Title:____________________________

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COVER PAGE

ProjectID: Rensselaer Cty Indust. Dev.

OrderID: S5931

CustomerName: C.T. Male & Associates

LAB SAMPLE NO.	CLIENT SAMPLE NO
S5931-01	TRIPBLANK
S5931-02	CTM-5
S5931-03	MW-8(ESI)
S5931-04	CTM-10
S5931-05	CTM-2
S5931-06	CTM-13
S5931-07	CTM-1S
S5931-08	GWDUP
S5931-09	TRIPBLANK1
S5931-10	CTM-8
S5931-11	CTM-9
S5931-12	CTM-7
S5931-13	CTM-6

I certify that the data package is in compliance with the terms and conditions of the contract both technically and for completeness, for other than the conditions detailed above. Releas of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature

Signature:__________ Name: Krupa Dubey

Date: 12/16/04 Title: QA/QC

CHEMTECH

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COVER PAGE

ProjectID: Rensselaer Cty Indust. Dev.

OrderID: S5952

CustomerName: C.T. Male & Associates

LAB SAMPLE NO.	CLIENT SAMPLE NO
S5952-01	TRIPBLANK
S5952-02	CTM-11
S5952-03	MW-3 (ESI)
S5952-04	EQUIP. BLANK

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature:______________ Name: Kupa Misey

Date: 12/20/04 Title: QA/QC

NYDOH CERTIFICATION NO.11376

NJDEP CERTIFICATION NO. 20012

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ProjectID: Rensselaer Cty Indust. Dev.

OrderID: S5996

CustomerName: C.T. Male & Associates

LAB SAMPLE NO.	CLIENT SAMPLE NO
S5996-01	TRIPBLANK
S5996-02	CTM-3
S5996-03	CTM-1
S5996-04	CTM-1-MS
S5996-05	CTM-1-MSD

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Signature: ______________ Name: [illegible]

Date: 12/21/04 Title: QA/QC

NYDOH CERTIFICATION NO.11376 NJDEP CERTIFICATION NO. 20012

CHEMTECH

284 Sheffield Street, Mountainside NJ 07092
Tel: 908-789-8900 Fax 908-789-8922

COVER PAGE

ProjectID: Rensselaer Cty Indust. Dev.

OrderID: T1092

CustomerName: C.T. Male & Associates

LAB SAMPLE NO.	CLIENT SAMPLE NO
T1092-01	SS-22
T1092-02	SS-23
T1092-03	SS-23-MS
T1092-04	SS-23-MSD
T1092-05	SS-24
T1092-06	SS-21
T1092-07	EQUIPBLANK
T1092-08	DUPLICATE

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature:____________ Name: Kalpa Sanghvi

Date: 12/5/05 Title: QA/QC

NYDOH CERTIFICATION NO.11376

NJDEP CERTIFICATION NO. 20012

Data Validation Services
120 Cobble Creek Road P. O. Box 208
North Creek, N. Y. 12853
Phone 518-251-4429
Facsimile 518-251-4428

June 24, 2005

Kurt Moline
C. T. Male Associates
50 Century Hill Dr.
Latham, NY 12110

RE: South Troy Industrial Park (STIP)
Data Usability Summary Report (DUSR) for the STIP site
Chemtech SDG Nos. S4821, S4885, S4964, S4989, S5072, S5116, S5301, S5365, S5443, S5560, S5842, S5931, S5952, S5996, and T1092

Dear Mr. Moline:

Review has been completed for the data packages generated by Chemtech Laboratories that pertain to samples collected 9/20/05 through 01/07/05 at the STIP site. Sixty six soil samples and fifteen aqueous samples (including field duplicates) were processed for TCL volatiles, TCL semivolatiles, and TAL metals. Twenty-six additional soil samples were processed for TCL semivolatiles and TAL metals. Equipment blanks and trip blanks were also analyzed. Methodologies utilized are those of the USEPA SW846, with QC requirements of the NYSDEC ASP and project QAPP.

The data packages submitted contained full deliverables for validation, but this usability report is generated from review of the summary form information, with full review of sample raw data, and limited review of associated QC raw data. Full validation has not been performed. However, the reported summary forms have been reviewed for application of validation qualifiers, per the USEPA Region 2 validation SOPs and the USEPA National Functional Guidelines for Data Review, with consideration of the requirements of the project QAPP. The following items were reviewed:

- Laboratory Narrative Discussion
- Case Narratives
- Custody Documentation
- Holding Times
- Surrogate and Internal Standard Recoveries
- Matrix Spike Recoveries/Duplicate Correlations
- Field Duplicates
- Preparation/Calibration Blanks
- Control Spike/Laboratory Control Samples
- Instrumental Tunes
- Calibration/CRI/CRA Standards
- ICP Interference Check Standards
- ICP Serial Dilution Correlations
- Method Compliance
- Sample Result Verification

Those items listed above which show deficiencies are discussed within the text of this narrative. All of the other items were determined to be acceptable for this level of review.

In summary, most sample results are usable as reported, or usable with minor qualification due to sample matrix or to typical processing outliers. However, a few of the semivolatile analyte results are not usable in a limited number of samples due to processing or matrix.

Included with this report are summaries of sample IDs, and red-ink qualified client results forms. The following text discusses quality issues of concern.

Data Completeness

Many of the Tentatively Identified Compounds (TICs) were not correctly identified by the laboratory (i.e. not in compliance with the protocol requirements). Identifications were made based on best library matches, and in most instances they were very poor matches. In some cases target compounds and even surrogate standards were reported as TICs. If the characterization of TICs is important for this project, the laboratory would need to re-review and re-submit those forms. During this review, the target analytes and surrogate compounds have been removed from those lists on the (attached) sample forms.

The matrix spike, duplicate, and serial dilution evaluations reported in SDG T1092 were initially submitted in the data package using an incorrect parent sample. These were resubmitted on request, and the correct ones were used for those evaluations.

Resubmissions were made for raw ICP data for SDG T1092.

Matrix spikes of semivolatiles consistently show outlying internal and surrogate standard responses that are evidently related to processing rather than sample matrix (the parent samples do not show similar excursions). This has limited the evaluation for accuracy and precision; the matrix spike analyses should have been repeated.

The data package should include a statement as to the methodologies used for analysis.

Although required by the QAPP, the QC requirements of the NYSDEC ASP were not always applied by the laboratory for QC evaluation of matrix spike recoveries, duplicate correlations, and calibration standards. Metals' report forms do not show the "E" qualifier for outlying serial dilution evaluations. In most instances, raw data are not identified with the client ID.

General

Reporting limits for organic analytes are to be derived from the "RL" column of the report forms, not the "Conc" column. The latter should be used only for the detected values.

Blind field duplicate correlations were performed on Trench 5 Lower-1, Trench1 Lower-1, SB-9, CTM-10, and SS-22. All correlations were within validation guidelines, with the following exceptions, results for which are qualified as estimated in the corresponding parent sample and duplicate:

- zinc in CTM-10(>+-CRDL)
- fluoranthene, pyrene, benoz(a)anthracene, barium, calcium, mercury, and silver in SS-22

Many of the other elements in SS-22 varied by more than twofold.

TCL Volatiles by USEPA CLP

The following samples exhibited outlying low surrogate standard responses, and results are qualified as estimated, with a possible low bias: Trench 4 Upper, Trench 4 Upper-1, Trench 3 Upper-1, Trench 3 Upper-2, Test Pit 4 Lower, and SB-11. Samples Trench 3 Upper-1, Trench 3 Upper –2, TestPit 4 Upper, SB-11also show low response for one of the internal standards.

Test Pit 4 Lower shows low responses for two internal standards, and the results for associated compounds are qualified as estimated.

Matrix spike evaluations were performed on project samples Trench 5 Upper, Trench 1 Upper-1, SB-1, and CTM-1.

Those for Trench 1 Upper-1 and SB-1 were acceptable.

The matrix spikes of CTM-1 show low recovery of benzene (74% and 76%, below 79%), and the result for that compound in the parent sample is qualified as estimated.

The matrix spikes of Trench 5 Upper were not useful for evaluation due to poor processing. The spikes show low surrogate and matrix spike compound recoveries. However, the parent sample showed acceptable surrogate recoveries (indicating a non-hostile matrix), and the matrix spikes should have been re-analyzed.

The detection of isopropyl benzene in SB-11 is qualified as tentative in identification ("NJ") due to non-subtractive mass spectral interferences.

Due to consistent presence of methylene chloride in associated method, equipment, and/or trip blanks, the detections of that compound in the project samples are considered external contamination, and are edited to reflect nondetection at the CRDL.

Detected results for acetone in the samples reported in SDG S5301 and S5366 are similarly edited due to method blank constituency.

The analytical columns used in instruments I and K (soils) and D (waters) showed severe tailing, indicating that they should have been replaced. This results in a spreading of the eluent, poor signal/noise ratio, and loss of sensitivity (basically, smearing the analytes into the background). Consequently, the calibration standards required manual intervention and integration. This affects soil samples in SDGs S4885, S4964, S4989, S5072, and S5931. Although no qualification of the data is made in most cases, it was so severe that results for the four gases are qualified as estimated in the samples reported in SDG S5931. Similarly, results for Equipment Blanks #1 through #4 are qualified as estimated due to very poor tailing and low concentration calibration standard performance.

Calibrations standard responses were generally within laboratory guidelines, but some exceed validation criteria. Results for these analytes (primarily bromomethane, chloroethane, methylene choride, methyl acetate, and ketones) have been qualified as estimated on the associated sample report forms.

Tentatively Identified Compounds (TICs) flagged as "B" by the laboratory are considered external contamination (indicated by presence in associated blanks), and results should be rejected as sample components.

TICs reported with a CAS number should also have been flagged as "N" (indicating tentative ID) by the laboratory. See the discussion above regarding characterization. Target analytes should not have been reported as TICs, and are removed. The TIC reported for the Equipment Blank #4 was rejected by the analyst (likely a CO2 peak), and should not have been reported; it has been rejected.

A surrogate standard recovery acceptance range of 75% to 125% was used. The laboratory should have used either ASP ranges, or their laboratory-determined ranges (per protocol).

Semivolatile Analyses by USEPA CLP

All detected results for benzo(b)fluoranthene and benzo(k)fluoranthene are qualified as estimated due to poor resolution of those responses from one another. The analysis oven temperature programming cycle was very short, in effect merging the compounds, and reducing resolution.

Results for the phenolic compounds in CTM-1 and CTM-7 are not usable ("R" qualifier) due to lack of recovery of two of the acid surrogates in those samples indicating a matrix effect).

Due to low response for internal standard d12-perylene (indicating matrix effect), the results for the seven associated compounds are qualified as estimated in Trench 4 Upper-1, Trench 2 Upper, Surface Soil#5, Surface Soil#6, and SS#21 (unless used from a dilution analysis).

Due to low response for internal standards (IS) d12-chrysene and d12-perylene (indicating matrix effect), the results for the thirteen associated compounds are qualified as estimated in Surface Soil#1 and Surface Soil#20 Results for the seven analytes associated with the latter IS are to be derived from the dilution analyses.

All results for Surface Soil#17 except that for hexachlorocyclopentadiene are qualified as estimated due to low internal standard recoveries and subsequent high surrogate recoveries. The excursions were less evident in the matrix spikes of that sample. The result for hexachlorocyclopentadiene is not usable ("R" qualifier) due to recoveries below 30% in the matrix spikes.

The low level detection of dimethyl phthalate in Trench 2 Lower 2 is edited to nondetection at the CRDL due to incorrect identification (artifact of IS d10-anthracene).

The detection of n-nitrosodiphenylamine in Surface Soil#5 is edited to nondetection at the originally reported concentration due to incorrect identification (artifact of surrogate d5-nitrobenzene).

Detected results for bis(2-ethylhexyl)phthalate in the samples reported in SDG S5116, S5072, S5931, S5952, and S5996, and the detected results for di-n-butylphthalate in samples reported in SDG S5842 are considered external contamination (they are also present in associated blanks), and are edited to reflect nondetection at the CRDL. Other detections of this compound should be used with caution.

Low level detected results for naphthalene and 2-methylnaphthalene are also edited to reflect nondetection due to Equipment Blank constituency.

Results for sample analytes initially reported with the "E" flag are to be derived from the dilution ("-DL") analyses of the samples. All other target analyte results can be derived from the initial analyses.

Calibrations standard responses were generally within protocol guidelines (although continuing standards were analyzed at the less strict, non-compliant, highest concentration level), but some exceed validation criteria. Results for these analytes (primarily phenolics and hexachlorocyclopentadiene) have been qualified as estimated on the associated sample report forms. The following exceedences were also observed:

- For some samples, the reporting limit of hexachlorocyclopentadiene is raised by 2.5X due to very poor response in the low concentration initial calibration standard.
- The result for 4-bromomphenylphenyl ether is not usable in the Equipment Blank #4 due to poor instrument response (RRF=0.023). Two other compound results are qualified as estimated in that blank.
- Caprolactum results are not usable in SB-1, SB-7, DUP#3, and Equipment Blanks #5 and #6 due to poor continuing calibration response (RRF=0.011).
- The results for 4-nitrophenol in the samples reported in SDG S4885 are not usable ("R" qualifier) due to calibration standard evaluation. The response utilized for that compound is not resolved from a contributing response from dibenzofuran (see the above comment on temperature ramping).

Matrix spike evaluations were performed on project samples Trench 7 Lower, Trench 5 Upper, Trench 3 Lower, Trench 2 SS-2, Trench 1 Upper, SB-11, SB-1, SB-8, Surface Soil#17, SS#23, and CTM-1. Results fall within laboratory guidelines, with the following exceptions, results for which are qualified as estimated in the parent sample:

- Acenaphthene, 4-nitrophenol, benzo(a)anthracene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, benzo(g,h,i)perylene in Trench 7 Lower (the matrix spikes (MS/MSD) exhibited low internal standard responses not shown by the parent sample)
- Four compounds show low recoveries in one of the matrix spikes of Trench 5 Upper. This MS also showed low response of the associated internal standard (not shown in the parent or MSD). An extract specific anomaly is suspected.
- The matrix spikes of Trench 3 Lower show very poor recovery for 4,6-dinitro-3-methylphenol (below 10%) and 2,4-dinitrophenol (10% and 11%), and low recoveries for indeno(1,2,3-cd)pyrene and benzo(g,h,i)perylene. The result for the 4,6-dinitro-3-methylphenol is not usable in the parent sample, and the results for the other three compounds are qualified as estimated in that sample. Those matrix spikes show outlying low responses for two internal standards not exhibited by the parent sample.
- The matrix spikes of SB-11 show four outlying low recoveries in the MS. No qualification is made because the MSs exhibited low internal standard responses not shown in the parent sample. The same instrument response was evaluated as both phenanthrene and anthracene in those spikes.

- The matrix spikes of SB-8 show very poor recovery for 4,6-dinitro-3-methylphenol (below 29%) and 2,4-dinitrophenol (8% and 11%). The result for 4,6-dinitro-3-methylphenol is not usable in the parent sample, and the result for the other compound is qualified as estimated in that sample.
- Matrix spikes of Trench 1 Upper show recoveries below 10% for hexachlorocyclopentadiene, 2,4-dinitrophenol, and 4,6-dinitro-3-methylphenol, and low recoveries for indeno(1,2,3-cd)pyrene and n-nitrosodiphenyl amine. Results for the first three are not usable, and those for the latter two are qualified as estimated, in the parent sample. These matrix spikes were reported as having twofold high surrogate standard recoveries. Inspection of the raw data (response ratios of d5-phenol to phenol and d5-nitrobenzene to nitrobenzene) shows that the surrogate standards were likely spiked twice into those matrix spikes. The parent sample is unaffected.
- The MS of SB-1 shows low response for four of the six surrogate standards, none of which were outlying in the sample or MSD. That extract also reports 23 elevated target compound spike recoveries, not elevated in the MSD. No qualification is made to the parent sample results.
- The result for hexachlorocyclopentadiene is not usable ("R" qualifier) in Surface Soil#17 due to recoveries below 30% in the matrix spikes.
- The matrix spikes of CTM-1 show target analyte recoveries about twice of those expected. Inspection of the raw data (recovery ratios of d5-phenol to phenol and d5-nitrobenzene to nitrobenzene) shows that the targets analytes were likely spiked twice into those matrix spikes. The parent sample is therefore not qualified for the elevated MS recoveries.
- Matrix spikes of SS#23 show recoveries below 10% for hexachlorocyclopentadiene, 2,4-dinitrophenol, and 4,6-dinitro-3-methylphenol, and low recoveries for about forty-five other compounds. Results for the first three are not usable. All other results for that sample are qualified as estimated. The spikes show low recoveries for internal standards that are not observed in the parent sample, so it is not known if the recoveries are low due to sample matrix.

Tentatively Identified Compounds (TICs) flagged as "B" or "A" by the laboratory are considered external contamination (indicated by presence in associated blanks), and results should be rejected as sample components.

TICs reported with a CAS number should also have been flagged as "N" (indicating tentative ID) by the laboratory. See the discussion above regarding characterization. Target analytes and surrogate standards should not have been reported as TICs, and are removed. Some of the TIC retention times are not reported correctly on the sample report forms.

TAL Metals/CN by CLP

The results for sodium and silver in TestPit 1 Upper are derived from the dilution analysis (therefore tenfold higher reporting limits) due to large negative response in the undiluted analysis.

Due to low level detection in the associated Equipment Blank, detections of zinc in the samples reported in SDG S5952 are considered external contamination, and are edited to nondetection.

Matrix spike recoveries and duplicate correlations were performed on samples Trench 5 Upper, Trench 1 Upper-1, Test Pit 4 Upper, SB-1, Surface Soil#13, Surface Soil#17, CTM-1S, CTM-1, and SS-23. Those for SB-1, Surface Soil#13, Surface Soil#17, CTM-1S, and SS-23 show acceptable accuracy and precision. The following table outlines the outlying values, and the affected samples, results for which are qualified as estimated:

Parent Sample	Element	Recovery	Dupl. Correlation	Affected Samples
Trench 5 Upper	Cadmium	66% and 67%		S4821,S4885,Trench3Lower, and Trench 3 Upper
	Silver		>2X±CRDL	
Trench 1 Upper-1	Silver	47%		6 from S4964, S4989, S5072
	Thallium	73%		
TestPit 4 Upper	Silver	-11% and –14%		S5116
	Sodium	50% and 60%		
	Thallium	71% and 71%		

The ICP serial dilution evaluations of Trench 5 Upper, and Surface Soil#17 were acceptable.

The ICP serial dilution evaluation of Trench 1 Upper-1 shows outlying correlations for barium, copper, lead, nickel, potassium, and zinc (correlations between 12%D and 32%D). Detected results for those elements in the samples reported in SDGs S4964, S4989, and S5072 are therefore qualified as estimated.

The ICP serial dilution evaluation of TestPit 4 Upper shows outlying correlations for copper and potassium (correlations of 12%D and 20%D). Detected results for those elements in the samples reported in SDG S5116 are therefore qualified as estimated.

The ICP serial dilution evaluation of SB-1 shows outlying correlations for cobalt, copper, lead, potassium, and vanadium (correlations between 11%D and 22%D). Detected results for those elements in the samples reported in SDGs S5301, S5366, S5443, and S5560 (all SBs) are therefore qualified as estimated.

The ICP serial dilution evaluation of Surface Soil#13 shows outlying correlations for calcium, chromium, iron, lead, magnesium, and potassium (correlations between 11%D and 17%D). Detected results for those elements in ten of the samples reported in SDG 5842 are therefore qualified as estimated.

The ICP serial dilution evaluation of CTM-1S shows outlying correlations for calcium and sodium (correlations of 11%D and 12%D). Detected results for those elements in the samples reported in SDG S5931 and S5952 are therefore qualified as estimated.

The ICP serial dilution evaluation of CTM-1 shows outlying correlations for calcium, magnesium, sodium, and potassium (correlations between 23%D and 73%D). Detected results for those elements in the samples reported in SDG 5996 are therefore qualified as estimated.

The ICP serial dilution evaluation of SS-23 shows outlying correlations for aluminum, barium, calcium, chromium, iron, lead, magnesium, manganese, potassium, and zinc (correlations between 13%D and 29%D). Detected results for those elements in the samples reported in SDG T1092 are therefore qualified as estimated.

Please do not hesitate to contact me if you have comments or questions regarding this report.

Very truly yours,

Judy Harry

C.T. MALE ASSOCIATES, P.C.

SUBJECT: Data Usability Summary Report (DUSR)
South Troy Industrial Park
Chemtech SDG No.: T4315
C.T. Male Project No.: 04.9138

DATE: December 1, 2005

On August 15, 17, and 18, 2005, C.T. Male Associates P.C. (C. T. Male) collected five (5) soil samples from the South Troy Industrial Park (STIP) Site. The samples were submitted to CHEMTECH in Mountainside, NJ along with an equipment blank and a trip blank, for the following analyses:

Parameter	**Sample Date**	**VOC, SW-846 8260B**	**SVOC, SW-846 8270C**
Sample Ids			
SB-100 (14-16)	8/15/2005	1	1
SB-101S (15-17)	8/17/2005	1	1
SB-102 (16-18)	8/17/2005	1	1
SB-103 (14-16)	8/18/2005	1	1
SB-103 (22-24)	8/18/2005	1	1
Equipment Blank	8/18/2005	1	1
Trip Blank	-	1	0
Total Samples		**7**	**6**

VOC – Volatile organic compounds
SVOC – Semi-volatile organic compounds

C. T. Male evaluated the data reported by the laboratory to determine usability per Appendix B of the *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NY DEC, December 2002). The following criteria were reviewed:

- Completeness of data package as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables;
- Holding time compliance for chemical analysis;
- Protocol required limits and specification compliance for quality control (QC) data (e.g., instrument tuning, calibration standards, blank results, spike results, duplicate results, etc);
- Contract compliance for analytical protocols;
- Omissions and Transcription errors; and
- Data qualification

All required documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms. The laboratory Case Narrative (Attachment A) identified all deviations from laboratory analytical specifications. C. T. Male reviewed these QC results to determine if sample results should be qualified based on the criteria provided in Appendix B of the *Technical Guidance for Site Investigation and Remediation*. QC exceedances and data qualification recommendations are presented in the Data Evaluation Checklist (Attachment B). Qualified sample results are presented in the laboratory summary forms, which are located in Attachment C.

Overall, data quality objectives for the STIP project were met, as there were not any data deficiencies that would indicate the need for re-sampling.

Data Completeness

All required documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms for the validated samples. The laboratory Case Narrative identified all deviations from laboratory analytical specifications, and is attached along with the qualified sample results. QC exceedences and data qualification recommendations are presented below.

Sample Condition upon Receipt and Holding Times

Chemtech received all the samples listed on the COC records intact and in good condition on August 19, 2005. The temperature of samples was within laboratory specification limits of 2 to 6°C upon receipt.

All samples were prepared and analyzed within EPA-established holding times.

Volatile Organic Analyses (VOA) by SW-846 8260B

All samples were analyzed within 12 hours of the performance check standard, BFB. Percent relative abundance of all ions met the criteria specified in Table 4 of the EPA SW-846 Method 8260B. Laboratory specifications were met during the initial calibrations on August 1 and 15, 2005 and the continuing calibrations on August 22, 2005. In addition the average relative response factor (RRF) was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The percent relative standard deviation (%RSD) between RRF was less than or equal to 30% during the initial calibration, and the percent difference (%D) between the initial calibration average RRF and continuing calibration RRF was less than or equal to 25% for all target analytes, except bromomethane (40.4%D), chloroethane (36.2%D), carbon disulfide (49.6%D), tetrachloroethene (27.4%D), and 1,2-dibromo-3-chloropropane (30.9%D) for the continuing calibration of August 22 associated with the analysis of the trip and equipment blanks, therefore the associated results in these samples have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards. Dichlorodifluoromethane (31.4%D) and tetrachloroethene (46%D) exceeded 25%D for the continuing calibration of August 22 associated with all soil samples. The associated results in these samples have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples.

The percent recovery results for blank spike analysis were within laboratory specifications for 1,1-dichloroethene, benzene, trichloroethene, toluene, and chlorobenzene.

A method blank was reported for each analytical batch and equipment and trip blanks were also submitted to the laboratory for VOA. Target analytes were not detected during the VOA of the trip blank. However, methylene chloride (a common laboratory contaminant) was detected during the VOA of method blank VBK0822S4, and toluene was detected during the VOA of the equipment blank, at concentrations of 15 µg/Kg and 1.1 µg/L, respectively. Action levels were developed by multiplying the highest concentration observed among the associated blank by a factor of 10 for common laboratory contaminants and a factor of 5 for all other contaminants, and adjusted for dry weight comparison to soil results when necessary. Samples with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Semivolatile Organic Analysis (SVOA) by SW-846 8270C

All samples were analyzed within 12 hours of the performance check standard, DFTPP. Percent relative abundance of all ions met the criteria specified in Table 3 of the EPA SW-846 Method 8270C. Laboratory specifications were met during the initial calibration on August 19, 2005 and the continuing calibrations of August 23, 24, and 28, 2005. In addition the average RRF was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The %RSD between RRF was less than or equal to 30% during the initial calibrations, and the %D between the initial calibration average RRF and continuing calibration RRF was less than or equal to 25% for all target analytes except 3-nitroaniline (30.7%D) during the continuing calibration associated with the analysis of all soils except SB-100(14-16), 4-chloroaniline (28%D) during the continuing calibration associated with the analysis of the equipment blank, and bis(2-chloroethyl)ether (33.1%D), 2-nitrophenol (26.9%D), hexachlorocyclopentadiene (65.3%D), 2,4-dinitrophenol (138.5%D), and 4-nitroaniline (30.8%D) during the continuing calibration associated with the analysis of SB-100(14-16). The associated results in these samples have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples except the surrogate recovery for terphenyl-d14 (2%R) during the analysis of SB-103(14-16). Qualification of base/neutral (B/N) results is not required, as all other B/N surrogates were within specifications.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes except bis(2-chloroethyl)ether and carbazole exceeded laboratory specifications, and caprolactam was below laboratory specifications, during the analysis of blank spike PB07114BS, associated with the analysis of the equipment blank. Associated results in the equipment blank have been qualified as estimated (J/UJ) for caprolactam, and detected results have been qualified as estimated (J) for bis(2-chloroethyl)ether and carbazole.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes except 4,6-dinitro-2-methylphenol exceeded laboratory specifications, and caprolactam was below laboratory specifications, during the analysis of blank spike PB07116BS, associated with the analysis of all soil samples. Associated results have been qualified as estimated (J/UJ) for caprolactam, and detected results have been qualified as estimated (J) for 4,6-dinitro-2-methylphenol.

A method blank was reported for each analytical batch. An equipment blank was also submitted to the laboratory for SVOA. Bis(2-ethylhexyl)phthalate, pentafluoropropionic acid octadecyl (a tentatively identified compound (TIC)), and 2,6,10,14,18,22-tetracosahexaene (TIC) were detected during the analysis of method blank PB07114B at concentrations of 7.6, 3.4, and 5.7 µg/L, respectively. Dibenzyllidene 4,4-biphenylenedia (TIC) was detected during the analysis of method blank PB07116B at a concentration of 230 µg/Kg. Bis(2-ethylhexyl)phthalate, 2-pentanone 4-hydroxy-4-methyl (TIC), and trichloroacetic acid hexadecyl est (TIC) were detected during the analysis of the equipment blank at concentrations of 10, 8.4, and 2.6 µg/L. Action levels were developed by multiplying the highest concentration observed among the associated blank by a factor of 5, and adjusting the value for comparison to soil results when necessary. Samples with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Megan Drosky
Megan Drosky
Environmental Scientist

ATTACHMENT A
Case Narrative

CHEMTECH

CASE NARRATIVE

C.T. Male & Associates
Project Name: Rensselaer Cty Indust. Dev. Agency
Project # N/A
Chemtech Project # T4315

A. Number of Samples and Date of Receipt:
5 Solid samples were received on 8/19/05.
2 Water samples were received on 8/19/05.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: SVOCMS Group1, and VOCMS Group1. This data package contains results for SVOCMS Group1.

C. Analytical Techniques:
The analysis of Semi-Volatile Organic is based on Method 8270. The samples were analyzed on instrument BNA E using GC Column RTX-5 which is 30 meters, 0.32mm ID, 0. 5um DF., Catalog # 12739.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria except for SB-103(14-16).
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds except for 4,6-Dinitro-2-methylphenol and Carbazole.
The MSD recoveries met the acceptable requirements.
The RPD recoveries met criteria.
The Blank Spike met requirements for all samples except for 4,6-Dinitro-2-methylphenol, Carbazole, bis(2-Chloroethyl)ether and Caprolactam.
The Blank analysis indicated presence of bis(2-Ethylhexyl)phthalate due to possible lab contamination.
The Calibration met the requirements.
The Tuning criteria met requirements.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature ______________ Name: Krupa Dubey

Date: 9/2/05 Title: QA/QC

CHEMTECH

CASE NARRATIVE

C.T. Male & Associates
Project Name: Rensselaer Cty Indust. Dev. Agency
Project # N/A
Chemtech Project # T4315

A. Number of Samples and Date of Receipt:
5 Solid samples were received on 8/19/05.
2 Water samples were received on 8/19/05.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: SVOCMS Group1, and VOCMS Group1. This data package contains results for VOCMS Group1.

C. Analytical Techniques:
The analysis performed on instrument MSVOA H were done using GC column RTX624, which is 75 meters, 0.53 ID, 3.0 df, Restek Cat. #10974. The Trap was supplied BY OI Analytical, OI #10 Trap , OI Eclipse 4660 Concentrator. The analysis performed on instrument MSVOA K were done using GC column DB624, which is 20 meters, 0.18 ID, 1.0 df, J&W Cat. #1211324. The Trap was supplied by OI Analytical, OI #10 Trap , OI 4560 Concentrator.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds.
The MSD recoveries met the acceptable requirements.
The RPD recoveries met criteria.
The Blank Spike met requirements for all samples.
The Blank analysis indicated presence of Methylene Chloride due to possible lab contamination.
The Calibration met the requirements.
The Tuning criteria met requirements.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature________________________ Name: Krupa Dubey
Date: 9/12/05 Title: QA/QC

ATTACHMENT B
Data Evaluation Checklist

Data Evaluation Checklist
Organic Analyses

Project: South Troy Industrial Park
Work Order: T4315
Laboratory: CHEMTECH

Reviewer: Megan Drosky

Project No: 04.9138
Method: SW-846 Methods 8260B (VOA), 8270C (SVOA)
Associated Sample IDs: SB-100(14-16), SB-101S(15-17), SB-102(16-18), SB-103(14-16), SB-103(22-24), Equipment Blank, and Trip Blank
Sample Date: 08/15, 17, and 18/05
Date: 12/01/05

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
1. Were holding times met?	✓			• VOA: ≤14 days • SVOA: ≤14/40 days (soil), ≤7/40 days (water)	
2. Were sample storage and preservation requirements met?	✓			6°C (2-6°C). The trip blank and equipment blank were preserved with HCl for VOA analysis.	
3. Was a method blank analyzed with each batch?	✓			• VOA: VBH0822W4, VBK0822S4 • SVOA: PB07114B, PB07116B	
4. Were target analytes reported in the method or calibration blanks above the Detection Limit?	✓			• VOA – VBK0822S4: Methylene chloride @15 µg/Kg (1.8 µg/Kg) • SVOA – PB07116B: Dibenzyllidene4,4-biphenylenedia (TIC) @230 µg/Kg (RT=14.32) • SVOA – PB07114B: bis(2-ethylhexyl)phthalate @7.6 µg/L (1.5 µg/L) • SVOA – PB07114B: Pentafluoropropionic acid, octadecyl (TIC) @3.4 µg/L (RT=8.54) • SVOA – PB07114B: 2,6,10,14,18,22-Tetracosahexaene (TIC) @5.7 µg/L (RT=9.84)	
5. Were target analytes reported in field blank analyses (e.g., trip, ~~ambient, field,~~ or equipment) above the DL?	✓			Equipment Blank: • VOA – Toluene @1.1 µg/L (0.36 µg/L) • SVOA – bis(2-ethylhexyl)phthalate @10 µg/L (1.6 µg/L) • SVOA – 2-Pentanone, 4-hydroxy-4-methyl- (TIC) @8.4 µg/L (RT=3.02) • SVOA – Trichloroacetic acid, hexadecyl est (TIC) @2.6 µg/L (RT=8.54)	
6. Were contaminants detected in samples below the blank contamination action level?	✓			Blank Contamination Action Levels: • VOA – Toluene @55 µg/Kg (1.1 x 5 x 10) • VOA – Methylene chloride @150 µg/Kg (15 x 10)	ND, U

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				• SVOA – bis(2-ethylhexyl)phthalate @500 µg/L (10 x 5 x 10) • SVOA – 2-Pentanone, 4-hydroxy-4-methyl- (TIC) @420 µg/Kg (8.4 x 5 x 10) • SVOA – Trichloroacetic acid, hexadecyl est (TIC) @130 µg/Kg (2.6 x 5 x 10) • SVOA – Dibenzyllidene4,4-biphenylenedia (TIC) @1150 µg/Kg (230 x 5) • SVOA – Pentafluoropropionic acid, octadecyl (TIC) @170 µg/Kg (3.4 x 5 x 10) • SVOA – 2,6,10,14,18,22-Tetracosahexaene (TIC) @285 µg/Kg (5.7 x 5 x 10) Sample results that were not significantly greater (5x and 10x for common laboratory contaminants) than that detected in the blanks have been qualified due to the presence of blank contamination as ND (U-flag) and the DL has been elevated to the amount detected.	
7. Were initial and continuing calibration standards analyzed at the lab-specified frequency for each instrument?	✓			• VOA o Initial calibration: 08/15/05 (Associated samples: Trip Blank and Equipment Blank) and 08/01/05 (Associated samples: all soil samples) o Continuing calibration: 08/22/05 @22:27 (Trip Blank and Equip Blank) and 08/22/05 @23:28 (all soils) • SVOA o Initial calibration: 08/19/05 o Continuing calibration: 08/24/05 @18:06 (Equip Blank), 08/23/05 @04:08 (all soils except SB-100(14-16)), and 08/28/05 @06:27 (SB-100(14-16))	
8. Were these results within lab or project specifications?		✓		VOA – • Initial Calibration of 08/15/05 and 08/01/05. The RF >0.05 and %RSD between response factors was less than 30% for all target analytes. • Continuing calibrations of 08/22/05. The RF>0.05 and %D <25% for all target analytes,	J/UJ

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				except as follows: o 08/22/05 @22:27 – bromomethane (40.4%D), chloroethane (36.2%D), carbon disulfide (49.6%D), tetrachloroethene (27.4%D), and 1,2-dibromo-3-chloropropane (30.9%D). J/UJ associated samples. o 08/22/05 @23:28 – dichlorodifluoromethane (31.4%D) and tetrachloroethene (46%D). J/UJ associated samples. SVOA – • Initial Calibration of 08/19/05. The RF >0.05 and %RSD between response factors was less than 30% for all target analytes. • Continuing calibrations of 08/23/05, 08/24/05, and 08/28/05. The RF>0.05 and %D <25% for all target analytes, except as follows: o 08/23/05 – 3-nitroaniline (30.7%D). J/UJ associated samples. o 08/24/05 – 4-chloroaniline (28%D). J/UJ associated samples. o 08/28/05 – bis(2-Chloroethyl)ether (33.1%D), 2-nitrophenol (26.9%D), hexachlorocyclopentadiene (65.3%D), 2,4-dinitrophenol (138.5%D), and 4-nitroaniline (30.8%D). J/UJ associated samples.	
9. Were the results of the ICS Check Standard analysis within 80-120% of the true value (metals only)?			✓		
10. Was a CRDL Standard analyzed for metals?			✓		
11. Were recoveries within 75-125% of the true value during the CRDL analysis (CRA, CRI)?			✓		
12. Was a LCS analyzed with each batch?		✓		• VOA: BSK0822S1 • SVOA: PB07116BS, PB07114BS	

WO # T4315

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
13. Were LCS' recoveries within lab specifications?		✓		SVOA, PB07116BS (Associated samples: all soils): • 4,6-Dinitro-2-methylphenol @106%R (40-105). J • Carbazole @118%R (54-117). J SVOA, PB07114BS (Associated sample: equipment blank): • Bis(2-Chloroethyl)ether @96%R (47-94). J • Caprolactam @15%R (20-150). J/UJ • Carbazole @132%R (57-115). J	J/UJ
14. Were LCS/LCSD RPD within lab specifications?			✓	LCS only	
15. Was a MS/MSD pair analyzed with each batch?	✓			• VOA: T4292-01 (batch) • SVOA: T4289-01 (batch)	
16. Is the MS/MSD parent sample a project-specific sample?		✓			
17. Were MS/MSD recoveries within lab specifications? *Only QC results for project samples are evaluated.*			✓		
18. Were MS/MSD RPD within lab specifications? *Only QC results for project samples are evaluated.*			✓		
19. Was a serial dilution conducted on each inorganic batch?			✓		
20. Is the serial dilution parent sample a project-specific sample?			✓		
21. Is the percent difference between the serially diluted result and undiluted result less than 10% (for those analytes with native concentrations greater than 50x the DL)? *Only QC results for project samples are evaluated.*			✓		
22. Was a laboratory duplicate analyzed with each batch?		✓			
23. Is the laboratory duplicate sample a project-specific sample?			✓		
24. Does laboratory duplicate results meet lab specifications? *Only QC results for project samples are evaluated.*			✓		
25. Were surrogate recoveries within lab specifications during organic analysis?		✓		SVOA – SB-103(14-16) • Terphenyl-d14 @2%R (18-137) No action warranted as remaining B/N surrogates are within specifications.	
26. Were internal standard results within lab specifications during the VOA and SVOA?	✓				

WO # T4315

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
27. Were TIC reported and were reported results qualified as estimated concentrations?	✓				JN
28. Were field duplicate samples submitted to the laboratory for analysis?		✓			
29. Was precision deemed acceptable as defined by DV Guidelines?			✓		
30. Were laboratory-generated Corrective Action Reports (i.e., QCER) issued? If yes, summarize contents or attach copy of the report.		✓			
31. Were lab comments included in report? If yes, summarize contents or attach a copy of the narrative.	✓			Refer to Case Narratives	

Comments:

The data review process was modeled after the EPA Region 2 Data Validation Guidelines for unusable data and Appendix 2B, Guidance for the Development of Data Usability Summary Reports, of *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NY DEC, December 2002).

Key:

J	Positive sample result is considered estimated
R	Unusable data
R+	Positive sample result is considered unusable
U	Not present above the associated level; blank contamination exists
UJ	Sample result is not detected and the detection limit is considered estimated
ND	Sample result is not detected
N	A "tentative identification" has been made of the presence of an analyte

C.T. MALE ASSOCIATES, P.C.

SUBJECT: Data Usability Summary Report (DUSR)
South Troy Industrial Park
Chemtech SDG No.: T4378
C.T. Male Project No.: 04.9138

DATE: December 1, 2005

On August 19, 22, and 23, 2005, C.T. Male Associates P.C. (C. T. Male) collected eight (8) soil samples from the South Troy Industrial Park (STIP) Site. The samples were submitted to CHEMTECH in Mountainside, NJ along with an equipment blank and a trip blank, for the following analyses:

Parameter	**Sample Date**	**VOC, SW-846 8260B**	**SVOC, SW-846 8270C**
Sample Ids			
✓ SB-105 (26-28)	8/19/2005	1	1
✓ SB-105S (17-19)	8/19/2005	1	1
✓ SB-200 (20-24)	8/22/2005	1	1
✓ SB-201 (26-28)	8/22/2005	1	1
✓ SB-202 (20-22)	8/22/2005	1	1
✓ SB-203 (16-18)	8/22/2005	1	1
✓ SB-205 (26-28)	8/23/2005	1	1
✓ Duplicate[1]	8/23/2005	1	1
✓ Equipment Blank	8/23/2005	1	1
Trip Blank	-	1	0
Total Samples		**10**	**9**

VOC – Volatile organic compounds
SVOC – Semi-volatile organic compounds

C. T. Male evaluated the data reported by the laboratory to determine usability per Appendix B of the *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NY DEC, December 2002). The following criteria were reviewed:

- Completeness of data package as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables;
- Holding time compliance for chemical analysis;
- Protocol required limits and specification compliance for quality control (QC) data (e.g., instrument tuning, calibration standards, blank results, spike results, duplicate results, etc);
- Contract compliance for analytical protocols;
- Omissions and Transcription errors; and
- Data qualification

All required documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms. The laboratory Case Narrative (Attachment A) identified all deviations from laboratory analytical specifications. C. T. Male reviewed these QC results to determine if sample results should be qualified based on the criteria provided in

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[1] Field duplicate of SB-205 (26-28).

Appendix B of the *Technical Guidance for Site Investigation and Remediation*. QC exceedances and data qualification recommendations are presented in the Data Evaluation Checklist (Attachment B). Qualified sample results are presented in the laboratory summary forms, which are located in Attachment C. Overall, data quality objectives for the STIP project were met, as there were not any data deficiencies that would indicate the need for re-sampling.

Data Completeness

All required documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms for the validated samples. The laboratory Case Narrative identified all deviations from laboratory analytical specifications, and is attached along with the qualified sample results. QC exceedences and data qualification recommendations are presented below.

Sample Condition upon Receipt and Holding Times

Chemtech received all the samples listed on the COC records intact and in good condition on August 24, 2005. The temperature of samples was within laboratory specification limits of 2 to 6°C upon receipt.

All samples were prepared and analyzed within EPA-established holding times.

Volatile Organic Analyses (VOA) by SW-846 8260B

All samples were analyzed within 12 hours of the performance check standard, BFB. Percent relative abundance of all ions met the criteria specified in Table 4 of the EPA SW-846 Method 8260B. Laboratory specifications were met during the initial calibrations on August 15 and 26, 2005 and the continuing calibrations on August 26, 27, and 29, 2005. In addition the average relative response factor (RRF) was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The percent relative standard deviation (%RSD) between RRF was less than or equal to 30% during the initial calibration, and the percent difference (%D) between the initial calibration average RRF and continuing calibration RRF was less than or equal to 25% for all target analytes, except carbon disulfide (57.4%D), MTBE (25.6%D), methyl acetate (31.5%D), methylene chloride (25.7%D), 1,2-dibromo-3-chloropropane (41.4%D), and 1,2,4-trichlorobenzene (34.5%D) for the continuing calibration of August 26, which was associated with the analysis of the trip and equipment blanks, therefore the associated results in these samples have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards. Methyl acetate (44.3%D) and methylene chloride (77.8%D) exceeded 25%D for the continuing calibrations of August 27 and 29, respectively. The calibration on August 27 was associated with all soil samples except SB-202 (20-22) and the calibration on August 29 was associated with the analysis of sample SB-202 (20-22). The associated results in these samples have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples.

The percent recovery results for blank spike analysis were within laboratory specifications for 1,1-dichloroethene, benzene, trichloroethene, toluene, and chlorobenzene.

A method blank was reported for each analytical batch and equipment and trip blanks were also submitted to the laboratory for VOA. Target analytes were not detected during the VOA of the trip or equipment blanks. However, methylene chloride (a common laboratory contaminant) was detected during the VOA of method blanks VBK0826S4 and VBK0829S2, at concentrations of 6.3 and 25 µg/Kg, respectively. Action levels were developed by multiplying the highest concentration observed among the associated blank by a factor of 10 for common laboratory contaminants. Samples with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Criteria for precision was achieved during the field duplicate evaluation of samples DUPLICATE and SB-205 (26-28).

Semivolatile Organic Analysis (SVOA) by SW-846 8270C

All samples were analyzed within 12 hours of the performance check standard, DFTPP. Percent relative abundance of all ions met the criteria specified in Table 3 of the EPA SW-846 Method 8270C. Laboratory specifications were met during the initial calibration on August 19, 2005 and the continuing calibrations of August 27, 28, and 29, 2005. In addition the average RRF was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The %RSD between RRF was less than or equal to 30% during the initial calibrations, and the %D between the initial calibration average RRF and continuing calibration RRF was less than or equal to 25% for all target analytes except 4-chloroaniline (26.3%D), hexachlorocyclopentadiene (55.1%D), 2,4-dinitrophenol (152.6%D), carbazole (26.2%D), 3,3-dichlorobenzidine (29.1%D) during the continuing calibration associated with the analysis of samples SB-105 (26-28) and SB-105S (17-19), bis(2-Chloroethyl)ether (33.1%D), 2-nitrophenol (26.9%D), hexachlorocyclopentadiene (65.3%D), 2,4-dinitrophenol (138.5%D), and 4-nitroaniline (30.8%D) during the continuing calibration associated with the analysis of the remaining soils, and 3+4-methylphenols (29.5%D), hexachlorocyclopentadiene (68.8%D), 2,4-dinitrophenol (151.3%D), and 4-nitroaniline (35.9%D) during the continuing calibration associated with the analysis of the equipment blank. The associated results in these samples have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples except the surrogate recovery for 2-fluorophenol (19%R) during the analysis of the equipment blank. Qualification of acid results is not required, as all other acid surrogates were within specifications.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes except carbazole exceeded laboratory specifications, and 3+4-methylphenols and 4-nitrophenol were below laboratory specifications, during the analysis of blank spike PB07229BS, associated with the analysis of the equipment blank. The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes except 2,4-dinitrophenol exceeded laboratory specifications during the analysis of blank spike PB07230BS, associated with the analysis of the all soil samples. Associated results in the equipment blank have been qualified as estimated (J/UJ) for 3+4-methylphenols and 4-nitrophenol, and detected results have been qualified as estimated (J) for carbazole, and the associated detected results in the soil samples have been qualified as estimated (J) for 2,4-dinitrophenol.

A method blank was reported for each analytical batch. An equipment blank was also submitted to the laboratory for SVOA. Target analytes were not detected during the analysis of the method or equipment blanks, tentatively identified compounds (TIC) were also not detected during the analysis of the equipment blank. Squalene (TIC) and 1,5,9-Decatriene, 2,3,5,8-tetramet (TIC) were detected during the analysis of method blanks PB07229B and PB07230B, respectively at concentrations of 2.1 µg/L and 98 µg/Kg, respectively. Action levels were developed by multiplying the highest concentration observed among the associated blank by a factor of 5, and adjusting the value for comparison to soil results where necessary. Samples with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Criteria for accuracy and precision were met during the matrix spike (MS)/MS duplicate (MSD) analysis of sample SB-105S (17-19) for all target analytes.

A field duplicate evaluation was performed on samples DUPLICATE and SB-205 (26-28). Criteria for precision was achieved, as target analytes were not detected in the associated samples.

Megan Drosky
Megan Drosky
Environmental Scientist

ATTACHMENT A
Case Narrative

CHEMTECH

CASE NARRATIVE

C.T. Male & Associates
Project Name: Rensselaer Cty Indust. Dev. Agency
Project # N/A
Chemtech Project # T4378

A. Number of Samples and Date of Receipt:
8 Solid samples were received on 8/24/05.
2 Water samples were received on 8/24/05.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: SVOCMS Group1, and VOCMS Group1. This data package contains results for SVOCMS Group1.

C. Analytical Techniques:
The samples were analyzed on instrument BNA E using GC Column RTX-5 SILMS which is 30 meters, 0.32 mm ID, 0.5 um df, Catalog # 12739-125.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria except for EQUIPMENTBLANK.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds.
The MSD recoveries met the acceptable requirements.
The RPD recoveries met criteria.
The Blank Spike met requirements for all samples except for 2,4-Dinitrophenol, 3+4-Methylphenols, Caprolactam, 4-Nitrophenol and Carbazole. These compounds are not present in the samples.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Tuning criteria met requirements.

E. Additional Comments:
Recovery did not meet requirements for 2-Nitrophenol for CCC File ID BE024849.D, BE024868.D and BE024896.D but this compound is not present in the samples.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature____________________ Name: Krupa Dubey

Date: 9/7/05 Title: QA/QC

CHEMTECH

CASE NARRATIVE

C.T. Male & Associates
Project Name: Rensselaer Cty Indust. Dev. Agency
Project # N/A
Chemtech Project # T4378

A. Number of Samples and Date of Receipt:
8 Solid samples were received on 8/24/05.
2 Water samples were received on 8/24/05.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: SVOCMS Group1, and VOCMS Group1. This data package contains results for VOCMS Group1.

C. Analytical Techniques:
The analysis performed on instrument MSVOA H were done using GC column RTX624, which is 75 meters, 0.53 ID, 3.0 df, Restek Cat. #10974. The Trap was supplied BY OI Analytical, OI #10 Trap , OI Eclipse 4660 Concentrator. The analysis performed on instrument MSVOA K were done using GC column DB624, which is 20 meters, 0.18 ID, 1.0 df, J&W Cat. #1211324. The Trap was supplied by OI Analytical, OI #10 Trap , OI 4560 Concentrator.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds.
The MSD recoveries met the acceptable requirements.
The RPD recoveries met criteria.
The Blank Spike met requirements for all samples.
The Blank analysis indicated presence of Methylene Chloride due to possible lab contamination.
The Calibration met the requirements.
The Tuning criteria met requirements.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature________________ Name: Krupa Dubey

Date: 9/7/05 Title: QA/QC

ATTACHMENT B
Data Evaluation Checklist

Data Evaluation Checklist
Organic Analyses

Project: South Troy Industrial Park
Work Order: T4378
Laboratory: CHEMTECH

Reviewer: Megan Drosky

Project No: 04.9138
Method: SW-846 Methods 8260B (VOA), 8270C (SVOA)
Associated Sample IDs: SB-105(26-28), SB-105S(17-19), SB-200(20-24), SB-201(26-28), SB-202(20-22), SB-203(16-18), SB-205(26-28), Duplicate, Equipment Blank, and Trip Blank
Sample Date: 08/19, 22, and 23/05
Date: 12/01/05

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
1. Were holding times met?	✓			• VOA: ≤14 days • SVOA: ≤14/40 days (soil), ≤7/40 days (water)	
2. Were sample storage and preservation requirements met?	✓			5°C (2-6°C). The trip blank and equipment blank were preserved with HCl for VOA analysis.	
3. Was a method blank analyzed with each batch?	✓			• VOA: VBH0826W2, VBK0826S4, VBK0829S2 • SVOA: PB07230B, PB07229B	
4. Were target analytes reported in the method or calibration blanks above the Detection Limit?	✓			• VOA – VBK0826S4: Methylene chloride @6.3 µg/Kg (1.8 µg/Kg) • VOA – VBK0829S2: Methylene chloride @25 µg/Kg (1.8 µg/Kg) • SVOA – PB07230B: 1,5,9-Decatriene, 2,3,5,8-tetramet (TIC) @98 µg/Kg (RT=7.38) • SVOA – PB07229B: Squalene (TIC) @2.1 µg/L (RT=9.81)	
5. Were target analytes reported in field blank analyses (e.g., trip, ~~ambient, field,~~ or equipment) above the DL?		✓			
6. Were contaminants detected in samples below the blank contamination action level?	✓			Blank Contamination Action Levels: • VOA – Methylene chloride @250 µg/Kg (25 x 10) • SVOA – 1,5,9-Decatriene, 2,3,5,8-tetramet (TIC) @490 µg/Kg (98 x 5) • SVOA – Squalene (TIC) @105 µg/Kg (2.1 x 5 x 10) Sample results that were not significantly greater (5x and 10x for common laboratory contaminants) than that detected in the blanks have been qualified due to the presence of blank contamination as ND (U-flag) and the DL has been elevated to the amount detected.	ND, U

WO # T4378

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
7. Were initial and continuing calibration standards analyzed at the lab-specified frequency for each instrument?	✓			• VOA o Initial calibration: 08/15/05 (Associated samples: Trip Blank and Equipment Blank) and 08/26/05 (Associated samples: all soil samples) o Continuing calibration: 08/26/05 @14:51 (Trip Blank and Equip Blank), 08/27/05 @02:51 (All soils except SB-202(20-22)), and 08/29/05 @10:59 (SB-202(20-22)) • SVOA o Initial calibration: 08/19/05 o Continuing calibration: 08/27/05 @21:32 (Associated samples: SB-105(26-28) and SB-105S(17-19)), 08/28/05 @06:27 (Associated samples: all soils except SB-105(26-28) and SB-105S(17-19)), and 08/29/05 @17:32 (Associated sample: Equipment Blank)	
8. Were these results within lab or project specifications?		✓		VOA – • Initial Calibration of 08/15/05 and 08/26/05. The RF >0.05 and %RSD between response factors was less than 30% for all target analytes. • Continuing calibrations of 08/26, 27, and 29/05. The RF>0.05 and %D <25% for all target analytes, except as follows: o 08/26/05 – carbon disulfide (57.4%D), MTBE (25.6%D), methyl acetate (31.5%D), methylene chloride (25.7%D), 1,2-dibromo-3-chloropropane (41.4%D), and 1,2,4-trichlorobenzene (34.5%D). J/UJ associated samples. o 08/27/05 – methyl acetate (44.3%D). J/UJ associated samples. o 08/29/05 – methylene chloride (77.8%D) SVOA – • Initial Calibration of 08/19/05. The RF >0.05 and %RSD between response factors was less than 30% for all target analytes.	J/UJ

WO # T4378

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				• Continuing calibrations of 08/27/05, 08/28/05, and 08/29/05. The RF>0.05 and %D <25% for all target analytes, except as follows: o 08/27/05 – 4-chloroaniline (26.3%D), hexachlorocyclopentadiene (55.1%D), 2,4-dinitrophenol (152.6%D), carbazole (26.2%D), 3,3-dichlorobenzidine (29.1%D). J/UJ associated samples. o 08/28/05 – bis(2-Chloroethyl)ether (33.1%D), 2-nitrophenol (26.9%D), hexachlorocyclopentadiene (65.3%D), 2,4-dinitrophenol (138.5%D), and 4-nitroaniline (30.8%D). J/UJ associated samples. o 08/29/05 – 3+4-methylphenols (29.5%D), hexachlorocyclopentadiene (68.8%D), 2,4-dinitrophenol (151.3%D), and 4-nitroaniline (35.9%D). J/UJ associated samples.	
9. Were the results of the ICS Check Standard analysis within 80-120% of the true value (metals only)?			✓		
10. Was a CRDL Standard analyzed for metals?			✓		
11. Were recoveries within 75-125% of the true value during the CRDL analysis (CRA, CRI)?			✓		
12. Was a LCS analyzed with each batch?		✓		• VOA: BSK0826S2 • SVOA: PB07230BS	
13. Were LCS' recoveries within lab specifications?		✓		SVOA, PB07230BS (Associated samples: all soils): 2,4-Dinitrophenol @133%R (26-131). J SVOA, PB07229BS (Associated sample: equipment blank): • 3+4-Methylphenols @34%R (35-110). J/UJ • 4-Nitrophenol @13%R (20-115). J/UJ • Carbazole @128%R (57-115). J	J/UJ
14. Were LCS/LCSD RPD within lab specifications?			✓	LCS only	
15. Was a MS/MSD pair analyzed with each batch?	✓			• VOA: T4387-01 (batch) • SVOA: T4378-02 (SB-105S(17-19))	
16. Is the MS/MSD parent sample a project-specific sample?	✓				

WO # T4378

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
17. Were MS/MSD recoveries within lab specifications? *Only QC results for project samples are evaluated.*	✓				
18. Were MS/MSD RPD within lab specifications? *Only QC results for project samples are evaluated.*	✓				
19. Was a serial dilution conducted on each inorganic batch?			✓		
20. Is the serial dilution parent sample a project-specific sample?			✓		
21. Is the percent difference between the serially diluted result and undiluted result less than 10% (for those analytes with native concentrations greater than 50x the DL)? *Only QC results for project samples are evaluated.*			✓		
22. Was a laboratory duplicate analyzed with each batch?		✓			
23. Is the laboratory duplicate sample a project-specific sample?			✓		
24. Does laboratory duplicate results meet lab specifications? *Only QC results for project samples are evaluated.*			✓		
25. Were surrogate recoveries within lab specifications during organic analysis?		✓		SVOA – Equipment Blank • 2-Fluorophenol @19%R (21-100) No action warranted as remaining acid surrogates are within specifications.	
26. Were internal standard results within lab specifications during the VOA and SVOA?	✓				
27. Were TIC reported and were reported results qualified as estimated concentrations?	✓				JN
28. Were field duplicate samples submitted to the laboratory for analysis?	✓			Duplicate is the field duplicate of SB-205 (26-28)	
29. Was precision deemed acceptable as defined by DV Guidelines?	✓			Refer to Attachment A for duplicate evaluation.	
30. Were laboratory-generated Corrective Action Reports (i.e., QCER) issued? If yes, summarize contents or attach copy of the report.		✓			
31. Were lab comments included in report? If yes, summarize contents or attach a copy of the narrative.	✓			Refer to Case Narratives	

WO # T4378

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
Comments: The data review process was modeled after the EPA Region 2 Data Validation Guidelines for unusable data and Appendix 2B, Guidance for the Development of Data Usability Summary Reports, of *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NY DEC, December 2002).					

Key:

J	Positive sample result is considered estimated
R	Unusable data
R+	Positive sample result is considered unusable
U	Not present above the associated level; blank contamination exists
UJ	Sample result is not detected and the detection limit is considered estimated
ND	Sample result is not detected
N	A "tentative identification" has been made of the presence of an analyte

Evaluation of Field Duplicate Results

Analyte	SB-205 (26-28)	DUPLICATE	CRDL	CRDLx5	*Criteria*	RPD	Absolute difference	Action
Acetone	16	14	4.2	21	*Abs Diff*	13.33	2	None, Absolute difference is <CRDL

Note: If the analyte was not detected, then the cell is left blank.

DL - Detection limit

RPD - Relative percent difference

*Results are presented on a dry weight basis (ug/Kg).

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the CRDL, then precision is based on the absolute difference between duplicate results. If sample results >5x's CRDL, then precision is evaluated using RPD. J sample results whenever the absolute difference is greater than CRDL or RPD >20%. If the analyte is detected in one sample but not the other, then J/UJ sample results. Above table presents results for detected analytes only. Blank cells indicates that the analyte was not detected.

C.T. MALE ASSOCIATES, P.C.

SUBJECT: Data Usability Summary Report (DUSR)
South Troy Industrial Park
Chemtech SDG No.: T4434
C.T. Male Project No.: 04.9138

DATE: December 2, 2005

On August 23 and 24, 2005, C.T. Male Associates P.C. (C. T. Male) collected four (4) soil samples from the South Troy Industrial Park (STIP) Site. The samples were submitted to CHEMTECH in Mountainside, NJ along with an equipment blank and a trip blank, for the following analyses:

Parameter	**Sample Date**	**VOC, SW-846 8260B**	**SVOC, SW-846 8270C**
Sample Ids			
SB-206 (10-12)	8/23/2005	1	1
SB-208 (6-8)	8/24/2005	1	1
SB-209 (6-8)	8/24/2005	1	1
SB-210 (22-24)	8/24/2005	1	1
Trip Blank	-	1	0
Total Samples		**5**	**4**

VOC – Volatile organic compounds
SVOC – Semi-volatile organic compounds

C. T. Male evaluated the data reported by the laboratory to determine usability per Appendix B of the *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NY DEC, December 2002). The following criteria were reviewed:

- Completeness of data package as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables;
- Holding time compliance for chemical analysis;
- Protocol required limits and specification compliance for quality control (QC) data (e.g., instrument tuning, calibration standards, blank results, spike results, duplicate results, etc);
- Contract compliance for analytical protocols;
- Omissions and Transcription errors; and
- Data qualification

All required documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms. The laboratory Case Narrative (Attachment A) identified all deviations from laboratory analytical specifications. C. T. Male reviewed these QC results to determine if sample results should be qualified based on the criteria provided in Appendix B of the *Technical Guidance for Site Investigation and Remediation.* QC exceedances and data qualification recommendations are presented in the Data Evaluation Checklist (Attachment B). Qualified sample results are presented in the laboratory summary forms, which are located in Attachment C. Overall, data quality objectives for the STIP project were met, as there were not any data deficiencies that would indicate the need for re-sampling.

Data Completeness

All required documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms for the validated samples. The laboratory Case Narrative identified all deviations from laboratory analytical specifications, and is attached along with the qualified sample results. QC exceedences and data qualification recommendations are presented below.

Sample Condition upon Receipt and Holding Times

Chemtech received all the samples listed on the COC records intact and in good condition on August 27, 2005. The temperature of samples was within laboratory specification limits of 2 to 6°C upon receipt.

All samples were prepared and analyzed within EPA-established holding times.

Volatile Organic Analyses (VOA) by SW-846 8260B

All samples were analyzed within 12 hours of the performance check standard, BFB. Percent relative abundance of all ions met the criteria specified in Table 4 of the EPA SW-846 Method 8260B. Laboratory specifications were met during the initial calibrations on August 15 and 26, 2005 and the continuing calibrations on August 29 and 30, 2005. In addition the average relative response factor (RRF) was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The percent relative standard deviation (%RSD) between RRF was less than or equal to 30% during the initial calibration, and the percent difference (%D) between the initial calibration average RRF and continuing calibration RRF was less than or equal to 25% for all target analytes, except methyl acetate (30.4%D) and methylene chloride (85.5%D) for the continuing calibration associated with the analysis of samples SB-208 (6-8) and SB-210 (22-24), methylene chloride (80.9%D) for the continuing calibration associated with the analysis of samples SB-206 (10-12) and SB-209 (6-8), and dichlorodifluoromethane (34.1%D), 1,1,2-trichlorotrifluoroethane (25.7%D), carbon disulfide (46.4%D), methyl acetate (27.4%D), 1,3-dichlorobenzene (29.6%D), 1,2-dibromo-3-chloropropane (35.7%D), 1,2,4-trichlorobenzene (38.8%D) for the continuing calibration associated with the analysis of the trip blank. The associated results in these samples have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples.

The percent recovery results for blank spike analysis were within laboratory specifications for 1,1-dichloroethene, benzene, trichloroethene, toluene, and chlorobenzene.

A method blank was reported for each analytical batch and equipment and a trip blank was also submitted to the laboratory for VOA. Methylene chloride (a common laboratory contaminant) was detected during the VOA of method blanks VBK0829S4, VBK0830S2, and VBH0830W2 as well as in the trip blank, at concentrations of 42 µg/Kg, 71 µg/Kg, 1.1 µg/L, and 1.6 µg/L, respectively. Action levels were developed by multiplying the highest concentration observed among the associated blank by a factor of 10 for common laboratory contaminants and adjusted for dry weight comparison to soil samples. Samples with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Criteria for accuracy was met during the matrix spike (MS)/MS duplicate (MSD) analysis of sample SB-206 (10-12) for 1,1-dichloroethene, benzene, trichloroethene, toluene, and chlorobenzene as percent recoveries (%R) were within laboratory specifications. However, the criteria for precision was not achieved as the %RSD between MS and MSD %R exceeded laboratory specifications for these analytes. The associated results for SB-206 (10-12) have been qualified as estimated (J/UJ), due to analytical imprecision.

Semivolatile Organic Analysis (SVOA) by SW-846 8270C

All samples were analyzed within 12 hours of the performance check standard, DFTPP. Percent relative abundance of all ions met the criteria specified in Table 3 of the EPA SW-846 Method 8270C. Laboratory specifications were met during the initial and continuing calibrations on August 19 and 30, 2005, respectively. In addition the average RRF was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The %RSD between RRF was less than or equal to 30% during the initial calibrations, and the %D between the initial calibration average RRF and continuing calibration RRF was less than or equal to 25% for all target analytes except 2-nitrophenol (25.7%D), hexachlorocyclopentadiene (68.2%D), 2,4-dinitrophenol (169.2%D), 4-nitroaniline (27.1%D), 4,6-dinitro-2-methylphenol (40.6%D), pentachlorophenol (37.4%D), carbazole (43.9%D), 3,3-dichlorobenzidine (27.1%D). The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes except 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, and carbazole exceeded laboratory specifications during the analysis of blank spike PB07283BS. Detected sample results have been qualified as estimated (J) for these analytes.

A method blank was reported for each analytical batch. Target analytes and tentatively identified compounds were not detected during the analysis of the method blank.

Criteria for accuracy and precision were met during the MS/MSD of sample SB-206 (10-12) for all target analytes except bis(2-chloroethyl)ether, acenaphthene, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, and carbazole. The %R exceeded laboratory specifications during the MSD analysis for acenaphthene and 2,4-dinitrophenol. Qualification was not warranted, as the %R for the MS was within laboratory specifications. The MS and MSD %R exceeded laboratory specifications for bis(2-chloroethyl)ether, 4,6-dinitro-2-methylphenol, and carbazole. Qualification was not warranted, as these analytes were not detected in the associated sample.

Megan Drosky
Megan Drosky
Environmental Scientist

ATTACHMENT A
Case Narrative

CHEMTECH

CASE NARRATIVE

C.T. Male & Associates
Project Name: Rensselaer Cty Indust. Dev. Agency
Project # 04.9138
Chemtech Project # T4434

A. Number of Samples and Date of Receipt:
6 Solid samples were received on 8/27/05.
1 Water sample was received on 8/27/05.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: SVOCMS Group1, and VOCMS Group1. This data package contains results for SVOCMS Group1.

C. Analytical Techniques:
The samples were analyzed on instrument BNA E using GC Column RTX-5 SILMS which is 30 meters, 0.32 mm ID, 0.5 um df, Catalog # 12739-125.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds except for Acenaphthene and 2,4-Dinitrophenol.
The MSD recoveries met the acceptable requirements except for bis(2-Chloroethyl)ether, Acenaphthene, 2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol and Carbazole.
The RPD recoveries met criteria.
The Blank Spike met requirements for all samples except for 2,4-Dinitrophenol, 4,6-Dinitro-2-methylphenol and Carbazole.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Tuning criteria met requirements.

E. Additional Comments:
BE024923.D has max %D for 2-Nitrophenol and Pentachlorophenol out of acceptance criteria. As per method requirements two compounds can be out of acceptance limits.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature________________ Name: Krupa Dubey

Date: 9/18/05 Title: QA/QC

CHEMTECH

CASE NARRATIVE

C.T. Male & Associates
Project Name: Rensselaer Cty Indust. Dev. Agency
Project # 04-9138
Chemtech Project # T4434

A. Number of Samples and Date of Receipt:
6 Solid samples were received on 8/27/05.
1 Water sample was received on 8/27/05.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: SVOCMS Group1, and VOCMS Group1. This data package contains results for VOCMS Group1.

C. Analytical Techniques:
The analysis performed on instrument MSVOA H were done using GC column RTX624, which is 75 meters, 0.53 ID, 3.0 df, Restek Cat. #10974. The Trap was supplied BY OI Analytical, OI #10 Trap, OI Eclipse 4660 Concentrator. The analysis performed on instrument MSVOA K were done using GC column DB624, which is 20 meters, 0.18 ID, 1.0 df, J&W Cat. #1211324. The Trap was supplied by OI Analytical, OI #10 Trap, OI 4560 Concentrator.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds.
The MSD recoveries met the acceptable requirements.
The RPD recoveries met criteria except for 1,1-Dichloroethene, Benzene, Trichloroethene, Toluene and Chlorobenzene.
The Blank Spike met requirements for all samples.
The Blank analysis indicated presence of Methylene Chloride due to possible lab contamination.
The Calibration met the requirements.
The Tuning criteria met requirements.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature________________________ Name: Krupa Dubey

Date: 9/12/05 Title: QA/QC

ATTACHMENT B
Data Evaluation Checklist

Data Evaluation Checklist
Organic Analyses

Project: South Troy Industrial Park
Work Order: T4434
Laboratory: CHEMTECH

Reviewer: Megan Drosky

Project No: 04.9138
Method: SW-846 Methods 8260B (VOA), 8270C (SVOA)
Associated Sample IDs: SB-206(10-12), SB-208(6-8), SB-209(6-8), SB-210(22-24), and Trip Blank
Sample Date: 08/23 and 24/05
Date: 12/02/05

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
1. Were holding times met?	✓			• VOA: ≤14 days • SVOA: ≤14/40 days	
2. Were sample storage and preservation requirements met?	✓			5°C (2-6°C). The trip blank was preserved with HCl for VOA analysis.	
3. Was a method blank analyzed with each batch?	✓			• VOA: VBK0829S4, VBK0830S2, VBH0830W2 • SVOA: PB07283B	
4. Were target analytes reported in the method or calibration blanks above the Detection Limit?	✓			• VOA – VBK0829S4: Methylene chloride @42 µg/Kg (1.8 µg/Kg) • VOA – VBK0830S2: Methylene chloride @71 µg/Kg (1.8 µg/Kg) • VOA – VBH0830W2: Methylene chloride @1.1 µg/L (0.43 µg/L)	
5. Were target analytes reported in field blank analyses (e.g., trip, ~~ambient, field, or equipment~~) above the DL?	✓			Trip Blank: Methylene chloride @1.6 µg/L (0.43 µg/L)	
6. Were contaminants detected in samples below the blank contamination action level?	✓			Blank Contamination Action Levels: • VOA – Methylene chloride @710 µg/Kg (71 x 10) Sample results that were not significantly greater (5x and 10x for common laboratory contaminants) than that detected in the blanks have been qualified due to the presence of blank contamination as ND (U-flag) and the DL has been elevated to the amount detected.	ND, U
7. Were initial and continuing calibration standards analyzed at the lab-specified frequency for each instrument?	✓			• VOA o Initial calibration: 08/15/05 (Associated samples: Trip Blank) and 08/26/05 (Associated samples: all soil samples) o Continuing calibration: 08/29/05 @22:56 (SB-208(6-8) and SB-210(22-24)), 08/30/05 @12:46 (SB-206(10-12) and SB-	

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				209(6-8)), and 08/30/05 @10:11 (Trip Blank) • SVOA o Initial calibration: 08/19/05 o Continuing calibration: 08/30/05 @18:25	
8. Were these results within lab or project specifications?		✓		VOA – • Initial Calibration of 08/15/05 and 08/26/05. The RF >0.05 and %RSD between response factors was less than 30% for all target analytes. • Continuing calibrations of 08/29 and 30/05. The RF>0.05 and %D <25% for all target analytes, except as follows: o 08/29/05 – methyl acetate (30.4%D) and methylene chloride (85.5%D). J/UJ associated samples. o 08/30/05 @12:46 – methylene chloride (80.9%D). J/UJ associated samples. o 08/30/05 @10:11 – dichlorodifluoromethane (34.1%D), 1,1,2-trichlorotrifluoroethane (25.7%D), carbon disulfide (46.4%D), methyl acetate (27.4%D), 1,3-dichlorobenzene (29.6%D), 1,2-dibromo-3-chloropropane (35.7%D), 1,2,4-trichlorobenzene (38.8%D). J/UJ SVOA – • Initial Calibration of 08/19/05. The RF >0.05 and %RSD between response factors was less than 30% for all target analytes. • Continuing calibration of 08/30/05. The RF>0.05 and %D <25% for all target analytes, except 2-nitrophenol (25.7%D), hexachlorocyclopentadiene (68.2%D), 2,4-dinitrophenol (169.2%D), 4-nitroaniline (27.1%D), 4,6-dinitro-2-methylphenol (40.6%D), pentachlorophenol (37.4%D), carbazole (43.9%D), 3,3-dichlorobenzidine (27.1%D). J/UJ associated samples.	J/UJ

WO # T4434

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
9. Were the results of the ICS Check Standard analysis within 80-120% of the true value (metals only)?			✓		
10. Was a CRDL Standard analyzed for metals?			✓		
11. Were recoveries within 75-125% of the true value during the CRDL analysis (CRA, CRI)?			✓		
12. Was a LCS analyzed with each batch?		✓		• VOA: BSK0829S2 • SVOA: PB07283BS	
13. Were LCS' recoveries within lab specifications?		✓		SVOA, PB07283BS: • 2,4-Dinitrophenol @138%R (26-131). J • 4,6-Dinitro-2-methylphenol @113%R (40-105). J • Carbazole @119%R (54-117). J	J/UJ
14. Were LCS/LCSD RPD within lab specifications?			✓	LCS only	
15. Was a MS/MSD pair analyzed with each batch?	✓			• VOA: T4434-01 (SB-206 (10-12)) • SVOA: T4434-01 (SB-206 (10-12))	
16. Is the MS/MSD parent sample a project-specific sample?	✓				
17. Were MS/MSD recoveries within lab specifications? *Only QC results for project samples are evaluated.*		✓		SB-206 (10-12), SVOA: • Bis(2-Chloroethyl)ether @87 and 135%R (37-114). No action as MS is within project specifications. • Acenaphthene @104 and 104%R (65-100). No action as acenaphthene was not detected in the associated sample. • 2,4-Dinitrophenol @160 and 151%R (26-131). No action as acenaphthene was not detected in the associated sample. • 4,6-Dinitro-2-methylphenol @104 and 113%R (40-105). No action as MS is within project specifications. • Carbazole @117 and 126%R (54-117). No action as MS is within project specifications.	

WO # T4434

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
18. Were MS/MSD RPD within lab specifications? *Only QC results for project samples are evaluated.*		✓		SB-206 (10-12), VOA: • 1,1-Dichloroethene @25%RPD (<22). J/UJ • Benzene @23%RPD (<21). J/UJ • Trichloroethene @27%RPD (<24). J/UJ • Toluene @25%RPD (<21). J/UJ • Chlorobenzene @25%RPD (<21). J/UJ	J/UJ
19. Was a serial dilution conducted on each inorganic batch?			✓		
20. Is the serial dilution parent sample a project-specific sample?			✓		
21. Is the percent difference between the serially diluted result and undiluted result less than 10% (for those analytes with native concentrations greater than 50x the DL)? *Only QC results for project samples are evaluated.*			✓		
22. Was a laboratory duplicate analyzed with each batch?		✓			
23. Is the laboratory duplicate sample a project-specific sample?			✓		
24. Does laboratory duplicate results meet lab specifications? *Only QC results for project samples are evaluated.*			✓		
25. Were surrogate recoveries within lab specifications during organic analysis?	✓				
26. Were internal standard results within lab specifications during the VOA and SVOA?	✓				
27. Were TIC reported and were reported results qualified as estimated concentrations?	✓				JN
28. Were field duplicate samples submitted to the laboratory for analysis?		✓			
29. Was precision deemed acceptable as defined by DV Guidelines?			✓		
30. Were laboratory-generated Corrective Action Reports (i.e., QCER) issued? If yes, summarize contents or attach copy of the report.		✓			
31. Were lab comments included in report? If yes, summarize contents or attach a copy of the narrative.	✓			Refer to Case Narratives	

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
Comments: The data review process was modeled after the EPA Region 2 Data Validation Guidelines for unusable data and Appendix 2B, Guidance for the Development of Data Usability Summary Reports, of *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NY DEC, December 2002).					

Key:

J	Positive sample result is considered estimated
R	Unusable data
R+	Positive sample result is considered unusable
U	Not present above the associated level; blank contamination exists
UJ	Sample result is not detected and the detection limit is considered estimated
ND	Sample result is not detected
N	A "tentative identification" has been made of the presence of an analyte

C.T. MALE ASSOCIATES, P.C.

SUBJECT: Data Usability Summary Report (DUSR)
South Troy Industrial Park
Chemtech SDG No.: T5040
C.T. Male Project No.: 04.9138

DATE: December 6, 2005

On September 29 and 30, 2005 and October 3, 2005, C.T. Male Associates P.C. (C. T. Male) collected five (5) soil samples from the South Troy Industrial Park (STIP) Site. The samples were submitted to CHEMTECH in Mountainside, NJ along with an equipment blank and a transport blank, for the following analyses:

Parameter	Sample Date	VOC, SW-846 8260B	SVOC, SW-846 8270C
Sample Ids			
CTM-212 (10-12) ✓	9/29/2005	1	1
CTM-214 (2-4) ✓	9/30/2005	1	1
CTM-215 (20-22) ✓	9/30/2005	1	1
CTM-216 (18-20) ✓	10/3/2005	1	1
FD-1 ✓	9/30/2005	1	1
Equipment Blank ✓	9/30/2005	1	1
Transport Blank ✓	-	1	0
Total Samples		**7**	**6**

VOC – Volatile organic compounds
SVOC – Semi-volatile organic compounds

C. T. Male evaluated the data reported by the laboratory to determine usability per Appendix B of the *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NY DEC, December 2002). The following criteria were reviewed:

- Completeness of data package as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables;
- Holding time compliance for chemical analysis;
- Protocol required limits and specification compliance for quality control (QC) data (e.g., instrument tuning, calibration standards, blank results, spike results, duplicate results, etc);
- Contract compliance for analytical protocols;
- Omissions and Transcription errors; and
- Data qualification

All documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms. The laboratory Case Narrative (Attachment A) identified all deviations from laboratory analytical specifications. C. T. Male reviewed these QC results to determine if sample results should be qualified based on the criteria provided in Appendix B of the *Technical Guidance for Site Investigation and Remediation*. QC exceedances and data qualification recommendations are presented in the Data Evaluation Checklist (Attachment B). Qualified sample results are presented in the laboratory summary forms, which are located in Attachment C. Overall, data quality objectives for the STIP project were met, as there were not any data deficiencies that would indicate the need for re-sampling.

Data Completeness

All documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms for the validated samples. The laboratory Case Narrative identified all deviations from laboratory analytical specifications, and is attached along with the qualified sample results. QC exceedences and data qualification recommendations are presented below.

Sample Condition upon Receipt and Holding Times

Chemtech received all the samples listed on the COC records intact and in good condition on October 5, 2005. The temperature of samples was within laboratory specification limits of 2 to 6°C upon receipt.

All samples were prepared and analyzed within EPA-established holding times.

Volatile Organic Analyses (VOA) by SW-846 8260B

All samples were analyzed within 12 hours of the performance check standard, BFB. Percent relative abundance of all ions met the criteria specified in Table 4 of the EPA SW-846 Method 8260B. Laboratory specifications were met during the initial calibrations on October 6, 12, and 13, 2005 and the continuing calibrations on October 11, 13, and 14, 2005. In addition the average relative response factor (RRF) was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The percent relative standard deviation (%RSD) between RRF was less than or equal to 30% during the initial calibration, and the percent difference (%D) between the initial calibration average RRF and continuing calibration RRF was less than or equal to 25% for all target analytes, except bromomethane (46.6%RSD), chloroethane (62.6%RSD), acetone (47.5%RSD), carbon disulfide (39%RSD), methyl acetate (35%RSD and 102.7%D), and methylene chloride (32.8%RSD) for the initial and continuing calibrations associated with the analysis and reanalysis of CTM-212 (10-12), therefore the associated results in these samples have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards. Carbon disulfide (26.3%D) and 1,2-dibromo-3-chloropropane (26.2%D) exceeded 25%D for the continuing calibration associated with the analysis of the transport and equipment blanks. Chloroethane (37.1%D), 1,1,2-trichlorotrifluoroethane (37.5%D), carbon disulfide (32.3%D), trans-1,2-dichloroethene (26.9%D), 1,1-dichloroethane (25.6%D), cyclohexane (29.4%D), and 1,1,1-trichloroethane (30.8%D) exceeded 25%D for the continuing calibration associated with the analysis of all soil samples except the initial and reanalysis of CTM-212 (10-12). The associated results in these samples have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples except during the analysis of CTM-212 (10-12). Surrogate recoveries for 4-BFB during the initial and reanalysis of CTM-212 (10-12) were below laboratory specifications. The surrogate recovery for 1,2-dichloroethane-d4 exceeded laboratory specifications during the reanalysis of CTM-212 (10-12). Internal standards results for pentafluorobenzene, 1,4-difluorobenzene, chlorobenzene-d5, and 1,4-dichlorobenzene-d4 fell extremely below laboratory specifications during the initial analysis. Initial internal standard results were confirmed upon reanalysis of CTM-212 (10-12), as the internal standards were below laboratory specifications, however results during the reanalysis were not as extreme. All non-detect results from the initial analysis of CTM-212 (10-12) have been qualified as unusable (R), due to the severe loss of instrument sensitivity. Results from the reanalysis of CTM-212 (10-12) have been qualified as estimated (J/UJ). It is recommended that the results from CTM-212 (10-12)RE be reported as the representative results of the analysis of CTM-212 (10-12), as the instrument showed greater sensitivity during the reanalysis of the sample.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes except acetone (69%R) during the analysis of BSK1014S, associated with the analysis of all soil samples, as well as chloroethane (60%R) and 1,1,2-trichlorotrifluoroethane (65%R) during the analysis of BSH1010W2, associated with the analysis of the transport and equipment blanks. Associated samples have been qualified as estimated (J/UJ) due to analytical inaccuracy.

A method blank was reported for each analytical batch and equipment and transport blanks were also submitted to the laboratory for VOA. Target analytes were not detected during the VOA of the transport, equipment, or method blanks.

Criteria for accuracy were met during the matrix spike (MS)/MS duplicate (MSD) analysis of sample CTM-216 (18-20) for all target analytes except 1,1,2-trichlorofluoroethane, carbon disulfide, methylene chloride,1,2-dichloroethane, 4-methyl-2-pentanone, t-1,3-dichloropropene, 1,1,2-trichloroethane, 2-hexanone, and 1,2-dibromoethane. Both the MS and MSD were below laboratory specifications for these analytes, therefore the associated results have been qualified as estimated (UJ) in CTM-216 (18-20) due to analytical inaccuracy. Criteria for precision was not met during the MS/MSD analysis of CTM-216 (18-20) for methyl acetate and acetone, as the relative percent difference (%RPD) between the MS and MSD exceeded laboratory specifications. Methyl acetate and acetone results have been qualified as estimated (UJ) due to analytical imprecision.

A field duplicate evaluation was performed on samples FD-1 and CTM-215 (20-22). Criteria for precision was achieved, as target analytes were not detected in the associated samples.

Semivolatile Organic Analysis (SVOA) by SW-846 8270C

All samples were analyzed within 12 hours of the performance check standard, DFTPP. Percent relative abundance of all ions met the criteria specified in Table 3 of the EPA SW-846 Method 8270C. Laboratory specifications were met during the initial calibrations on September 23, 2005 and October 7, 2005 and the continuing calibrations of October 9, 10 and 11, 2005. In addition the average RRF was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The %RSD between RRF was less than or equal to 30% during the initial calibrations for all target analytes except benzo(k)fluoranthene (39.1%RSD) during the initial calibration associated with the analysis of the equipment blank, and the %D between the initial calibration average RRF and continuing calibration RRF was less than or equal to 25% for all target analytes except benzaldehyde (27.5%D) and 3,3-dichlorobenzidine (28.7%D) during the continuing calibration associated with the analysis of samples CTM-212 (10-12), CTM-214 (2-4), and CTM-216 (18-20), benzaldehyde (37.6%D) and 2-nitroaniline (30.7%D) during the continuing calibration associated with the analysis of FD-1, and benzaldehyde (39.1%D) and 2,4-dinitrophenol (29.1%D) during the continuing calibration associated with the analysis of CTM-215 (20-22) and the reanalysis of samples CTM-212 (10-12) and CTM-214 (2-4). The associated results in these samples have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recoveries met laboratory specifications for all project samples except the surrogate recovery for terphenyl-d14 and 2-fluorophenol during the analysis of CTM-212 (10-12) and the equipment blank, respectively. Qualification of base/neutral (B/N) results in CTM-212 (10-12) is not required as all remaining B/N surrogates were within specifications. Qualification of acid results in the equipment blank is not required, as all other acid surrogates were within specifications.

Internal standard results met laboratory specifications for all project samples except during the analysis of CTM-212 (10-12) and CTM-214 (2-4). Internal standard results for phenanthrene-d10 and perylene-d12 were below laboratory specifications during the analysis of CTM-212 (10-12). Results for phenanthrene-d10 were confirmed during reanalysis of CTM-212 (10-12). Associated analytes for the initial and reanalysis of CTM-212 (10-12) have been qualified as estimated due to a decrease in instrument sensitivity, however it is recommended that the results from CTM-212 (10-12)RE be reported as the representative results of the analysis of CTM-212 (10-12), as the instrument showed greater sensitivity during the reanalysis of the sample. Internal standard results for acenaphthene-d10, phenanthrene-d10, and perylene-d12 were below laboratory specifications during the analysis of CTM-214 (2-4). Results for phenanthrene-d10 were confirmed during reanalysis of CTM-214 (2-4). Associated analytes for the initial and reanalysis of CTM-214 (2-4) have been qualified as estimated due to a decrease in instrument sensitivity, however it is recommended that the results from CTM-214 (2-4)RE be reported as the representative results of the analysis of CTM-214 (2-4), as the instrument showed greater sensitivity during the reanalysis of the sample.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes except phenol exceeded laboratory specifications, and indeno(1,2,3-cd)pyrene and dibenz(a,h)anthracene were below laboratory specifications, during the analysis of blank spike PB08030BS, associated with the analysis of the equipment blank. Associated results in the equipment blank have been qualified as estimated (J/UJ) for indeno(1,2,3-cd)pyrene and dibenz(a,h)anthracene, and detected results have been qualified as estimated (J) for phenol.

A method blank was reported for each analytical batch. An equipment blank was also submitted to the laboratory for SVOA. 1,1-Biphenyl was detected during the analysis of method blank PB08005B at a concentration of 210 µg/Kg. Di-n-butylphthalate, 2-hexanol (a tentatively identified compound (TIC)), and 13-docosenamide (Z) (TIC), were detected during the analysis of method blank PB08030B at concentrations of 7.0, 2.6, and 4.0 µg/L, respectively. Di-n-butylphthalate, bis(2-ethylhexyl)phthalate, n-hexadecanoic acid (TIC), octadecanoic acid (TIC), 13-docosenamide (Z) (TIC), and 2,6,10,14,18,22-tetracosahexaene (TIC) were detected during the analysis of the equipment blank at concentrations of 6.8, 13, 2.4, 8.6, 2.6, 5.6, and 3.6 µg/L, respectively. Action levels were developed by multiplying the highest concentration observed among the associated blank by a factor of 5, and adjusting the value for comparison to soil results where necessary. Samples with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Criteria for accuracy and precision were met during the MS/MSD analysis of sample CTM-216 (18-20) for all target analytes.

A field duplicate evaluation was performed on samples FD-1 and CTM-215 (20-22). Criteria for precision was achieved, as target analytes were not detected in the associated samples.

Megan Drosky
Megan Drosky
Environmental Scientist

ATTACHMENT A
Case Narrative

CHEMTECH

CASE NARRATIVE

C.T. Male & Associates
Project Name: Rensselaer Cty Indust. Dev. Agency
Project # 04.9138
Chemtech Project # T5040

A. Number of Samples and Date of Receipt:
7 Solid samples were received on 10/5/05.
2 Water samples were received on 10/5/05.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: SVOCMS Group1, and VOCMS Group1. This data package contains results for SVOCMS Group1.

C. Analytical Techniques:
The samples were analyzed on instrument BNA A using GC Column RTX-5 SILMS which is 30 meters, 0.32 mm ID, 0.5 um df, Catalog # 12739.The samples were analyzed on instrument BNA F using GC Column PH-5 MS, which is 30 meters, 0.25 mm ID, 0.25 um df, Catalog # 19091S-433.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria except for CTM-212(10-12) and EQUIPMENTBLANK.
The Internal Standards Areas met the acceptable requirements except for CTM-214(2-4), CTM-212(10-12), CTM-212(10-12)RE and CTM-214(2-4)RE.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds.
The MSD recoveries met the acceptable requirements.
The RPD recoveries met criteria.
The Blank Spike met requirements for all samples except for Phenol, Indeno(1,2,3-cd)pyrene and Dibenz(a,h)anthracene.
The Blank analysis indicated presence of 1,1-Biphenyl and Di-n-butylphthalate due to possible lab contamination.
The Calibration met the requirements.
The Tuning criteria met requirements.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature Krupa Dubey
CRC 10/20/05
Name: Krupa Dubey

Date: 10/20/05 Title: QA/QC

CHEMTECH

CASE NARRATIVE

C.T. Male & Associates
Project Name: Rensselaer Cty Indust. Dev. Agency
Project # 04.9138
Chemtech Project # T5040

A. Number of Samples and Date of Receipt:

7 Solid samples were received on 10/5/05.
2 Water samples were received on 10/5/05.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: SVOCMS Group1, and VOCMS Group1. This data package contains results for VOCMS Group1.

C. Analytical Techniques:

The analysis performed on instrument MSVOA H were done using GC column RTX624, which is 75 meters, 0.53 ID, 3.0 df, Restek Cat. #10974. The Trap was supplied BY OI Analytical, OI #10 Trap, OI Eclipse 4660 Concentrator. The analysis performed on instrument MSVOA I were done using GC column RTXVMS, which is 20 meters, 0.18 ID, 1.0 df, Restek Cat. #49914. The Trap was supplied by OI Analytical, OI #10 Trap, OI Eclipse 4660 Concentrator. The analysis performed on instrument MSVOA K were done using GC column DB624, which is 20 meters, 0.18 ID, 1.0 df, J&W Cat. #1211324. The Trap was supplied by OI Analytical, OI #10 Trap, OI 4560 Concentrator.

D. QA/ QC Samples:

The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria except for CTM-212(10-12) and CTM-212(10-12)RE.
The Internal Standards Areas met the acceptable requirements except for CTM-212(10-12) and CTM-212(10-12)RE.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds except for 1,1,2-Trichlorotrifluoroethane, Carbon Disulfide, Methylene Chloride, 1,2-Dichloroethane, 4-Methyl-2-Pentanone, t-1,3-Dichloropropene, 1,1,2-Trichloroethane and 1,2-Dibromoethane.
The MSD recoveries met the acceptable requirements except for 1,1,2-Trichlorotrifluoroethane, 1,1-Dichloroethene, Methyl Acetate, Acetone, Carbon Disulfide, Methylene Chloride, 1,2-Dichloroethane, 1,2-Dichloropropane, 4-Methyl-2-Pentanone, Toluene, t-1,3-Dichloropropene, cis-1,3-Dichloropropene, 1,1,2-Trichloroethane, 2-Hexanone and 1,2-Dibromoethane.
The RPD recoveries met criteria except for Methyl Acetate and Acetone.
The Blank Spike met requirements for all samples except for Acetone, Chloroethane and 1,1,2-Trichlorotrifluoroethane.

The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Tuning criteria met requirements.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature Krupa Dubey
ela 10\20\05

Name: Krupa Dubey

Date: 10\20\05

Title: QA/QC

ATTACHMENT B
Data Evaluation Checklist

Data Evaluation Checklist
Organic Analyses

Project: South Troy Industrial Park
Work Order: T5040
Laboratory: CHEMTECH

Reviewer: Megan Drosky

Project No: 04.9138
Method: SW-846 Methods 8260B (VOA) and 8270C (SVOA)
Associated Sample IDs: CTM-212 (10-12), CTM-214 (2-4), CTM-215 (20-22), CTM-216 (18-20), FD-1, Equipment Blank, and Transport Blank
Sample Date: 09/29, 30, and 10/03/05
Date: 12/05/05

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
1. Were holding times met?	✓			• VOA: ≤14 days • SVOA: ≤14/40 days (soil), ≤7/40 days (water)	
2. Were sample storage and preservation requirements met?	✓			4°C (2-6°C). The transport blank and equipment blank were preserved with HCl for VOA.	
3. Was a method blank analyzed with each batch?	✓			• VOA: VBH1010W4, VBH1011W2, VBI1013S2, VBK1014S2, VBK1017S2 • SVOA: PB08005B, PB08030B	
4. Were target analytes reported in the method or calibration blanks above the Detection Limit?	✓			• SVOA – PB08005B: 1,1-Biphenyl @210 µg/Kg (54 µg/Kg) • SVOA – PB08030B: o Di-n-butylphthalate @7.0 µg/L (1.3 µg/L) o 2-Hexanol (TIC) @2.6 µg/L (RT=3.23) o 13-Docosenamide, (Z) (TIC) @4.0 µg/L (RT=15.17)	
5. Were target analytes reported in field blank analyses (e.g., trip, ~~ambient, field,~~ or equipment) above the DL?	✓			SVOA – Equipment Blank: • Di-n-butylphthalate @6.8 µg/L (1.2 µg/L) • Bis(2-ethylhexyl)phthalate @13 µg/L (1.5 µg/L) • N-Hexadecanoic acid (TIC) @2.4 µg/L (RT=11.52) • Octadec-9-enoic acid (TIC) @8.6 µg/L (RT=12.4) • Octadecanoic acid (TIC) @2.6 µg/L (RT=12.48) • 13-Docosenamide,(Z) (TIC) @5.6 µg/L (RT=15.17) • 2,6,10,14,18,22-Tetracosahexaene (TIC) @ 3.6 µg/L (RT=15.41)	
6. Were contaminants detected in samples below the blank contamination action level?	✓			Blank Contamination Action Levels: • SVOA –	ND, U

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				○ 1,1-Biphenyl @1050 µg/Kg (210 x 5) ○ Di-n-butylphthalate @350 µg/Kg (7 x 5 x10) ○ Bis(2-ethylhexyl)phthalate @650 µg/Kg (13 x 5 x 10) ○ 2-Hexanol (TIC) @130 µg/Kg (2.6 x 5 x 10) ○ 13-Docosenamide, (Z) (TIC) @280 µg/Kg (5.6 x 5 x 10) ○ N-Hexadecanoic acid (TIC) @120 µg/Kg (2.4 x 5 x 10) ○ Octadec-9-enoic acid (TIC) @430 µg/Kg (8.6 x 5 x 10) ○ Octadecanoic acid (TIC) @130 µg/Kg (2.6 x 5 x 10) ○ 13-Docosenamide,(Z) (TIC) @280 µg/L (5.6 x 5 x 10) ○ 2,6,10,14,18,22-Tetracosahexaene (TIC) @180 µg/Kg (3.6 x 5 x 10) Sample results that were not significantly greater (5x and) than that detected in the blanks have been qualified due to the presence of blank contamination as ND (U-flag) and the DL has been elevated to the amount detected.	
7. Were initial and continuing calibration standards analyzed at the lab-specified frequency for each instrument?	✓			• VOA ○ Initial calibration: 10/06/05 (Associated samples: Transport Blank and Equipment Blank), 10/12/05 (Associated samples: CTM-212(10-12) and CTM-212(10-12)RE), and 10/13/05 (Associated samples: All soils except CTM-212(10-12) and RE) ○ Continuing calibration: 10/11/05 @12:24 (Transport Blank and Equip Blank), 10/13/05 @09:00 (CTM-212(10-12) and CTM-212(10-12)RE), and 10/14/05 @16:52 (All soils except CTM-212(10-12)) • SVOA	

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				o Initial calibration: 09/23/05 (Associated samples: all soils) and 10/07/05 (Associated sample: Equipment Blank) o Continuing calibration: 10/09/05 @09:34 (Associated samples: CTM-212(10-12), CTM-214(2-4), CTM-216(18-20)), 10/10/05 @13:22 (Associated sample: Equipment Blank), 10/10/05 @16:14 (Associated sample: FD-1), and 10/11/05 @04:08 (Associated samples: CTM-212(10-12)RE, CTM-214(2-4)RE, and CTM-215(20-22))	
8. Were these results within lab or project specifications?		✓		VOA – • Initial Calibration of 10/06/05, 10/12/05 and 10/13/05. The RF >0.05 and %RSD between response factors was less than 30% for all target analytes except during the initial calibration of 10/12/05 for bromomethane (46.6%RSD), chloroethane (62.6%RSD), acetone (47.5%RSD), carbon disulfide (39%RSD), methyl acetate (35%RSD), and methylene chloride (32.8%RSD). J/UJ associated samples. • Continuing calibrations of 10/11, 10/13, and 10/14. The RF>0.05 and %D <25% for all target analytes, except as follows: o 10/11/05 @12:24 – carbon disulfide (26.3%D) and 1,2-dibromo-3-chloropropane (26.2%D). J/UJ associated samples. o 10/13/05 @09:00 – methyl acetate (102.7%D). J/UJ associated samples. o 10/14/05 @16:52 – chloroethane (37.1%D), 1,1,2-trichlorotrifluoroethane (37.5%D), carbon disulfide (32.3%D), trans-1,2-dichloroethene (26.9%D), 1,1-dichloroethane (25.6%D), cyclohexane (29.4%D), and 1,1,1-trichloroethane (30.8%D). J/UJ associated samples.	J/UJ

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				SVOA – • Initial Calibrations of 09/23/05 and 10/07/05. The RF >0.05 and %RSD between response factors was less than 30% for all target analytes except benzo(k)fluoranthene (39.1%RSD) during the initial calibration of 10/07/05. J/UJ associated samples. • Continuing calibrations of 10/09, 10/10, and 10/11. The RF>0.05 and %D <25% for all target analytes, except as follows: ○ 10/09/05 @09:34 – benzaldehyde (27.5%D) and 3,3-dichlorobenzidine (28.7%D). J/UJ associated samples. ○ 10/10/05 @16:14 – benzaldehyde (37.6%D) and 2-nitroaniline (30.7%D). J/UJ associated samples. ○ 10/11/05 @04:08 – benzaldehyde (39.1%D) and 2,4-dinitrophenol (29.1%D). J/UJ associated samples.	
9. Were the results of the ICS Check Standard analysis within 80-120% of the true value (metals only)?			✓		
10. Was a CRDL Standard analyzed for metals?			✓		
11. Were recoveries within 75-125% of the true value during the CRDL analysis (CRA, CRI)?			✓		
12. Was a LCS analyzed with each batch?		✓		• VOA: BSK1014S1, BSH1010W2 • SVOA: PB08005BS, PB08030BS	
13. Were LCS' recoveries within lab specifications?		✓		VOA, BSK1014S1 (Associated samples: all soils): Acetone @69%R (70-130). J/UJ VOA, BSH1010W2 (Associated samples: equipment and transport blanks): • Chloroethane @60%R (70-130). J/UJ • 1,1,2-Trichlorotrifluoroethane @65%R (70-130). J/UJ SVOA, PB08030BS (Associated sample: equipment blank): • Phenol @58%R (18-37). J	J/UJ

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				• Indeno(1,2,3-cd)pyrene @32%R (35-127). J/UJ • Dibenz(a,h)anthracene @50%R (53-127). J/UJ	
14. Were LCS/LCSD RPD within lab specifications?			✓	LCS only	
15. Was a MS/MSD pair analyzed with each batch?	✓			• VOA: T5040-04 (CTM-216 (18-20)) • SVOA: T5040-04 (CTM-216 (18-20))	
16. Is the MS/MSD parent sample a project-specific sample?	✓				
17. Were MS/MSD recoveries within lab specifications? *Only QC results for project samples are evaluated.*		✓		VOA – Refer to attached Matrix Spike/Matrix Spike Duplicate Summary for %R values. Both the MS and MSD %R fell below the laboratory specifications for 1,1,2-trichlorofluoroethane, carbon disulfide, methylene chloride,1,2-dichloroethane, 4-methyl-2-pentanone, t-1,3-dichloropropene, 1,1,2-trichloroethane, 2-hexanone, and 1,2-dibromoethane. UJ associated results.	UJ
18. Were MS/MSD RPD within lab specifications? *Only QC results for project samples are evaluated.*		✓		VOA – CTM-216(18-20): • Methyl acetate @104%RPD (<37). UJ • Acetone @104%RPD (<56). UJ	UJ
19. Was a serial dilution conducted on each inorganic batch?			✓		
20. Is the serial dilution parent sample a project-specific sample?			✓		
21. Is the percent difference between the serially diluted result and undiluted result less than 10% (for those analytes with native concentrations greater than 50x the DL)? *Only QC results for project samples are evaluated.*			✓		
22. Was a laboratory duplicate analyzed with each batch?		✓			
23. Is the laboratory duplicate sample a project-specific sample?			✓		
24. Does laboratory duplicate results meet lab specifications? *Only QC results for project samples are evaluated.*			✓		

25. Were surrogate recoveries within lab specifications during organic analysis?		✓		• VOA – CTM-212 (10-12) and CTM-212 (10-12)RE
				  o 4-BFB @74 and 68%R (75-125).
				  o 1,2-Dichloroethane-d4 @171%R during the reanalysis (75-125).
				J/UJ all results for CTM-212(10-12) and CTM-212(10-12)RE.
				• SVOA – CTM-212 (10-12): Terphenyl-d14
					J/UJ

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				@153%R (18-137). No action, as remaining B/N surrogates were within laboratory specifications. • SVOA – Equipment Blank: 2-Fluorophenol @19%R (21-100). No action, as remaining acid surrogates were within specifications.	
26. Were internal standard results within lab specifications during the VOA and SVOA?		✓		VOA – CTM-212 (10-12) and CTM-212 (10-12)RE • Pentafluorobenzene @4830 and 87459 (175092-700366) • 1,4-Difluorobenzene @10342 and 204285 (286038-1144152) • Chlorobenzene-d5 @9286 and 147789 (259716-1038862) • 1,4-Dichlorobenzene-d4 @2930 and 32523 (136480 - 545918) ND and detected results for CTM-212 (10-12) are considered unusable (R) and estimated (J), all results for CTM-212 (10-12)RE are considered estimated (J/UJ). SVOA – CTM-212(10-12) and CTM-212(10-12)RE • Phenanthrene-d10 @208727 and 129197 (236041-944162 and 132066-528262). J/UJ associated analytes in the results. • Perylene-d12 @194674 and within specifications during the RE (280651 -1122602). J/UJ associated analytes in CTM-212(10-12). SVOA – CTM-214(2-4) and CTM-214(2-4)RE • Acenaphthene-d10 @108104 and within specifications during the RE (112254-449016). J/UJ associated analytes in CTM-214(2-4). • Phenanthrene-d10 @164850 and 1111325 (236041-944162 and 132066-528262). J/UJ associated analytes in the results. • Perylene-d12 @241587 and within specifications during the RE (280651 -1122602). J/UJ associated analytes in CTM-214(2-4).	R/J/UJ

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
27. Were TIC reported and were reported results qualified as estimated concentrations?	✓				JN
28. Were field duplicate samples submitted to the laboratory for analysis?	✓			Duplicate is the field duplicate of SB-215 (20-22)	
29. Was precision deemed acceptable as defined by DV Guidelines?	✓			Target analytes were not detected in the associated sample.	
30. Were laboratory-generated Corrective Action Reports (i.e., QCER) issued? If yes, summarize contents or attach copy of the report.		✓			
31. Were lab comments included in report? If yes, summarize contents or attach a copy of the narrative.	✓			Refer to Case Narratives	

Comments:

The data review process was modeled after the EPA Region 2 Data Validation Guidelines for unusable data and Appendix 2B, Guidance for the Development of Data Usability Summary Reports, of *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NY DEC, December 2002).

Key:

J	Positive sample result is considered estimated
R	Unusable data
R+	Positive sample result is considered unusable
U	Not present above the associated level; blank contamination exists
UJ	Sample result is not detected and the detection limit is considered estimated
ND	Sample result is not detected
N	A “tentative identification” has been made of the presence of an analyte

C.T. MALE ASSOCIATES, P.C.

SUBJECT: Data Usability Summary Report (DUSR)
South Troy Industrial Park
Chemtech SDG No.: T4702
C.T. Male Project No.: 04.9138

DATE: December 5, 2005

On September 13, 2005, C.T. Male Associates P.C. (C. T. Male) collected four (4) groundwater samples from the South Troy Industrial Park (STIP) Site. The samples were submitted to CHEMTECH in Mountainside, NJ along with an equipment blank and a trip blank, for the following analyses:

Parameter	Sample Date	VOC, SW-846 8260B	SVOC, SW-846 8270C
Sample Ids			
CTM-100	9/13/2005	1	1
CTM-101	9/13/2005	1	1
CTM-105	9/13/2005	1	1
FD-1[1]	9/13/2005	1	1
EB-01	9/13/2005	1	0
Transport Blank	-	1	0
Total Samples		**6**	**4**

VOC – Volatile organic compounds
SVOC – Semi-volatile organic compounds

C. T. Male evaluated the data reported by the laboratory to determine usability per Appendix B of the *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NY DEC, December 2002). The following criteria were reviewed:

- Completeness of data package as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables;
- Holding time compliance for chemical analysis;
- Protocol required limits and specification compliance for quality control (QC) data (e.g., instrument tuning, calibration standards, blank results, spike results, duplicate results, etc);
- Contract compliance for analytical protocols;
- Omissions and Transcription errors; and
- Data qualification

All required documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms. The laboratory Case Narrative (Attachment A) identified all deviations from laboratory analytical specifications. C. T. Male reviewed these QC results to determine if sample results should be qualified based on the criteria provided in Appendix B of the *Technical Guidance for Site Investigation and Remediation*. QC exceedances and data qualification recommendations are presented in the Data Evaluation Checklist (Attachment B). Qualified sample results are presented in the laboratory summary forms, which are located in Attachment C.

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[1] Field duplicate of CTM-100.

Overall, data quality objectives for the STIP project were met, as there were not any data deficiencies that would indicate the need for re-sampling.

Data Completeness

All documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms for the validated samples. The laboratory Case Narrative identified all deviations from laboratory analytical specifications, and is attached along with the qualified sample results. QC exceedences and data qualification recommendations are presented below.

Sample Condition upon Receipt and Holding Times

Chemtech received all the samples listed on the COC records intact and in good condition on September 14, 2005. The temperature of samples was within laboratory specification limits of 2 to 6°C upon receipt.

All samples were prepared and analyzed within EPA-established holding times.

Volatile Organic Analyses (VOA) by SW-846 8260B

All samples were analyzed within 12 hours of the performance check standard, BFB. Percent relative abundance of all ions met the criteria specified in Table 4 of the EPA SW-846 Method 8260B. Laboratory specifications were met during the initial and continuing calibrations on August 31 and September 15, 2005, respectively. In addition the average relative response factor (RRF) was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The percent relative standard deviation (%RSD) between RRF was less than or equal to 30% during the initial calibration, and the percent difference (%D) between the initial calibration average RRF and continuing calibration RRF was less than or equal to 25% for all target analytes, except bromoform (35.3%RSD). Bromoform results have been qualified as estimated (J/UJ) due to poor correlation in the initial calibration.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples.

The percent recovery results for blank spike analysis were within laboratory specifications for 1,1-dichloroethene, benzene, trichloroethene, toluene, and chlorobenzene.

A method blank was reported for each analytical batch and equipment and trip blanks were also submitted to the laboratory for VOA. Target analytes were not detected during the VOA of the method blank. However, acetone and methylene chloride (common laboratory contaminants) were detected during the VOA of equipment blank, at concentrations of 10 and 1.7 µg/L, respectively. Methylene chloride was also detected during the analysis of the transport blank at a concentration of 3.0 µg/L. Action levels were developed by multiplying the highest concentration observed among the associated blank by a factor of 10 for common laboratory contaminants. Samples with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Criteria for accuracy and precision were met during the matrix spike (MS)/MS duplicate (MSD) analysis of sample CTM-105 for 1,1-dichloroethene, benzene, trichloroethene, toluene, and chlorobenzene.

Criteria for precision was achieved during the field duplicate evaluation of samples FD-1 and CTM-100, as target analytes were not detected in the samples.

Semivolatile Organic Analysis (SVOA) by SW-846 8270C

All samples were analyzed within 12 hours of the performance check standard, DFTPP. Percent relative abundance of all ions met the criteria specified in Table 3 of the EPA SW-846 Method 8270C. Laboratory specifications were met during the initial calibration on September 9, 2005 and the continuing calibrations of September 15 and 16, 2005. In addition the average RRF was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The %RSD between RRF was less than or equal to 30% during the initial calibrations except n-nitroso-di-n-propylamine (37.7%RSD), and the %D between the initial calibration average RRF and continuing calibration RRF was less than or equal to 25% for all target analytes except benzaldehyde (28%D) and benzo(g,h,i)perylene (41.8%D) during the continuing calibration associated with the reanalysis of samples FD-1, CTM-101, and CTM-105. The associated results in FD-1RE, CTM-101RE, and CTM-105RE have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples except the surrogate recoveries for 2-fluorophenol, phenol-d5, and terphenyl-d14 during the analysis of CTM-101. These exceedences were confirmed upon reanalysis of the sample. All acid results in CTM-101 and CTM-101RE have been qualified as estimated (J/UJ) due to analytical inaccuracy. Surrogate recoveries for 2-fluorophenol and terphenyl-d14 were below laboratory specifications during the analysis of CTM-105. The inaccuracy of the acid surrogate was confirmed upon reanalysis, however no action was warranted as the remaining acid and base/neutral (B/N) surrogates were within specifications. The surrogate recovery for 2-fluorophenol was below laboratory specifications during the analysis of CTM-100. No action was warranted, as the remaining acid surrogates were within laboratory specifications. The acid surrogates 2-fluorophenol and phenol-d5 were below laboratory specifications during the analysis of FD-1. These exceedences were confirmed upon reanalysis of the sample. All acid results in FD-1 and FD-1RE have been qualified as estimated (J/UJ) due to analytical inaccuracy.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes except n-nitroso-di-n-propylamine exceeded laboratory specifications, and caprolactum was below laboratory specifications, during the analysis of blank spike PB07605BS. Associated results have been qualified as estimated (J/UJ) for caprolactum, and detected results have been qualified as estimated (J) for n-nitroso-di-n-propylamine.

A method blank was reported for each analytical batch. Target analytes were not detected during the analysis of the method blank. A tentatively identified compound (TIC), squalene was detected during the analysis of method blank PB07605B at a concentration of 2.5 µg/L. An action level was developed by multiplying the concentration observed among the associated blank by a factor of 5. Samples with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Criteria for accuracy and precision were met during the matrix spike MS/MSD analysis of sample CTM-105 for all target analytes except phenol, 3+4-methylphenols, n-nitroso-di-n-propylamine, 2,4-dimethylphenol, caprolactam, and di-n-octyl phthalate. The %R for the MS/MSD was below laboratory specifications for phenol, 3+4-methylphenols, 2,4-dimethylphenol, and caprolactam. The associated results have been qualified as estimated (UJ) in CTM-105. The %R for the MS/MSD exceeded laboratory specifications for n-nitroso-di-n-propylamine. Qualification was not warranted as n-nitroso-di-n-propylamine was not detected in CTM-105. The MSD %R was below laboratory specifications for di-n-octyl phthalate. Qualification was not warranted, as the MS %R was within laboratory specifications.

Criteria for precision was achieved during the field duplicate evaluation of samples FD-1 and CTM-100.

Megan Drosky
Megan Drosky
Environmental Scientist

ATTACHMENT A
Case Narrative

CASE NARRATIVE

C.T. Male & Associates
Project Name: Rensselaer Cty Indust. Dev. Agency
Project # 04.9138
Chemtech Project # T4702

A. Number of Samples and Date of Receipt:
8 Water samples were received on 9/14/05.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: SVOCMS Group1, and VOCMS Group1. This data package contains results for SVOCMS Group1.

C. Analytical Techniques:
The samples were analyzed on instrument BNA B using GC Column RTX-5 SILMS which is 30 meters, 0.32 mm ID, 0.5 um df, Catalog # 12739-125.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria except for CTM-101, CTM-101RE, CTM-105, CTM-105RE, CTM-105MS, CTM-100, FD-1 and FD-1RE.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds except for Phenol, N-Nitroso-di-n-propylamine, 3+4-Methylphenols, 2,4-Dimethylphenol and Caprolactam.
The MSD recoveries met the acceptable requirements except for Phenol, N-Nitroso-di-n-propylamine, 3+4-Methylphenols, 2,4-Dimethylphenol, Caprolactam and Di-n-octyl phthalate.
The RPD recoveries met criteria.
The Blank Spike met requirements for all samples except for N-Nitroso-di-n-propylamine and Caprolactam.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Tuning criteria met requirements.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature ______________ Name: Krupa Dubey

Date: 9/26/05 Title: QA/QC

CHEMTECH

CASE NARRATIVE

C.T. Male & Associates
Project Name: Rensselaer Cty Indust. Dev. Agency
Project # 04.9138
Chemtech Project # T4702

A. Number of Samples and Date of Receipt:
8 Water samples were received on 9/14/05.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: SVOCMS Group1, and VOCMS Group1. This data package contains results for VOCMS Group1.

C. Analytical Techniques:
The analysis performed on instrument MSVOA H were done using GC column RTX624, which is 75 meters, 0.53 ID, 3.0 df, Restek Cat. #10974. The Trap was supplied BY OI Analytical, OI #10 Trap, OI Eclipse 4660 Concentrator.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds.
The MSD recoveries met the acceptable requirements.
The RPD recoveries met criteria.
The Blank Spike met requirements for all samples.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Tuning criteria met requirements.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature ______________________ Name: Krupa Dubey

Date: 9/26/05 Title: QA/QC

ATTACHMENT B
Data Evaluation Checklist

Data Evaluation Checklist
Organic Analyses

Project: South Troy Industrial Park
Work Order: T4702
Laboratory: CHEMTECH

Reviewer: Megan Drosky

Project No: 04.9138
Method: SW-846 Methods 8260B (VOA), 8270C (SVOA)
Associated Sample IDs: CTM-101, CTM-105, CTM-100, FD-1, EB-01, and Transport Blank
Sample Date: 09/13/05
Date: 12/05/05

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
1. Were holding times met?	✓			• VOA: ≤14 days • SVOA: ≤7/40 days	
2. Were sample storage and preservation requirements met?	✓			4°C (2-6°C). All samples were preserved with HCl for VOA analysis.	
3. Was a method blank analyzed with each batch?	✓			• VOA: VBH0915W2 • SVOA: PB07605B	
4. Were target analytes reported in the method or calibration blanks above the Detection Limit?	✓			• SVOA – PB07605B: Squalene (TIC) @2.5 µg/L (RT=22.42)	
5. Were target analytes reported in field blank analyses (e.g., trip, ~~ambient, field,~~ or equipment) above the DL?	✓			VOA, EB-01: • Acetone @10 µg/L (2.3 µg/L) • Methylene chloride @1.7 µg/L (0.43 µg/L) VOA, Transport Blank: Methylene chloride @3.0 µg/L (0.43 µg/L)	
6. Were contaminants detected in samples below the blank contamination action level?	✓			Blank Contamination Action Levels: • VOA – Acetone @100 µg/L (10 x 10) • VOA – Methylene chloride @30 µg/L (3.0 x 10) • SVOA – Squalene (TIC) @12.5 µg/L (2.5 x 5) Sample results that were not significantly greater (5x and 10x for common laboratory contaminants) than that detected in the blanks have been qualified due to the presence of blank contamination as ND (U-flag) and the DL has been elevated to the amount detected.	ND, U
7. Were initial and continuing calibration standards analyzed at the lab-specified frequency for each instrument?	✓			• VOA ○ Initial calibration: 08/31/05 ○ Continuing calibration: 09/15/05 @11:29 • SVOA ○ Initial calibration: 09/09/05 ○ Continuing calibration: 09/15/05 @18:08 (Associated samples: FD-1), 09/16/05	

WO # T4702

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				@06:17 (Associated samples: CTM-101, CTM-105, CTM-100), and 09/16/05 @17:24 (Associated samples: FD-1RE, CTM-101RE, and CTM-105RE)	
8. Were these results within lab or project specifications?		✓		VOA – • Initial Calibration of 08/31/05. The RF >0.05 and %RSD between response factors was less than 30% for all target analytes except bromoform (35.3%RSD). J/UJ • Continuing calibration of 09/15/05. The RF>0.05 and %D <25% for all target analytes. SVOA – • Initial Calibration of 09/0009/05. The RF >0.05 and %RSD between response factors was less than 30% for all target analytes except n-nitroso-di-n-propylamine (37.7%RSD). J/UJ • Continuing calibrations of 09/15/05 and 09/16/05. The RF>0.05 and %D <25% for all target analytes, except as follows: ○ 09/16/05 @17:24 – benzaldehyde (28%D) and benzo(g,h,i)perylene (41.8%D). J/UJ associated samples.	J/UJ
9. Were the results of the ICS Check Standard analysis within 80-120% of the true value (metals only)?			✓		
10. Was a CRDL Standard analyzed for metals?			✓		
11. Were recoveries within 75-125% of the true value during the CRDL analysis (CRA, CRI)?			✓		
12. Was a LCS analyzed with each batch?		✓		• VOA: BSH0915W1 • SVOA: PB07605BS	
13. Were LCS recoveries within lab specifications?		✓		SVOA, PB07605BS: • n-Nitroso-di-n-propylamine @106%R (48-96). J+ • Caprolactum @10%R (20-150). J/UJ	J/UJ
14. Were LCS/LCSD RPD within lab specifications?			✓	LCS only	
15. Was a MS/MSD pair analyzed with each batch?	✓			• VOA: T4702-02 (CTM-105) • SVOA: T4702-02 (CTM-105)	

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
16. Is the MS/MSD parent sample a project-specific sample?	✓				
17. Were MS/MSD recoveries within lab specifications? *Only QC results for project samples are evaluated.*		✓		CTM-105, SVOA: • Phenol @16 and 17%R (18-37). UJ • 3+4-Methylphenols @26 and 28%R (35-110). UJ • n-Nitroso-di-n-propylamine @112 and 102%R (48-96). No action, as analyte was not detected in the associated sample. • 2,4-Dimethylphenol @36 and 34%R (44-97). UJ • Caprolactum @9 and 11%R (20-150). UJ • Di-n-octyl phthalate @66 and 62%R (66-124). No action, as MS is within laboratory specifications.	UJ
18. Were MS/MSD RPD within lab specifications? *Only QC results for project samples are evaluated.*	✓				
19. Was a serial dilution conducted on each inorganic batch?			✓		
20. Is the serial dilution parent sample a project-specific sample?			✓		
21. Is the percent difference between the serially diluted result and undiluted result less than 10% (for those analytes with native concentrations greater than 50x the DL)? *Only QC results for project samples are evaluated.*			✓		
22. Was a laboratory duplicate analyzed with each batch?		✓			
23. Is the laboratory duplicate sample a project-specific sample?			✓		
24. Does laboratory duplicate results meet lab specifications? *Only QC results for project samples are evaluated.*			✓		
25. Were surrogate recoveries within lab specifications during organic analysis?		✓		• SVOA – CTM-101 and CTM-101RE o 2-Fluorophenol @12 and 12%R (21-100) o Phenol-d5 @7 and 7%R (10-94) All acid results are considered estimated (J/UJ). o Terphenyl-d14 @28 and 32%R (33-141). No action warranted as remaining B/N surrogates are within specifications. • SVOA – CTM-105 and CTM-105RE o 2-Fluorophenol @17 and 17%R (21-100).	J/UJ

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				No action as remaining acid surrogates are within specifications. ○ Terphenyl-d14 @31%R (33-141). No action warranted as remaining B/N surrogates are within specifications. • SVOA – CTM-100 ○ 2-Fluorophenol @14%R (21-100). No action as remaining acid surrogates are within specifications. • SVOA – FD-1 and FD-1RE ○ 2-Fluorophenol @15 and 14%R (21-100) ○ Phenol-d5 @9 and 9%R (10-94) All acid results are considered estimated (J/UJ).	
26. Were internal standard results within lab specifications during the VOA and SVOA?	✓				
27. Were TIC reported and were reported results qualified as estimated concentrations?	✓				JN
28. Were field duplicate samples submitted to the laboratory for analysis?	✓			FD-01 is the field duplicate of CTM-100	
29. Was precision deemed acceptable as defined by DV Guidelines?	✓			Diethylphthalate was the only target analyte detected in the samples. No action warranted, as the absolute difference between results is <CRDL.	
30. Were laboratory-generated Corrective Action Reports (i.e., QCER) issued? If yes, summarize contents or attach copy of the report.		✓			
31. Were lab comments included in report? If yes, summarize contents or attach a copy of the narrative.	✓			Refer to Case Narratives	

Comments:

The data review process was modeled after the EPA Region 2 Data Validation Guidelines for unusable data and Appendix 2B, Guidance for the Development of Data Usability Summary Reports, of *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NY DEC, December 2002).

Key:

J	Positive sample result is considered estimated	UJ	Sample result is not detected and the detection limit is considered estimated
R	Unusable data	ND	Sample result is not detected
R+	Positive sample result is considered unusable	N	A "tentative identification" has been made of the presence of an analyte
U	Not present above the associated level; blank contamination exists		

C.T. MALE ASSOCIATES, P.C.

SUBJECT: Data Usability Summary Report (DUSR)
South Troy Industrial Park
Chemtech SDG No.: T5305
C.T. Male Project No.: 04.9138

DATE: December 7, 2005

On October 18, 2005, C.T. Male Associates P.C. (C. T. Male) collected five (5) groundwater samples from the South Troy Industrial Park (STIP) Site. The samples were submitted to CHEMTECH in Mountainside, NJ along with a trip blank, for the following analyses:

Parameter	Sample Date	VOC, SW-846 8260B	SVOC, SW-846 8270C
Sample Ids			
CTM-203	10/18/2005	1	1
CTM-208	10/18/2005	1	1
CTM-214	10/18/2005	1	1
CTM-215	10/18/2005	1	1
FD-1[1]	10/18/2005	1	1
Trip Blank	-	1	0
Total Samples		**6**	**5**

VOC – Volatile organic compounds
SVOC – Semi-volatile organic compounds

C. T. Male evaluated the data reported by the laboratory to determine usability per Appendix B of the *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NY DEC, December 2002). The following criteria were reviewed:

- Completeness of data package as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables;
- Holding time compliance for chemical analysis;
- Protocol required limits and specification compliance for quality control (QC) data (e.g., instrument tuning, calibration standards, blank results, spike results, duplicate results, etc);
- Contract compliance for analytical protocols;
- Omissions and Transcription errors; and
- Data qualification

All documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms. The laboratory Case Narrative (Attachment A) identified all deviations from laboratory analytical specifications. C. T. Male reviewed these QC results to determine if sample results should be qualified based on the criteria provided in Appendix B of the *Technical Guidance for Site Investigation and Remediation*. QC exceedances and data qualification recommendations are presented in the Data Evaluation Checklist (Attachment B). Qualified sample

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[1] Field duplicate of CTM-214.

results are presented in the laboratory summary forms, which are located in Attachment C. Overall, data quality objectives for the STIP project were met, as there were not any data deficiencies that would indicate the need for re-sampling.

Data Completeness

All documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms for the validated samples. The laboratory Case Narrative identified all deviations from laboratory analytical specifications, and is attached along with the qualified sample results. QC exceedences and data qualification recommendations are presented below.

Sample Condition upon Receipt and Holding Times

Chemtech received all the samples listed on the COC records intact and in good condition on October 19, 2005. The temperature of samples was within laboratory specification limits of 2 to 6°C upon receipt.

All samples were prepared and analyzed within EPA-established holding times.

Volatile Organic Analyses (VOA) by SW-846 8260B

All samples were analyzed within 12 hours of the performance check standard, BFB. Percent relative abundance of all ions met the criteria specified in Table 4 of the EPA SW-846 Method 8260B. Laboratory specifications were met during the initial and continuing calibrations on October 13 and 27, 2005, respectively. In addition the average relative response factor (RRF) was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The percent relative standard deviation (%RSD) between RRF was less than or equal to 30% during the initial calibration, and the percent difference (%D) between the initial calibration average RRF and continuing calibration RRF was less than or equal to 25% for all target analytes, except chloroethane (38.4%RSD), acetone (26.5%D), and tetrachloroethene (41.3%D). Chloroethane results have been qualified as estimated (J/UJ) due to poor correlation in the initial calibration, and acetone and tetrachloroethene have been qualified as estimated (J/UJ) due to poor correlation between calibrations.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes except chloromethane (135%R), bromomethane (150%R), chloroethane (180%R), and methylcyclohexane (135%R). Associated detections have been qualified as estimated (J) due to analytical inaccuracy.

A method blank was reported for each analytical batch and a trip blank was also submitted to the laboratory for VOA. Acetone (a common laboratory contaminant) was detected in the trip blank as well as method blank VBD1027W1 at concentrations of 39 and 12 µg/L, respectively. 2-Butanone (a common laboratory contaminant) was also detected in the trip blank at a concentration of 12 µg/L. Action levels were developed by multiplying the highest concentration observed among the associated blanks by a factor of 10 for common laboratory contaminants. Samples with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Criteria for accuracy and precision were met during the matrix spike (MS)/MS duplicate (MSD) analysis of sample CTM-215 for all target analytes except chloroethane. The %R exceeded the laboratory specifications during the MS and MSD analysis, however no action is warranted as chloroethane was not detected in the associated sample.

Criteria for precision was achieved during the field duplicate evaluation of samples FD-1 and CTM-214 for all target analytes except m&p-xylenes and isopropylbenzene. M&p-xylenes were detected during the analysis of CTM-214, but were not detected (ND) during the analysis of FD-1. The absolute difference between results for isopropylbenzene exceeded the contract required detection limit. Results for m&p-xylenes and isopropylbenzene have been qualified as estimated (J/UJ) in the associated samples due to analytical imprecision.

Semivolatile Organic Analysis (SVOA) by SW-846 8270C

All samples were analyzed within 12 hours of the performance check standard, DFTPP. Percent relative abundance of all ions met the criteria specified in Table 3 of the EPA SW-846 Method 8270C. Laboratory specifications were met during the initial calibrations on October 17 and 27, 2005 and the continuing calibrations of October 23, 24, and 31, 2005. In addition the average RRF was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The %RSD between RRF was less than or equal to 30% during the initial calibrations except hexachloroethane (33.3%RSD), hexachlorocyclopentadiene (52.7%RSD), 1,1-biphenyl (30.9%RSD), 4-chlorophenyl-phenylether (35.5%RSD), and benzo(k)fluoranthene (41.3%RSD) during the initial calibration associated with the analysis of samples FD-1, CTM-215, CTM-208, and CTM-214, as well as hexachlorocyclopentadiene (48.7%RSD) and 2,4-dinitrophenol (50.2%RSD) during the initial calibration associated with the analysis of sample CTM-203. The %D between the initial calibration average RRF and continuing calibration RRF was less than or equal to 25% for all target analytes except benzaldehyde (27.9%D) during the continuing calibration associated with the analysis of CTM-214, and bis(2-chloroethoxy)methane (36%D), caprolactam (27.7%D), hexachlorobenzene (28.5%D), 3,3-dichlorobenzidine (32.7%D), and indeno(1,2,3-cd)pyrene (28.4%D) during the continuing calibration associated with the analysis of CTM-203. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples except the surrogate recoveries for 2-fluorophenol during the analysis of CTM-203. No action is warranted as the remaining acid surrogates were within laboratory specifications.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes except phenol and 4-chlorophenyl-phenylether exceeded laboratory specifications, and benzaldehyde and caprolactum were below laboratory specifications, during the analysis of blank spike PB08293BS. Associated results have been qualified as estimated (J/UJ) for benzaldehyde and caprolactum, and detected results have been qualified as estimated (J) for phenol and 4-chlorophenyl-phenylether.

A method blank was reported for each analytical batch. Target analytes were not detected during the analysis of the method blank. A tentatively identified compound (TIC), squalene was detected during the analysis of method blank PB08293B at a concentration of 40 µg/L. An action level was developed by multiplying the concentration observed among the associated blank by a factor of 5. Samples with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Criteria for accuracy and precision were met during the MS/MSD analysis of sample CTM-215 for all target analytes except benzaldehyde, caprolactam, 4-chlorophenyl-phenylether, 3,3-dichlorobenzidine, and benzo(k)fluoranthene. The %R for the MS and MSD was below laboratory specifications for benzaldehyde, caprolactam, and 3,3-dichlorobenzidine. The associated results have been qualified as estimated (UJ) in CTM-215. The MS %R was below laboratory specifications for 4-chlorophenyl-phenylether and benzo(k)fluoranthene. Qualification was not warranted, as the MSD %R was within laboratory specifications.

Criteria for precision was achieved during the field duplicate evaluation of samples FD-1 and CTM-214 for all target analytes except phenanthrene and anthracene. These analytes were detected during the analysis of FD-1, but were ND during the analysis of CTM-214. Results for phenanthrene and anthracene have been qualified as estimated (J/UJ) in the associated samples due to analytical imprecision.

Megan Drosky

Megan Drosky
Environmental Scientist

ATTACHMENT A
Case Narrative

CHEMTECH

CASE NARRATIVE

C.T. Male & Associates
Project Name: Rensselaer Cty Indust. Dev. Agency
Project # N/A
Chemtech Project # T5305

A. Number of Samples and Date of Receipt:
8 Water samples were received on 10/19/05.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: SVOCMS Group1, and VOCMS Group1. This data package contains results for SVOCMS Group1.

C. Analytical Techniques:
The samples were analyzed on instrument BNA B using GC Column RTX-5 SILMS which is 30 meters, 0.32 mm ID, 0.5 um df, Catalog # 12739-125.The samples were analyzed on instrument BNA E using GC Column RTX-5 SILMS which is 30 meters, 0.32 mm ID, 0.5 um df, Catalog # 12739-125.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria except for CTM-203.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds except for Benzaldehyde, Caprolactam, 4-Chlorophenyl-phenylether, 3,3-Dichlorobenzidine and Benzo(k)fluoranthene.
The MSD recoveries met the acceptable requirements except for Benzaldehyde, Caprolactam and 3,3-Dichlorobenzidine.
The RPD recoveries met criteria.
The Blank Spike met requirements for all samples except for Benzaldehyde, Phenol, Caprolactam and 4-Chlorophenyl-phenylether. These compounds are not present in the samples.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Tuning criteria met requirements.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature________________ Name: Krupa Dubey

Date: 11/7/05 Title: QA/QC

CHEMTECH

CASE NARRATIVE

C.T. Male & Associates
Project Name: Rensselaer Cty Indust. Dev. Agency
Project # N/A
Chemtech Project # T5305

A. Number of Samples and Date of Receipt:
8 Water samples were received on 10/19/05.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: SVOCMS Group1, and VOCMS Group1. This data package contains results for VOCMS Group1.

C. Analytical Techniques:
The analysis performed on instrument MSVOA D were done using GC column RTX624 which is 20 meters, 0.18 ID, 1.0 df, Restek Cat. #40924. The Trap was supplied by OI Analytical, OI #10 Trap , OI Eclipse 4660 Concentrator.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds except for Chloroethane.
The MSD recoveries met the acceptable requirements except for Chloroethane.
The RPD recoveries met criteria except for Acetone and Cyclohexane.
The Blank Spike met requirements for all samples except for Chloromethane, Bromomethane, Chloroethane and Methylcyclohexane. These compounds are not present in the samples.
The Blank analysis indicated presence of Acetone due to possible lab contamination.
The Calibration met the requirements.
The Tuning criteria met requirements.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature________________ Name: Krupa Dubey

Date: 11/7/05 Title: QA/QC

ATTACHMENT B
Data Evaluation Checklist

Data Evaluation Checklist
Organic Analyses

Project: South Troy Industrial Park
Work Order: T5305
Laboratory: CHEMTECH

Reviewer: Megan Drosky

Project No: 04.9138
Method: SW-846 Methods 8260B (VOA), 8270C (SVOA)
Associated Sample IDs: CTM-203, CTM-208, CTM-215, CTM-214, FD-1, and Trip Blank
Sample Date: 10/18/05
Date: 12/06/05

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
1. Were holding times met?	✓			• VOA: ≤14 days • SVOA: ≤7/40 days	
2. Were sample storage and preservation requirements met?	✓			4°C (2-6°C). All samples were preserved with HCl for VOA analysis.	
3. Was a method blank analyzed with each batch?	✓			• VOA: VBD1027W1 • SVOA: PB08293B	
4. Were target analytes reported in the method or calibration blanks above the Detection Limit?	✓			• VOA – VBD1027W1: Acetone @12 µg/L (2.3 µg/L) • SVOA – PB08293B: Squalene (TIC) @8.0 µg/L (RT=22.34)	
5. Were target analytes reported in field blank analyses (e.g., trip, ~~ambient, field, or equipment~~) above the DL?	✓			VOA, Trip Blank: • Acetone @39 µg/L (2.3 µg/L) • 2-Butanone @12 µg/L (1.1 µg/L)	
6. Were contaminants detected in samples below the blank contamination action level?	✓			Blank Contamination Action Levels: • VOA – Acetone @390 µg/L (39 x 10) • VOA – 2-Butanone @120 µg/L (12 x 10) • SVOA – Squalene (TIC) @40 µg/L (8.0 x 5) Sample results that were not significantly greater (5x and 10x for common laboratory contaminants) than that detected in the blanks have been qualified due to the presence of blank contamination as ND (U-flag) and the DL has been elevated to the amount detected.	ND, U
7. Were initial and continuing calibration standards analyzed at the lab-specified frequency for each instrument?	✓			• VOA o Initial calibration: 10/13/05 o Continuing calibration: 10/27/05 @12:06 • SVOA o Initial calibration: 10/17/05 (Associated samples: FD-1, CTM-215, CTM-208, CTM-214) and 10/27/05 (Associated	

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				samples: CTM-203) o Continuing calibration: 10/23/05 @18:01 (Associated samples: FD-1, CTM-215, CTM-208), 10/24/05 @06:00 (Associated samples: CTM-214), and 10/31/05 @20:25 (Associated samples: CTM-203)	
8. Were these results within lab or project specifications?		✓		VOA – • Initial Calibration of 10/13/05. The RF >0.05 and %RSD between response factors was less than 30% for all target analytes except chloroethane (38.4%RSD). J/UJ • Continuing calibration of 10/27/05. The RF>0.05 and %D <25% for all target analytes except acetone (26.5%D) and tetrachloroethene (41.3%D). SVOA – • Initial Calibrations of 10/17/05 and 10/27/05. The RF >0.05 and %RSD between response factors was less than 30% for all target analytes except as follows: o 10/17/05 – hexachloroethane (33.3%RSD), hexachlorocyclopentadiene (52.7%RSD), 1,1-biphenyl (30.9%RSD), 4-chlorophenyl-phenylether (35.5%RSD), and benzo(k)fluoranthene (41.3%RSD). J/UJ associated samples. o 10/27/05 – hexachlorocyclopentadiene (48.7%RSD) and 2,4-dinitrophenol (50.2%RSD). J/UJ associated samples. • Continuing calibrations of 10/23/05, 10/24/05, and 10/31/05. The RF>0.05 and %D <25% for all target analytes, except as follows: o 10/24/05 – benzaldehyde (27.9%D). J/UJ associated samples. o 10/31/05 – bis(2-chloroethoxy)methane (36%D), caprolactam (27.7%D), hexachlorobenzene (28.5%D), 3,3-dichlorobenzidine (32.7%D), and	J/UJ

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				indeno(1,2,3-cd)pyrene (28.4%D). J/UJ associated samples.	
9. Were the results of the ICS Check Standard analysis within 80-120% of the true value (metals only)?			✓		
10. Was a CRDL Standard analyzed for metals?			✓		
11. Were recoveries within 75-125% of the true value during the CRDL analysis (CRA, CRI)?			✓		
12. Was a LCS analyzed with each batch?		✓		• VOA: BSD1027W1 • SVOA: PB08293BS	
13. Were LCS recoveries within lab specifications?		✓		VOA, BSD1027W1: • Chloromethane @135%R (70-130). J+ • Bromomethane @150%R (70-130). J+ • Chloroethane @180%R (70-130). J+ • Methylcyclohexane @135%R (70-130). J+ SVOA, PB08293BS: • Benzaldehyde @4%R (20-150). J/UJ • Phenol @40%R (18-37). J+ • Caprolactum @12%R (20-150). J/UJ • 4-Chlorophenyl-phenylether @110%R (45-105). J+	J/UJ
14. Were LCS/LCSD RPD within lab specifications?			✓	LCS only	
15. Was a MS/MSD pair analyzed with each batch?	✓			• VOA: T5305-03 (CTM-215) • SVOA: T5305-03 (CTM-215)	
16. Is the MS/MSD parent sample a project-specific sample?	✓				
17. Were MS/MSD recoveries within lab specifications? *Only QC results for project samples are evaluated.*		✓		CTM-215, VOA: Chloroethane @152 and 154%R (71-150). No action as chloroethane was not detected in the associated sample. CTM-215, SVOA: • Benzaldehyde @0 and 0%R (20-150). UJ • Caprolactum @11 and 11%R (20-150). UJ • 4-Chlorophenyl-phenylether @108 and 98%R (45-105). No action, as MSD is within laboratory specifications. • 3,3-Dichlorobenzidine @12 and 8%R (33-121). UJ	UJ

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				• Benzo(k)fluoranthene @132 and 84%R (52-111). No action, as MSD is within laboratory specifications.	
18. Were MS/MSD RPD within lab specifications? *Only QC results for project samples are evaluated.*		✓		CTM-215, VOA: • Acetone @32%RPD (<20). UJ • Cyclohexane @23%RPD (<20). UJ	UJ
19. Was a serial dilution conducted on each inorganic batch?			✓		
20. Is the serial dilution parent sample a project-specific sample?			✓		
21. Is the percent difference between the serially diluted result and undiluted result less than 10% (for those analytes with native concentrations greater than 50x the DL)? *Only QC results for project samples are evaluated.*			✓		
22. Was a laboratory duplicate analyzed with each batch?		✓			
23. Is the laboratory duplicate sample a project-specific sample?			✓		
24. Does laboratory duplicate results meet lab specifications? *Only QC results for project samples are evaluated.*			✓		
25. Were surrogate recoveries within lab specifications during organic analysis?		✓		SVOA – CTM-203 • 2-Fluorophenol @20%R (21-100). No action as remaining acid surrogates are within specifications.	
26. Were internal standard results within lab specifications during the VOA and SVOA?	✓				
27. Were TIC reported and were reported results qualified as estimated concentrations?	✓				JN
28. Were field duplicate samples submitted to the laboratory for analysis?	✓			FD-1 is the field duplicate of CTM-214	
29. Was precision deemed acceptable as defined by DV Guidelines?		✓		Refer to Attachment A for a duplicate evaluation.	J/UJ
30. Were laboratory-generated Corrective Action Reports (i.e., QCER) issued? If yes, summarize contents or attach copy of the report.		✓			
31. Were lab comments included in report? If yes, summarize contents or attach a copy of the narrative.	✓			Refer to Case Narratives	

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
Comments: The data review process was modeled after the EPA Region 2 Data Validation Guidelines for unusable data and Appendix 2B, Guidance for the Development of Data Usability Summary Reports, of *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NY DEC, December 2002).					

Key:

J	Positive sample result is considered estimated
R	Unusable data
R+	Positive sample result is considered unusable
U	Not present above the associated level; blank contamination exists
UJ	Sample result is not detected and the detection limit is considered estimated
ND	Sample result is not detected
N	A "tentative identification" has been made of the presence of an analyte

ATTACHMENT A

STIP
Evaluation of Field Duplicate Results

Analyte	CTM-214	FD-1	CRDL	CRDLx5	*Criteria*	RPD	Absolute difference	Action
Benzene	23	20	0.39	1.95	RPD	14	3	None, RPD <50%
Toluene	1.2	0.98	0.36	1.8	Abs Diff	20	0.22	None, Absolute Difference is <CRDL
Ethylbenzene	15	12	0.45	2.25	RPD	22	3	None, RPD <50%
m&p-Xylenes	1.3		1.2	6		200	1.3	J/UJ
o-Xylene	0.69	0.61	0.46	2.3	Abs Diff	12	0.08	None, Absolute Difference is <CRDL
Isopropylbenzene	2.2	1.6	0.44	2.2	Abs Diff	32	0.6	J, Absolute Difference >CRDL
Naphthalene	7.3	8	1.4	7	RPD	9	0.7	None, RPD <50%
2-Methylnaphthalene	16	17	1.1	5.5	RPD	6	1	None, RPD <50%
Acenaphthene	2.1	2.1	1.3	6.5	Abs Diff	0	0	None, Absolute Difference is <CRDL
Phenanthrene		1.5	1.4	7		200	1.5	J/UJ
Anthracene		1.5	1.4	7		200	1.5	J/UJ

Note: If the analyte was not detected, then the cell is left blank.
DL - Detection limit
RPD - Relative percent difference

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the CRDL, then precision is based on the absolute difference between duplicate results. If sample results >5x's CRDL, then precision is evaluated using RPD. J sample results whenever the absolute difference is greater than CRDL or RPD >50%. If the analyte is detected in one sample but not the other, then J/UJ sample results. Above table presents results for detected analytes only. Blank cells indicate that the analyte was not detected.

SUBJECT: Data Usability Summary Report (DUSR)
South Troy Industrial Park
Chemtech SDG No.: T5327
C.T. Male Project No.: 04.9138

DATE: December 7, 2005

On October 19, 2005, C.T. Male Associates P.C. (C. T. Male) collected six (6) groundwater samples from the South Troy Industrial Park (STIP) Site. The samples were submitted to CHEMTECH in Mountainside, NJ along with an equipment blank and a transport blank, for the following analyses:

Parameter	Sample Date	VOC, SW-846 8260B	SVOC, SW-846 8270C
Sample Ids			
CTM-212	10/19/2005	1	1
CTM-213	10/19/2005	1	1
CTM-216	10/19/2005	1	1
CTM-8	10/19/2005	1	1
CTM-9	10/19/2005	1	1
CTM-1	10/19/2005	1	1
EB-1	10/19/2005	1	1
Trip Blank	-	1	0
Total Samples		**8**	**7**

VOC – Volatile organic compounds
SVOC – Semi-volatile organic compounds

C. T. Male evaluated the data reported by the laboratory to determine usability per Appendix B of the *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NY DEC, December 2002). The following criteria were reviewed:

- Completeness of data package as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables;
- Holding time compliance for chemical analysis;
- Protocol required limits and specification compliance for quality control (QC) data (e.g., instrument tuning, calibration standards, blank results, spike results, duplicate results, etc);
- Contract compliance for analytical protocols;
- Omissions and Transcription errors; and
- Data qualification

All documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms. The laboratory Case Narrative (Attachment A) identified all deviations from laboratory analytical specifications. C. T. Male reviewed these QC results to determine if sample results should be qualified based on the criteria provided in Appendix B of the *Technical Guidance for Site Investigation and Remediation*. QC exceedances and data qualification recommendations are presented in the Data Evaluation Checklist (Attachment B). Qualified sample results are presented in the laboratory summary forms, which are located in Attachment C. Overall, data quality objectives for the STIP project were met, as there were not any data deficiencies that would indicate the need for re-sampling.

Data Completeness

All documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms for the validated samples. The laboratory Case Narrative identified all deviations from laboratory analytical specifications, and is attached along with the qualified sample results. QC exceedences and data qualification recommendations are presented below.

Sample Condition upon Receipt and Holding Times

Chemtech received all the samples listed on the COC records intact and in good condition on October 20, 2005. The temperature of samples was within laboratory specification limits of 2 to 6°C upon receipt.

All samples were prepared and analyzed within EPA-established holding times.

Volatile Organic Analyses (VOA) by SW-846 8260B

All samples were analyzed within 12 hours of the performance check standard, BFB. Percent relative abundance of all ions met the criteria specified in Table 4 of the EPA SW-846 Method 8260B. Laboratory specifications were met during the initial calibration on October 16, 2005 and continuing calibrations on October 23 and 24, 2005 and November 2, 2005. In addition the average relative response factor (RRF) was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The percent relative standard deviation (%RSD) between RRF was less than or equal to 30% during the initial calibration, and the percent difference (%D) between the initial calibration average RRF and continuing calibration RRF was less than or equal to 25% for all target analytes, except dichlorodifluoromethane (26.5%D), chloroethane (37.1%D), and trichlorofluoromethane (28.7%D) during the continuing calibration associated with the analysis of CTM-212, CTM-213, CTM-216, and CTM-8, dichlorodifluoromethane (36.9%D), chloroethane (38.3%D), carbon disulfide (29%D), and methyl acetate (32.5%D) during the continuing calibration associated with the analysis of CTM-9, CTM-1, EB-1 and the transport blank, as well as chloroethane (34.5%D), trichlorofluoromethane (28.9%D), and carbon disulfide (30.7%D) during the continuing calibration associated with the diluted analysis of EB-1. The associated results have been qualified as estimated (J/UJ) due to poor correlation between calibrations.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes.

A method blank was reported for each analytical batch and an equipment blank and a transport blank were also submitted to the laboratory for VOA. Target analytes were not detected during analysis of the method blanks. Acetone and 2-butanone (common laboratory contaminants) were detected in the transport blank at concentrations of 3.9 and 7.9 µg/L, respectively. Methylene chloride (a common laboratory contaminant) and hexane (a tentatively identified compound (TIC)) were detected in the equipment blank at concentrations of 250 and 11 µg/L, respectively. Action levels were developed by multiplying the highest concentration observed among the associated blanks by a factor of 10 for common laboratory contaminants and 5 for all other contaminants. Samples with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Semivolatile Organic Analysis (SVOA) by SW-846 8270C

All samples were analyzed within 12 hours of the performance check standard, DFTPP. Percent relative abundance of all ions met the criteria specified in Table 3 of the EPA SW-846 Method 8270C. Laboratory specifications were met during the initial calibration on November 1, 2005 and the continuing calibrations of November 2, 3, and 7, 2005. In addition the average RRF was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The %RSD between RRF was less than or equal to 30% during the initial calibration, and the %D between the initial calibration average RRF and continuing calibration RRF was less than or equal to 25% for all target analytes except 2,4-dinitrophenol (50.5%D) and indeno(1,2,3-cd)pyrene (31.1%D) during the continuing calibration associated with the analysis of CTM-212, CTM-213, CTM-216, CTM-8, CTM-9, CTM-1, and EB-1, 2,4-dinitrophenol (36.2%D) and indeno(1,2,3-cd)pyrene (35.4%D) during the continuing calibration associated with the reanalysis of CTM-212, CTM-213, CTM-216, CTM-9, CTM-1, and EB-1, as well as 2,4-dinitrophenol (41.9%D)during the continuing calibration associated with the reanalysis of CTM-8. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recoveries met laboratory specifications for all project samples except the surrogate recovery for 2-fluorophenol during the analysis of CTM-212. No action is warranted as the remaining acid surrogates were within laboratory specifications. Surrogate recoveries were below specifications during the analysis and reanalysis of CTM-8 for 2-fluorophenol and phenol-d5. All acid compounds in CTM-8 have been qualified as estimated (J/UJ) due to analytical inaccuracy.

Internal standard results met laboratory specifications for all project samples except during the analysis of CTM-213, CTM-216, CTM-9, CTM-1, and EB-1. Internal standard results for phenanthrene-d10 were below laboratory specifications during the analysis of CTM-213. Results for phenanthrene-d10 were confirmed during reanalysis of CTM-213. Associated analytes for the initial and reanalysis of CTM-213 have been qualified as estimated due to a decrease in instrument sensitivity, however it is recommended that the initial results from CTM-213 be reported as the representative results of CTM-213.

Internal standard results for naphthalene-d8 and phenanthrene-d10 were below laboratory specifications during the analysis of CTM-216. Results for naphthalene-d8 and phenanthrene-d10 were confirmed during reanalysis of CTM-216, also the results for acenaphthene-d10 and perylene-d12 were below laboratory specifications during the reanalysis. Associated analytes for the initial and reanalysis of CTM-216 have been qualified as estimated due to a decrease in instrument sensitivity, however it is recommended that the results from initial analysis be reported as the representative results of CTM-216, as the instrument showed greater sensitivity during this analysis of the sample.

Internal standard results for phenanthrene-d10 were below laboratory specifications during the analysis of CTM-9. Results for phenanthrene-d10 were confirmed during reanalysis of CTM-9, also the results for naphthalene-d8, acenaphthene-d10, and perylene-d12 were below laboratory specifications during the reanalysis. Associated analytes for the initial and reanalysis of CTM-9 have been qualified as estimated due to a decrease in instrument sensitivity, however it is recommended that the results from initial analysis be reported as the representative results of CTM-9, as the instrument showed greater sensitivity during this analysis of the sample.

Internal standard results for phenanthrene-d10 were below laboratory specifications during the analysis of CTM-1. Results for phenanthrene-d10 were confirmed during reanalysis of CTM-1. Associated analytes for the initial and reanalysis of CTM-1 have been qualified as estimated due to a decrease in instrument sensitivity, however it is recommended that the results from initial analysis be reported as the representative results of CTM-1, as the instrument showed greater sensitivity during this analysis of the sample.

Internal standard results for phenanthrene-d10 were below laboratory specifications during the analysis of EB-1. Results for phenanthrene-d10 were confirmed during reanalysis of EB-1, also the results for perylene-d12 were below laboratory specifications during the reanalysis. Associated analytes for the initial and reanalysis of EB-1 have been qualified as estimated due to a decrease in instrument sensitivity, however it is recommended that the results from initial analysis be reported as the representative results of EB-1, as the instrument showed greater sensitivity during this analysis of the sample.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes except 4,6-dinitro-2-methylphenol exceeded laboratory specifications, and caprolactum was below laboratory specifications, during the analysis of blank spike PB08325BS. Associated results have been qualified as estimated (J/UJ) for caprolactum, and detected results have been qualified as estimated (J) for 4,6-dinitro-2-methylphenol.

A method blank was reported for each analytical batch. An equipment blank was also submitted to the laboratory for SVOA. Target analytes were not detected during the analysis of the method or equipment blanks, however 2,6,10,14,18,22-tetracosahexane (TIC) was detected during the analysis of method blank PB08325B and the equipment blank at concentrations of 3.3 and 6.3 µg/L, respectively. 5-Eicosene (E) (TIC) was also detected during the analysis of the equipment blank at a concentration of 2.3 µg/L. An action level was developed by multiplying the highest concentration observed among the associated blank by a factor of 5. Samples with results reported below the action level have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Megan Drosky

Megan Drosky
Environmental Scientist

ATTACHMENT A
Case Narrative

CASE NARRATIVE

C.T. Male & Associates
Project Name: Rensselaer Cty Indust. Dev. Agency
Project # N/A
Chemtech Project # T5327

A. Number of Samples and Date of Receipt:
8 Water samples were received on 10/20/05.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Stars List Semi Volatiles, 8260 Stars List Volatiles, SVOCMS Group1, and VOCMS Group1. This data package contains results for SVOCMS Group1.

C. Analytical Techniques:
The samples were analyzed on instrument BNA F using GC Column RTX-5 SILMS which is 30 meters, 0.32 mm ID, 0.5 um df, Catalog # 12739-125.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria except for CTM-212, CTM-8 and CTM-8RE.
The Internal Standards Areas met the acceptable requirements except for CTM-216, CTM-213, CTM-9, CTM-1, EB-1, CTM-216RE, CTM-9RE, CTM-213RE, CTM-1RE and EB-1RE.
The Retention Times were acceptable for all samples.
The Blank Spike met requirements for all samples except for Caprolactam and 4,6-Dinitro-2-methylphenol.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Tuning criteria met requirements.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature__________________ Name: Krupa Dubey

Date: 11/10/05 Title: QA/QC

CHEMTECH

CASE NARRATIVE

C.T. Male & Associates
Project Name: Rensselaer Cty Indust. Dev. Agency
Project # N/A
Chemtech Project # T5327

A. Number of Samples and Date of Receipt:
8 Water samples were received on 10/20/05.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Stars List Semi Volatiles, 8260 Stars List Volatiles, SVOCMS Group1, and VOCMS Group1. This data package contains results for VOCMS Group1.

C. Analytical Techniques:
The analysis performed on instrument MSVOA H were done using GC column RTX624, which is 75 meters, 0.53 ID, 3.0 df, Restek Cat. #10974. The Trap was supplied BY OI Analytical, OI #10 Trap , OI Eclipse 4660 Concentrator.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds.
The MSD recoveries met the acceptable requirements except for Chloroethane.
The RPD recoveries met criteria except for Chloroethane and Trichlorofluoromethane.
The Blank Spike met requirements for all samples.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Tuning criteria met requirements.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature________________ Name: Krupa Dubey

Date: 11/11/05 Title: QA/QC

ATTACHMENT B
Data Evaluation Checklist

Data Evaluation Checklist
Organic Analyses

Project: South Troy Industrial Park
Work Order: T5327
Laboratory: CHEMTECH

Reviewer: Megan Drosky

Project No: 04.9138
Method: SW-846 Methods 8260B (VOA), 8270C (SVOA)
Associated Sample IDs: CTM-212, CTM-213, CTM-216, CTM-8, CTM-9, CTM-1, EB-1, and Transport Blank
Sample Date: 10/19/05
Date: 12/07/05

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
1. Were holding times met?	✓			• VOA: ≤14 days • SVOA: ≤7/40 days	
2. Were sample storage and preservation requirements met?	✓			4°C (2-6°C). All samples were preserved with HCl for VOA analysis.	
3. Was a method blank analyzed with each batch?	✓			• VOA: VBH1023W2, VBH1023W4, VBH1102W2 • SVOA: PB08325B	
4. Were target analytes reported in the method or calibration blanks above the Detection Limit?	✓			• SVOA – PB08325B: 2,6,10,14,18,22-Tetracosahexane (TIC) @3.3 µg/L (RT=15.15)	
5. Were target analytes reported in field blank analyses (e.g., trip, ~~ambient, field,~~ or equipment) above the DL?	✓			VOA, EB-1: • Methylene chloride @250 µg/L (1.8 µg/L) • Hexane (TIC) @11 µg/L (RT=3.26) VOA, Transport Blank: • Acetone @3.9 µg/L (3.5 µg/L) • 2-Butanone @7.9 µg/L (2.3 µg/L) SVOA, EB-1 • 5-Eicosene (E) (TIC) @2.3 µg/L (RT=13.37) • 2,6,10,14,18,22-Tetracosahexane (TIC) @6.3 µg/L (RT=15.19)	
6. Were contaminants detected in samples below the blank contamination action level?	✓			Blank Contamination Action Levels: • VOA o Acetone @39 µg/L (3.9 x 10) o 2-Butanone @79 µg/L (7.9 x 10) o Methylene chloride @2500 µg/L (310 x 10) o Hexane (TIC) @55 µg/L (11 x 5) • SVOA o 5-Eicosene (E) (TIC) @11.5 µg/L (2.3 x 5) o 2,6,10,14,18,22-Tetracosahexane (TIC) @31.5 µg/L (6.3 x 5)	ND, U

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				Sample results that were not significantly greater (5x and 10x for common laboratory contaminants) than that detected in the blanks have been qualified due to the presence of blank contamination as ND (U-flag) and the DL has been elevated to the amount detected.	
7. Were initial and continuing calibration standards analyzed at the lab-specified frequency for each instrument?	✓			• VOA o Initial calibration: 10/16/05 o Continuing calibration: 10/23/05 @12:33 (Associated samples: CTM-212, CTM-213, CTM-216, CTM-8), 10/24/05 @01:19 (Associated samples: EB-1, Transport Blank, CTM-9, CTM-1), and 11/2/05 @11:41 (Associated sample: EB-1DL) • SVOA o Initial calibration: 11/01/05 o Continuing calibrations: 11/02/05 @13:15 (Associated samples: CTM-212, CTM-213, CTM-216, CTM-8, CTM-9, CTM-1, EB-1), 11/03/05 @12:38 (Associated samples: CTM-213RE, CTM-216RE, CTM-9RE, CTM-1RE, EB-1RE), and 11/07/05 @15:27 (Associated sample: CTM-8RE)	
8. Were these results within lab or project specifications?		✓		VOA – • Initial Calibration of 10/16/05. The RF >0.05 and %RSD between response factors was less than 30% for all target analytes. • Continuing calibrations of 10/23, 10/24, and 11/02/05. The RF>0.05 and %D <25% for all target analytes except as follows: o 10/23/05 – dichlorodifluoromethane (26.5%D), chloroethane (37.1%D), and trichlorofluoromethane (28.7%D). J/UJ associated samples. o 10/24/05 – dichlorodifluoromethane (36.9%D), chloroethane (38.3%D), carbon disulfide (29%D), and methyl acetate (32.5%D). J/UJ associated samples. o 11/02/05 – chloroethane (34.5%D),	J/UJ

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				trichlorofluoromethane (28.9%D), and carbon disulfide (30.7%D). J/UJ associated samples. SVOA – • Initial Calibration of 11/01/05. The RF >0.05 and %RSD between response factors was less than 30% for all target analytes except 2,4-dinitrophenol (46.1%RSD). J/UJ associated samples. • Continuing calibrations of 11/02, 11/03, and 11/07/05. The RF>0.05 and %D <25% for all target analytes, except as follows: o 11/02/05 – 2,4-dinitrophenol (50.5%D) and indeno(1,2,3-cd)pyrene (31.1%D). J/UJ associated samples. o 11/03/05 – 2,4-dinitrophenol (36.2%D) and indeno(1,2,3-cd)pyrene (35.4%D). J/UJ associated samples. o 11/07/05 – 2,4-dinitrophenol (41.9%D). J/UJ associated samples.	
9. Were the results of the ICS Check Standard analysis within 80-120% of the true value (metals only)?			✓		
10. Was a CRDL Standard analyzed for metals?			✓		
11. Were recoveries within 75-125% of the true value during the CRDL analysis (CRA, CRI)?			✓		
12. Was a LCS analyzed with each batch?	✓			• VOA: BSH1023W2 • SVOA: PB08325BS	
13. Were LCS recoveries within lab specifications?		✓		SVOA, PB08325BS: • Caprolactum @14%R (20-150). J/UJ • 4,6-Dinitro-2-methylphenol @106%R (35-105). J+	J/UJ
14. Were LCS/LCSD RPD within lab specifications?			✓	LCS only	
15. Was a MS/MSD pair analyzed with each batch?		✓		• VOA: T5315-09 (batch) • SVOA: None	
16. Is the MS/MSD parent sample a project-specific sample?		✓			
17. Were MS/MSD recoveries within lab specifications? *Only*			✓		

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
QC results for project samples are evaluated.					
18. Were MS/MSD RPD within lab specifications? *Only QC results for project samples are evaluated.*			✓		
19. Was a serial dilution conducted on each inorganic batch?			✓		
20. Is the serial dilution parent sample a project-specific sample?			✓		
21. Is the percent difference between the serially diluted result and undiluted result less than 10% (for those analytes with native concentrations greater than 50x the DL)? *Only QC results for project samples are evaluated.*			✓		
22. Was a laboratory duplicate analyzed with each batch?		✓			
23. Is the laboratory duplicate sample a project-specific sample?			✓		
24. Does laboratory duplicate results meet lab specifications? *Only QC results for project samples are evaluated.*			✓		
25. Were surrogate recoveries within lab specifications during organic analysis?		✓		SVOA – CTM-212 • 2-Fluorophenol @19%R (21-100). No action warranted, as remaining acid surrogates are within specifications. SVOA – CTM-8 and CTM-8RE • 2-Fluorophenol @9 and 9%R (21-100). • Phenol-d5 @8 and 8%R (10-94). J/UJ all acid compounds in associated samples.	J/UJ
26. Were internal standard results within lab specifications during the VOA and SVOA?		✓		SVOA – CTM-216: • Naphthalene-d8 @2348109 (2391880-9567520) • Phenanthrene-d10 @2102371 (2176118-8704470) SVOA – CTM-216RE: • Naphthalene-d8 @2325807 (2389637-9558548) • Acenaphthene-d10 @1235030 (1235346-4941382) • Phenanthrene-d10 @2099252 (2168973-8675890) • Perylene-d12 @700643 (744561-2978242) SVOA – CTM-213: • Phenanthrene-d10 @2127399 (2176118-8704470)	J/UJ

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				SVOA – CTM-213RE: • Phenanthrene-d10 @2162818 (2168973-8675890) SVOA – CTM-9: • Phenanthrene-d10 @2123076 (2176118-8704470) SVOA – CTM-9RE: • Naphthalene-d8 @2339145 (2389637-9558548) • Acenaphthene-d10 @1233148 (1235346-4941382) • Phenanthrene-d10 @2126042 (2168973-8675890) • Perylene-d12 @721365 (744561-2978242) SVOA – CTM-1: • Phenanthrene-d10 @2101812 (2176118-8704470) SVOA – CTM-1RE: • Phenanthrene-d10 @2154719 (2168973-8675890) SVOA – EB-1: • Phenanthrene-d10 @2090762 (2176118-8704470) SVOA – EB-1RE: • Phenanthrene-d10 @2105503 (2168973-8675890) • Perylene-d12 @670330 (744561-2978242) J/UJ associated analytes in the associated samples.	
27. Were TIC reported and were reported results qualified as estimated concentrations?	✓				JN
28. Were field duplicate samples submitted to the laboratory for analysis?		✓			
29. Was precision deemed acceptable as defined by DV Guidelines?			✓		
30. Were laboratory-generated Corrective Action Reports (i.e., QCER) issued? If yes, summarize contents or attach copy of the report.		✓			

WO # T5327

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
31. Were lab comments included in report? If yes, summarize contents or attach a copy of the narrative.	✓			Refer to Case Narratives	

Comments:

Analyte concentrations that are greater than the calibration range, which are presented in the laboratory report E-flagged, are not as accurate as those results obtained from a diluted analysis that fall within the calibration range. The E-flagged data is considered unusable (R) since data that are more accurate are available.

The data review process was modeled after the EPA Region 2 Data Validation Guidelines for unusable data and Appendix 2B, Guidance for the Development of Data Usability Summary Reports, of *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NY DEC, December 2002).

Key:

J	Positive sample result is considered estimated
R	Unusable data
R+	Positive sample result is considered unusable
U	Not present above the associated level; blank contamination exists
UJ	Sample result is not detected and the detection limit is considered estimated
ND	Sample result is not detected
N	A "tentative identification" has been made of the presence of an analyte

EXHIBIT 7

SUMMARY OF IRM ACTIVITIES REPORT

C.T. MALE ASSOCIATES, P.C.

50 Century Hill Drive, P.O. Box 727, Latham, New York 12110-0727
518.786.7400 FAX 518.786.7299 ctmale@ctmale.com

February 16, 2005

Mr. George Heitzman, PE
Senior Environmental Engineer
NYSDEC Division of Environmental Remediation
625 Broadway
Albany, NY 12233 - 7013

Re: Summary of IRM Activities
South Troy Industrial Park
ERP No. B00163-4
CTMA Project No. 04.9138

Dear Mr. Heitzman:

The purpose of this letter is to summarize the work completed relative to the buried vessel and drums encountered on the northeast end of the above referenced site. The following provides a summary of the site work completed leading up to and during the Interim Remedial Measure (IRM).

Background

On October 6, 2004 the New York State Department of Environmental Conservation (DEC) was contacted by Erdman & Anthony Engineers (E&A) in regard to drilling activities taking place on-site, and the possibility that a buried vessel was encountered. E&A is working for the City of Troy with regard to the realignment study for East Industrial Park Road. The DEC Project Manager (George Heitzman) was on-site this day conducting oversight of the trenching activities, and visited the drilling location to assess the situation. SJB Services Inc. was the drilling subcontractor conducting the test borings for E&A and explained that while driving the sampling spoon from approximately 12-14 feet slight resistance was encountered followed by the spoon dropping approximately two feet with no resistance. It was SJB's opinion that they encountered a void which could possibly be a buried vessel. When the sampling spoon was removed from the boring location the spoon contained a thick black material with paint like odor. The DEC collected a sample of the material and relinquished it to C. T. Male for submission to the laboratory to be analyzed for VOC's, SVOC's and metals. The sample was submitted to Chemtech Laboratory of Mountainside, NJ and placed on hold. The drilling crew was asked to stop the drilling activity and not advance the boring deeper. C.T. Male Associates, NYSDEC and Rensselaer County IDA (RCIDA) were all in agreement that the suspected buried vessel would be removed as an Interim Remedial Measure (IRM) utilizing the excavator on-site for the Environmental Restoration Program (ERP) site investigation.

IRM Activity

October 12, 2004 marked the first day of investigating the encountered buried vessel. Precision Environmental Services, Inc. provided the labor and equipment for the site work as a subcontractor to C. T. Male.

An exploratory test pit was conducted to the east of soil boring were the buried vessel was encountered. The location of the exploratory test pit is depicted on the attached site map. Prior to the start of excavation dust monitors were placed in both upwind and downwind locations. Air monitoring for the presence of volatile organic compounds (VOCs) was also conducted utilizing two calibrated Mini Rae 2000 Photo-Ionization Detectors (PID). The excavation was advanced to a depth of twelve feet and then advanced in a westerly direction. A metal drum was encountered at nine feet below the ground surface and was in a vertical upright position. The excavator operator carefully worked to expose the entire drum. A second drum was found lying horizontal under the drum that was standing vertical. Continuing the investigation and working to expose the already encountered buried drums, a metal underground storage tank (UST) was found immediately south of the drums.

The top of the UST was located approximately twelve feet below ground surface. The north end of the UST revealed a hole on the top of the tank created from the advancement of a hollow stem auger. The soils present above the buried vessel and drums consisted of fill material, slag, cinder and ash which appeared to have been previously disturbed, since the fused slag layers typically encountered in the exploratory test pits and trenches were not present. A fill or vent pipe was not connected to the UST. The fill material above the UST and drums exhibited a minor paint thinner type odor. The fill material was removed from the top of the buried vessels and the excavation was appropriately stepped back to allow safe entry to the tank. Donning the appropriate personnel protective equipment (PPE) and conducting continuous air monitoring, the excavation was entered by a two man crew to determine the contents of each vessel. The PID readings in the open excavation ranged from 0.0 to 5.0 ppm. The tank was approximately 80 - 90% full, and contained a thick-black material with a PID reading of 500 ppm. The drum in the vertical position was less than

25% full and contained a pink liquid that emitted a PID reading of 300 ppm. The drum in the horizontal position was in poor condition and contained soil and a thick-black tar like material. The liquid in the vertical drum and the tank were sampled and submitted for laboratory analysis for lead, flash point, ignitability, ph, reactivity, PCBs, metals, SVOCs and VOCs.

October 14, 2004 the drum and tank removal activities were completed. NYSDEC, C.T Male Associates, Precision Environmental Services and Environmental Products and Services of Vermont (EPS) represent all parties involved with these activates.

A staging area was set up prior to the removal of any material from the excavation. The staging area was constructed of a wood (2"x10') frame and lined with two layers of 6 mil black polyethylene liner extending up the side walls of the containment. The tank liquids were removed with a vacuum truck. The tank was then cleaned in place. The vacuum truck contents were then off loaded into a 1,500 gallon polyethylene tank within the staging area pending waste characterization results. Approximately 780 gallons were removed from the discovered UST. The drums were removed from the excavation using a drum hook and excavator, then placed in overpack drums within the staging area. The tank was observed to be in fair condition once cleaned and removed from its grave, with some pitting and scaling observed as well as the presence of a few small holes on the tank bottom. The tank measured approximately 10 feet long by 4 feet in diameter, which indicates that the tank is approximately 1,000 gallons in capacity.

Upon the removal of the buried vessel and drums from the excavation, the soils beneath were explored for the presence of contamination and other possible buried objects (none were discovered). Fill material, consisting of slag, cinder and ash, was present to sixteen feet below the ground surface, before encountering native brown silt and fine sand. All soils removed from the excavation were screened with the PID and staged on polyethylene sheeting if contamination was noted with the PID. As the excavation was advanced to eighteen feet, the severity of contamination subjectively increased. The native soils from these depths (±18' bgs) exhibited heavy paint like odors and appeared to be impregnated with the liquid waste. Soils screened from eighteen feet emitted a PID reading of 400 ppm. Due to the large volume of contaminated soil encountered, it was determined that all the material stockpiled would be placed back in the excavation. A layer of polyethylene sheeting (10' x 22') was positioned above the contaminated soil. The polyethylene sheeting was placed in the excavation to separate the contaminated from the uncontaminated soil, as well as to create a vapor barrier and a demarcation layer for future work in this area.

Analytical Results

The October 15, 2004 analytical results for the liquid pumped from the UST revealed the presence of select VOCs and SVOCs. Analytical results for the sample "S TROY IND PARK TANK" are attached. MtBE, Methylene Chloride and Toluene were the volatile organic compounds detected. Semi-volatile organic compounds present were 2-Methylnaphthalene, 2- Methylphenol, 3&4 Methylphenol, Anthracene, Naphthalene, Phenanthrene and Phenol. MtBE, a gasoline additive used in gasoline from the late 1970's until recently, suggests that the product within the tank may postdate the introduction of MtBE. The compounds detected are indicative of a gasoline grade fuel not a fuel oil grade product.

Liquid sampled from the vertical buried drum (sample "S TROY IND PARK DRUM") revealed failed results for ignitability due to the presence of a number of volatile compounds detected. Two semi-volatile compounds were also found, 2-Methylnaphthalene and Naphthalene.

Soil sampled from the buried horizontal drum (sample "Drummed Soil") contained a wide range of semi volatile compounds and a select few volatile compounds.

The results for all of the analyses performed relative to the discovered containers are present in Exhibit 1.

In order to transport and dispose of the encountered waste, a Material Profile has been prepared on the basis of the known information regarding the material. The information provided on the Cycle Chem, Inc. profile sheets is considered by C.T. Male Associates to be accurate and representative of the liquid and solids within the drums. The Cycle Chem, Inc. profile sheets are attached and present in Exhibit 2.

Waste Generated

Waste generated during these activates consisted of two 55-gallon overpack drums containing the two buried drums, two 55-gallon drums of tank bottoms and sludges (tank cleaning), one 55-gallon drum of waste polyethylene liner material and approximately 750 to 800 gallons of product and water removed from the tank (temporarily stored in a 1,500 gallon polyethylene tank). All of these materials were staged within the secure staging area.

Waste Disposal

The generated waste from these activates was initially reviewed for hazardous characterization on the basis of analytical results. The water and product (approximately 780 gallons) from the tank were transported as non hazardous waste to Norlite Corporation of Cohoes, NY. The Bill of Lading represents a total quantity of 1,024 gallons shipped, this includes the liquid from the UST as well as four 55-gallon drums of decontamination water produced as a result of the ERP site investigation. A copy of the Straight Bill of Lading for the liquids is present as Exhibit 3. The two 55-gallon drums of tank bottoms and sludges and the one 55-gallon drum of waste polyethylene containment liner were transported as non hazardous waste to Cycle Chem Inc. of Elizabeth, NJ. A copy of the waste manifest is present as Exhibit 4. Prior to transportation, all the drummed material was profiled. The pink colored liquid in the 55-gallon drum was determined to be hazardous waste on the basis of the materials Ignitability. A USEPA Hazardous Waste Identification Number was issued to the Rensselaer County Industrial Development Agency (RCIDA) by the USEPA. This number is indicated on the hazardous waste manifest. A copy of the Hazardous Waste Manifest is attached as Exhibit 5. The soil in the horizontal drum was profiled as well and was determined to be non-hazardous. The two buried drums were transported to Cycle Chem Inc. of Lewisberry, PA. The tank carcass was transported to a scrap metal recycling facility.

Follow-up Work

C.T. Male has completed an investigation on the subject site for the presence of suspect buried vessels. The suspect location was assessed through the advancement of an exploratory test pit. The investigation revealed the presence of two buried drums as well a 1,000 gallon UST.

The soils beneath the buried drums and tank were explored and found to be contaminated. Due to the larger than anticipated volume of contaminated soil, the material was left in the excavation. The excavation was backfilled to grade. Two monitoring wells were installed in the excavation area to monitor the groundwater quality. The soil boring activity was conducted utilizing 4 ¼" hollow stem augers and continuous sampling with a 2" slit spoon. CTM-1S was set to a total depth of 17' below the ground surface with a five foot screened section. The second well, CTM-1 was set to a total depth of 29' with five foot of screened section. The shallow and deep well cluster was installed to help define the vertical extent of the contamination in soil and groundwater, as well as to possibly be used for a vapor extraction pilot study.

The residual contamination present within this area will be evaluated within the Site Investigation/Remedial Alternatives Report (SI/RAR) which is currently in preparation. Further remedial action to address residual soil and groundwater contamination will be recommended as part of the overall site remedy.

If you have any questions, please contact the undersigned at (518) 786-7586.

Sincerely,

C.T. MALE ASSOCIATES, P.C.

Nathan Freeman
Environmental Scientist

Kirk Moline
Managing Geologist

Attachments:
Exhibit 1: Laboratory Report
Exhibit 2: Cycle Chem, Inc. Profile sheets
Exhibit 3: Bill of Lading
Exhibit 4: Waste Manifest
Exhibit 5: Waste Manifest
Photographs
Site Map

Cc: Daniel Pollay, RCIDA

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH NELAC

Analysis Report

October 15, 2004

FOR: Attn: Mr. John Johnson
Precision Env. Services, Inc.
LOT 28C Curtis Lumber Ind. Park
831 Route 67
Ballston Spa, NY 12020

Sample Information
Matrix: WATER
Location Code: PRECISIN
Rush Request: RUSH24HR
P.O.#:

Custody Information		Date	Time
Collected by:		10/12/04	17:10
Received by:	KJB	10/13/04	12:00
Analyzed by:	see "By" below		

SDG I.D.: GAF93397
Phoenix I.D.: AF93397

Laboratory Data

Client ID: S TROY IND PARK DRUM

Parameter	Result	RL	Units	Date	Time	By	Reference
Lead	BDL	0.002	mg/L	10/14/04		EK	200.7/6010
Flash Point	75	200	degree F	10/14/04		C/C	SW846 - 1010
Ignitability	Failed	140	deg F	10/14/04		C/G	SW846 - 1010
pH	6	0.10	pH Units	10/13/04	23:00	CD	E150.1/SW9045
Reactivity Cyanide	BDL	1.0	mg/Kg	10/14/04		ME	SW 846-7.3
Reactivity Sulfide	BDL	20	mg/Kg	10/14/04		ME	SW846-7.3
Reactivity	Negative			10/14/04		ME	SW 846-7.3
PCB Extraction	Completed			10/13/04		M/R	SW3510/3520
Semi Volatile Extraction	Completed			10/13/04		M/R	SW3510/3520
Total Metals Digestion	Completed			10/13/04		AG	
Extraction of TPH MOD 8100	Completed			10/13/04		M/R	3550/5030
Polychlorinated Biphenyls							
PCB-1016	ND	0.5	ug/L	10/14/04		JH	608/ 8082
PCB-1221	ND	0.5	ug/L	10/14/04		JH	608/ 8082
PCB-1232	ND	0.5	ug/L	10/14/04		JH	608/ 8082
PCB-1242	ND	0.5	ug/L	10/14/04		JH	608/ 8082
PCB-1248	ND	0.5	ug/L	10/14/04		JH	608/ 8082
PCB-1254	ND	0.5	ug/L	10/14/04		JH	608/ 8082
PCB-1260	ND	0.5	ug/L	10/14/04		JH	608/ 8082
PCB-1262	ND	0.5	ug/L	10/14/04		JH	608/ 8082
PCB-1268	ND	0.5	ug/L	10/14/04		JH	608/ 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	53		%	10/14/04		JH	608/ 8082
% TCMX (Surrogate Rec)	92		%	10/14/04		JH	608/ 8082

Client ID: S TROY IND PARK DRUM

Phoenix I.D.: AF93397

Parameter	Result	RL	Units	Date	Time	By	Reference
TPH by GC (Extractable Products)							
Aviation Fuel/Kerosene	ND	0.5	mg/L	10/14/04		JRB	8100Modified
Fuel Oil #2/ Diesel Fuel	ND	0.5	mg/L	10/14/04		JRB	8100Modified
Fuel Oil #4	ND	0.5	mg/L	10/14/04		JRB	8100Modified
Fuel Oil #6	ND	0.5	mg/L	10/14/04		JRB	8100Modified
Motor Oil	ND	0.5	mg/L	10/14/04		JRB	8100Modified
Other Oil (Cutting & Lubricating)	**	0.5	mg/L	10/14/04		JRB	8100Modified
Unidentified	250	0.5	mg/L	10/14/04		JRB	8100Modified
QA/QC Surrogates							
% n-Pentacosane	Diluted out		%	10/14/04		JRB	8100Modified
Volatiles							
1,1,1,2-Tetrachloroethane	ND	100	ug/L	10/13/04		RM	SW8260
1,1,1-Trichloroethane	ND	100	ug/L	10/13/04		RM	SW8260
1,1,2,2-Tetrachloroethane	ND	100	ug/L	10/13/04		RM	SW8260
1,1,2-Trichloroethane	ND	100	ug/L	10/13/04		RM	SW8260
1,1-Dichloroethane	ND	100	ug/L	10/13/04		RM	SW8260
1,1-Dichloroethene	ND	100	ug/L	10/13/04		RM	SW8260
1,1-Dichloropropene	ND	100	ug/L	10/13/04		RM	SW8260
1,2,3 Trichlorobenzene	ND	100	ug/L	10/13/04		RM	SW8260
1,2,3-Trichloropropane	ND	100	ug/L	10/13/04		RM	SW8260
1,2,4-Trichlorobenzene	ND	100	ug/L	10/13/04		RM	SW8260
1,2,4-Trimethylbenzene	2400	100	ug/L	10/13/04		RM	SW8260
1,2-Dibromo-3-chloropropane	ND	100	ug/L	10/13/04		RM	SW8260
1,2-Dichlorobenzene	ND	100	ug/L	10/13/04		RM	SW8260
1,2-Dichloroethane	ND	100	ug/L	10/13/04		RM	SW8260
1,2-Dichloropropane	ND	100	ug/L	10/13/04		RM	SW8260
1,3,5-Trimethylbenzene	800	100	ug/L	10/13/04		RM	SW8260
1,3-Dichlorobenzene	ND	100	ug/L	10/13/04		RM	SW8260
1,3-Dichloropropane	ND	100	ug/L	10/13/04		RM	SW8260
1,4-Dichlorobenzene	ND	100	ug/L	10/13/04		RM	SW8260
2,2-Dichloropropane	ND	100	ug/L	10/13/04		RM	SW8260
2-Chlorotoluene	ND	100	ug/L	10/13/04		RM	SW8260
4-Chlorotoluene	ND	100	ug/L	10/13/04		RM	SW8260
Benzene	110	100	ug/L	10/13/04		RM	SW8260
Bromobenzene	ND	100	ug/L	10/13/04		RM	SW8260
Bromochloromethane	ND	100	ug/L	10/13/04		RM	SW8260
Bromodichloromethane	ND	100	ug/L	10/13/04		RM	SW8260
Bromoform	ND	100	ug/L	10/13/04		RM	SW8260
Bromomethane	ND	100	ug/L	10/13/04		RM	SW8260
Carbon tetrachloride	ND	100	ug/L	10/13/04		RM	SW8260
Chlorobenzene	ND	100	ug/L	10/13/04		RM	SW8260
Chloroethane	ND	100	ug/L	10/13/04		RM	SW8260

Client ID: S TROY IND PARK DRUM

Phoenix I.D.: AF93397

Parameter	Result	RL	Units	Date	Time	By	Reference
Chloroform	ND	100	ug/L	10/13/04		RM	SW8260
Chloromethane	ND	100	ug/L	10/13/04		RM	SW8260
cis-1,2-Dichloroethene	ND	100	ug/L	10/13/04		RM	SW8260
cis-1,3-Dichloropropene	ND	100	ug/L	10/13/04		RM	SW8260
Dibromochloromethane	ND	100	ug/L	10/13/04		RM	SW8260
Dibromoethane	ND	100	ug/L	10/13/04		RM	SW8260
Dibromomethane	ND	100	ug/L	10/13/04		RM	SW8260
Dichlorodifluoromethane	ND	100	ug/L	10/13/04		RM	SW8260
Ethylbenzene	420	100	ug/L	10/13/04		RM	SW8260
Hexachlorobutadiene	ND	100	ug/L	10/13/04		RM	SW8260
Isopropylbenzene	150	100	ug/L	10/13/04		RM	SW8260
m&p-Xylene	1000	100	ug/L	10/13/04		RM	SW8260
Methyl Ethyl Ketone	ND	1200	ug/L	10/13/04		RM	SW8260
Methyl t-butyl ether (MTBE)	ND	200	ug/L	10/13/04		RM	SW8260
Methylene chloride	ND	100	ug/L	10/13/04		RM	SW8260
n-Butylbenzene	430	100	ug/L	10/13/04		RM	SW8260
n-Propylbenzene	250	100	ug/L	10/13/04		RM	SW8260
Naphthalene	810	100	ug/L	10/13/04		RM	SW8260
o-Xylene	680	100	ug/L	10/13/04		RM	SW8260
p-Isopropyltoluene	230	100	ug/L	10/13/04		RM	SW8260
sec-Butylbenzene	190	100	ug/L	10/13/04		RM	SW8260
Styrene	130	100	ug/L	10/13/04		RM	SW8260
tert-Butylbenzene	ND	100	ug/L	10/13/04		RM	SW8260
Tetrachloroethene	ND	100	ug/L	10/13/04		RM	SW8260
Toluene	520	100	ug/L	10/13/04		RM	SW8260
Total Xylenes	1700	100	ug/L	10/13/04		RM	SW8260
trans-1,2-Dichloroethene	ND	100	ug/L	10/13/04		RM	SW8260
trans-1,3-Dichloropropene	ND	100	ug/L	10/13/04		RM	SW8260
Trichloroethene	ND	100	ug/L	10/13/04		RM	SW8260
Trichlorofluoromethane	ND	100	ug/L	10/13/04		RM	SW8260
Vinyl chloride	ND	100	ug/L	10/13/04		RM	SW8260
QA/QC Surrogates							
% 1,2 dichlorobenzene-d4	100		%	10/13/04		RM	SW8260
% Bromofluorobenzene	112		%	10/13/04		RM	SW8260
% Dibromofluoromethane	104		%	10/13/04		RM	SW8260
% Toluene-d8	98		%	10/13/04		RM	SW8260
Semivolatiles							
1,2,4-Trichlorobenzene	ND	330	ug/L	10/14/04		KCA	SW 8270
1,2-Dichlorobenzene	ND	330	ug/L	10/14/04		KCA	SW 8270
1,2-Diphenylhydrazine	ND	330	ug/L	10/14/04		KCA	SW 8270
1,3-Dichlorobenzene	ND	330	ug/L	10/14/04		KCA	SW 8270
1,4-Dichlorobenzene	ND	330	ug/L	10/14/04		KCA	SW 8270
2,4,5-Trichlorophenol	ND	330	ug/L	10/14/04		KCA	SW 8270

Phoenix I.D.: AF93397

Client ID: S TROY IND PARK DRUM

Parameter	Result	RL	Units	Date	Time	By	Reference
2,4,6-Trichlorophenol	ND	330	ug/L	10/14/04		KCA	SW 8270
2,4-Dichlorophenol	ND	330	ug/L	10/14/04		KCA	SW 8270
2,4-Dimethylphenol	ND	330	ug/L	10/14/04		KCA	SW 8270
2,4-Dinitrophenol	ND	1650	ug/L	10/14/04		KCA	SW 8270
2,4-Dinitrotoluene	ND	330	ug/L	10/14/04		KCA	SW 8270
2,6-Dichlorophenol	ND	330	ug/L	10/14/04		KCA	SW 8270
2,6-Dinitrotoluene	ND	330	ug/L	10/14/04		KCA	SW 8270
2-Chloronaphthalene	ND	330	ug/L	10/14/04		KCA	SW 8270
2-Chlorophenol	ND	330	ug/L	10/14/04		KCA	SW 8270
2-Methylnaphthalene	380	330	ug/L	10/14/04		KCA	SW 8270
2-Methylphenol (o-cresol)	ND	330	ug/L	10/14/04		KCA	SW 8270
2-Nitroaniline	ND	1650	ug/L	10/14/04		KCA	SW 8270
2-Nitrophenol	ND	330	ug/L	10/14/04		KCA	SW 8270
3&4-Methylphenol (m&p-cresol)	ND	330	ug/L	10/14/04		KCA	SW 8270
3,3'-Dichlorobenzidine	ND	660	ug/L	10/14/04		KCA	SW 8270
3-Nitroaniline	ND	1650	ug/L	10/14/04		KCA	SW 8270
4,6-Dinitro-2-methylphenol	ND	1650	ug/L	10/14/04		KCA	SW 8270
4-Bromophenyl phenyl ether	ND	330	ug/L	10/14/04		KCA	SW 8270
4-Chloro-3-methylphenol	ND	660	ug/L	10/14/04		KCA	SW 8270
4-Chloroaniline	ND	660	ug/L	10/14/04		KCA	SW 8270
4-Chlorophenyl phenyl ether	ND	330	ug/L	10/14/04		KCA	SW 8270
4-Nitroaniline	ND	1650	ug/L	10/14/04		KCA	SW 8270
4-Nitrophenol	ND	1650	ug/L	10/14/04		KCA	SW 8270
Acenaphthene	ND	330	ug/L	10/14/04		KCA	SW 8270
Acenaphthylene	ND	330	ug/L	10/14/04		KCA	SW 8270
Anthracene	ND	330	ug/L	10/14/04		KCA	SW 8270
Benzidine	ND	330	ug/L	10/14/04		KCA	SW 8270
Benzo(a)anthracene	ND	330	ug/L	10/14/04		KCA	SW 8270
Benzo(a)pyrene	ND	330	ug/L	10/14/04		KCA	SW 8270
Benzo(b)fluoranthene	ND	330	ug/L	10/14/04		KCA	SW 8270
Benzo(g,h,i)perylene	ND	330	ug/L	10/14/04		KCA	SW 8270
Benzo(k)fluoranthene	ND	330	ug/L	10/14/04		KCA	SW 8270
Benzoic acid	ND	1650	ug/L	10/14/04		KCA	SW 8270
Benzyl alcohol	ND	660	ug/L	10/14/04		KCA	SW 8270
Benzyl butyl phthalate	ND	330	ug/L	10/14/04		KCA	SW 8270
Bis(2-chloroethoxy)methane	ND	330	ug/L	10/14/04		KCA	SW 8270
Bis(2-chloroethyl)ether	ND	330	ug/L	10/14/04		KCA	SW 8270
Bis(2-chloroisopropyl)ether	ND	330	ug/L	10/14/04		KCA	SW 8270
Bis(2-ethylhexyl)phthalate	ND	330	ug/L	10/14/04		KCA	SW 8270
Chrysene	ND	330	ug/L	10/14/04		KCA	SW 8270
Di-n-butylphthalate	ND	330	ug/L	10/14/04		KCA	SW 8270
Di-n-octylphthalate	ND	330	ug/L	10/14/04		KCA	SW 8270
Dibenz(a,h)anthracene	ND	330	ug/L	10/14/04		KCA	SW 8270
Dibenzofuran	ND	330	ug/L	10/14/04		KCA	SW 8270

Phoenix I.D.: AF93397

Client ID: S TROY IND PARK DRUM

Parameter	Result	RL	Units	Date	Time	By	Reference
Diethyl phthalate	ND	330	ug/L	10/14/04		KCA	SW 8270
Dimethylphthalate	ND	330	ug/L	10/14/04		KCA	SW 8270
Fluoranthene	ND	330	ug/L	10/14/04		KCA	SW 8270
Fluorene	ND	330	ug/L	10/14/04		KCA	SW 8270
Hexachlorobenzene	ND	330	ug/L	10/14/04		KCA	SW 8270
Hexachlorobutadiene	ND	330	ug/L	10/14/04		KCA	SW 8270
Hexachlorocyclopentadiene	ND	330	ug/L	10/14/04		KCA	SW 8270
Hexachloroethane	ND	330	ug/L	10/14/04		KCA	SW 8270
Indeno(1,2,3-c,d)pyrene	ND	330	ug/L	10/14/04		KCA	SW 8270
Isophorone	ND	330	ug/L	10/14/04		KCA	SW 8270
N-Nitrosodi-n-propylamine	ND	330	ug/L	10/14/04		KCA	SW 8270
N-Nitrosodimethylamine	ND	330	ug/L	10/14/04		KCA	SW 8270
N-Nitrosodiphenylamine	ND	330	ug/L	10/14/04		KCA	SW 8270
Naphthalene	2200	330	ug/L	10/14/04		KCA	SW 8270
Nitrobenzene	ND	330	ug/L	10/14/04		KCA	SW 8270
Pentachlorophenol	ND	330	ug/L	10/14/04		KCA	SW 8270
Phenanthrene	ND	330	ug/L	10/14/04		KCA	SW 8270
Phenol	ND	330	ug/L	10/14/04		KCA	SW 8270
Pyrene	ND	330	ug/L	10/14/04		KCA	SW 8270
Pyridine	ND	330	ug/L	10/14/04		KCA	SW 8270
<u>QA/QC Surrogates</u>							
% 2,4,6-Tribromophenol (Surrog Rec)	Diluted Out		%	10/14/04		KCA	SW 8270
% 2-Fluorobiphenyl (Surrogate Rec)	Diluted Out		%	10/14/04		KCA	SW 8270
% 2-Fluorophenol (Surrogate Rec)	Diluted Out		%	10/14/04		KCA	SW 8270
% Nitrobenzene-d5 (Surrogate Rec)	Diluted Out		%	10/14/04		KCA	SW 8270
% Phenol-d5 (Surrogate Rec)	Diluted Out		%	10/14/04		KCA	SW 8270
% Terphenyl-d14 (Surrogate Rec)	Diluted Out		%	10/14/04		KCA	SW 8270

<u>Comments:</u> ND=Not detected BDL = Below Detection Limit RL=Reporting Limit

**Petroleum hydrocarbon chromatogram was not a perfect match with any of the standards, but contains discreet peaks in the C9 to C16 range. The sample was quantitated against a C9-C36 standard.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 15, 2004

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report
October 15, 2004

FOR: Attn: Mr. John Johnson
Precision Env. Services, Inc.
LOT 28C Curtis Lumber Ind. Park
831 Route 67
Ballston Spa, NY 12020

Sample Information

Matrix: WATER
Location Code: PRECISIN
Rush Request: RUSH24HR
P.O.#:

Custody Information		Date	Time
Collected by:		10/12/04	16:45
Received by:	KJB	10/13/04	12:00
Analyzed by:	see "By" below		

SDG I.D.: GAF93397
Phoenix I.D.: AF93398

Laboratory Data

Client ID: S TROY IND PARK TANK

Parameter	Result	RL	Units	Date	Time	By	Reference
Lead	0.073	0.002	mg/L	10/14/04		EK	200.7/6010
Flash Point	>200	200	degree F	10/14/04		C/G	SW846 - 1010
Ignitability	Passed	140	deg F	10/14/04		C/G	SW846 - 1010
pH	6	0.10	pH Units	10/13/04	23:00	CD	E150.1/SW9045
Reactivity Cyanide	BDL	1.0	mg/Kg	10/14/04		ME	SW 846-7.3
Reactivity Sulfide	BDL	20	mg/Kg	10/14/04		ME	SW846 7.3
Reactivity	Negative			10/14/04		ME	SW 846-7.3
PCB Extraction	Completed			10/13/04		M/R	SW3510/3520
Semi-Volatile Extraction	Completed			10/13/04		M/R	SW3510/3520
Total Metals Digestion	Completed			10/13/04		AC	
Extraction of TPH MOD 8100	Completed			10/13/04		M/R	3550/5030
Polychlorinated Biphenyls							
PCB-1016	ND	0.5	ug/L	10/14/04		JH	608/ 8082
PCB-1221	ND	0.5	ug/L	10/14/04		JH	608/ 8082
PCB-1232	ND	0.5	ug/L	10/14/04		JH	608/ 8082
PCB 1242	ND	0.5	ug/L	10/14/04		JH	608/ 8082
PCB-1248	ND	0.5	ug/L	10/14/04		JH	608/ 8082
PCB-1254	ND	0.5	ug/L	10/14/04		JH	608/ 8082
PCB-1260	ND	0.5	ug/L	10/14/04		JH	608/ 8082
PCB-1262	ND	0.5	ug/L	10/14/04		JH	608/ 8082
PCB-1268	ND	0.5	ug/L	10/14/04		JH	608/ 8082
QA/QC Surrogates							
% DCBP (Surrogate Rec)	26	*	%	10/14/04		JH	608/ 8082
% TCMX (Surrogate Rec)	49		%	10/14/04		JH	608/ 8082

Client ID: S TROY IND PARK TANK

Phoenix I.D.: AF93398

Parameter	Result	RL	Units	Date	Time	By	Reference
TPH by GC (Extractable Products)							
Aviation Fuel/Kerosene	ND	0.5	mg/L	10/14/04		JRB	8100Modified
Fuel Oil #2/ Diesel Fuel	ND	0.5	mg/L	10/14/04		JRB	8100Modified
Fuel Oil #4	ND	0.5	mg/L	10/14/04		JRB	8100Modified
Fuel Oil #6	ND	0.5	mg/L	10/14/04		JRB	8100Modified
Motor Oil	ND	0.5	mg/L	10/14/04		JRB	8100Modified
Other Oil (Cutting & Lubricating)	**	0.5	mg/L	10/14/04		JRB	8100Modified
Unidentified	130	0.5	mg/L	10/14/04		JRB	8100Modified
QA/QC Surrogates							
% n-Pentacosane	Diluted out		%	10/14/04		JRB	8100Modified
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1300	ug/L	10/13/04		RM	SW8260
1,1,1-Trichloroethane	ND	1300	ug/L	10/13/04		RM	SW8260
1,1,2,2-Tetrachloroethane	ND	1300	ug/L	10/13/04		RM	SW8260
1,1,2-Trichloroethane	ND	1300	ug/L	10/13/04		RM	SW8260
1,1-Dichloroethane	ND	1300	ug/L	10/13/04		RM	SW8260
1,1-Dichloroethene	ND	1300	ug/L	10/13/04		RM	SW8260
1,1-Dichloropropene	ND	1300	ug/L	10/13/04		RM	SW8260
1,2,3-Trichlorobenzene	ND	1300	ug/L	10/13/04		RM	SW8260
1,2,3-Trichloropropane	ND	1300	ug/L	10/13/04		RM	SW8260
1,2,4-Trichlorobenzene	ND	1300	ug/L	10/13/04		RM	SW8260
1,2,4-Trimethylbenzene	ND	1300	ug/L	10/13/04		RM	SW8260
1,2-Dibromo-3-chloropropane	ND	1300	ug/L	10/13/04		RM	SW8260
1,2-Dichlorobenzene	ND	1300	ug/L	10/13/04		RM	SW8260
1,2-Dichloroethane	ND	1300	ug/L	10/13/04		RM	SW8260
1,2-Dichloropropane	ND	1300	ug/L	10/13/04		RM	SW8260
1,3,5-Trimethylbenzene	ND	1300	ug/L	10/13/04		RM	SW8260
1,3-Dichlorobenzene	ND	1300	ug/L	10/13/04		RM	SW8260
1,3-Dichloropropane	ND	1300	ug/L	10/13/04		RM	SW8260
1,4-Dichlorobenzene	ND	1300	ug/L	10/13/04		RM	SW8260
2,2-Dichloropropane	ND	1300	ug/L	10/13/04		RM	SW8260
2-Chlorotoluene	ND	1300	ug/L	10/13/04		RM	SW8260
4-Chlorotoluene	ND	1300	ug/L	10/13/04		RM	SW8260
Benzene	ND	1300	ug/L	10/13/04		RM	SW8260
Bromobenzene	ND	1300	ug/L	10/13/04		RM	SW8260
Bromochloromethane	ND	1300	ug/L	10/13/04		RM	SW8260
Bromodichloromethane	ND	1300	ug/L	10/13/04		RM	SW8260
Bromoform	ND	1300	ug/L	10/13/04		RM	SW8260
Bromomethane	ND	1300	ug/L	10/13/04		RM	SW8260
Carbon tetrachloride	ND	1300	ug/L	10/13/04		RM	SW8260
Chlorobenzene	ND	1300	ug/L	10/13/04		RM	SW8260
Chloroethane	ND	1300	ug/L	10/13/04		RM	SW8260

Phoenix I.D.: AF93398

Client ID: S TROY IND PARK TANK

Parameter	Result	RL	Units	Date	Time	By	Reference
Chloroform	ND	1300	ug/L	10/13/04		RM	SW8260
Chloromethane	ND	1300	ug/L	10/13/04		RM	SW8260
cis-1,2-Dichloroethene	ND	1300	ug/L	10/13/04		RM	SW8260
cis-1,3-Dichloropropene	ND	1300	ug/L	10/13/04		RM	SW8260
Dibromochloromethane	ND	1300	ug/L	10/13/04		RM	SW8260
Dibromoethane	ND	1300	ug/L	10/13/04		RM	SW8260
Dibromomethane	ND	1300	ug/L	10/13/04		RM	SW8260
Dichlorodifluoromethane	ND	1300	ug/L	10/13/04		RM	SW8260
Ethylbenzene	ND	1300	ug/L	10/13/04		RM	SW8260
Hexachlorobutadiene	ND	1300	ug/L	10/13/04		RM	SW8260
Isopropylbenzene	ND	1300	ug/L	10/13/04		RM	SW8260
m&p-Xylene	ND	1300	ug/L	10/13/04		RM	SW8260
Methyl Ethyl Ketone	ND	15000	ug/L	10/13/04		RM	SW8260
Methyl t-butyl ether (MTBE)	8800	2500	ug/L	10/13/04		RM	SW8260
Methylene chloride	9600	1300	ug/L	10/13/04		RM	SW8260
n-Butylbenzene	ND	1300	ug/L	10/13/04		RM	SW8260
n-Propylbenzene	ND	1300	ug/L	10/13/04		RM	SW8260
Naphthalene	ND	1300	ug/L	10/13/04		RM	SW8260
o-Xylene	ND	1300	ug/L	10/13/04		RM	SW8260
p-Isopropyltoluene	ND	1300	ug/L	10/13/04		RM	SW8260
sec-Butylbenzene	ND	1300	ug/L	10/13/04		RM	SW8260
Styrene	ND	1300	ug/L	10/13/04		RM	SW8260
tert-Butylbenzene	ND	1300	ug/L	10/13/04		RM	SW8260
Tetrachloroethene	ND	1300	ug/L	10/13/04		RM	SW8260
Toluene	1600	1300	ug/L	10/13/04		RM	SW8260
Total Xylenes	ND	1300	ug/L	10/13/04		RM	SW8260
trans-1,2-Dichloroethene	ND	1300	ug/L	10/13/04		RM	SW8260
trans-1,3-Dichloropropene	ND	1300	ug/L	10/13/04		RM	SW8260
Trichloroethene	ND	1300	ug/L	10/13/04		RM	SW8260
Trichlorofluoromethane	ND	1300	ug/L	10/13/04		RM	SW8260
Vinyl chloride	ND	1300	ug/L	10/13/04		RM	SW8260
<u>QA/QC Surrogates</u>							
% 1,2-dichlorobenzene-d4	106		%	10/13/04		RM	SW8260
% Bromofluorobenzene	93		%	10/13/04		RM	SW8260
% Dibromofluoromethane	110		%	10/13/04		RM	SW8260
% Toluene-d8	99		%	10/13/04		RM	SW8260
<u>Semivolatiles</u>							
1,2,4-Trichlorobenzene	ND	100	ug/L	10/14/04		KCA	SW 8270
1,2-Dichlorobenzene	ND	100	ug/L	10/14/04		KCA	SW 8270
1,2-Diphenylhydrazine	ND	100	ug/L	10/14/04		KCA	SW 8270
1,3-Dichlorobenzene	ND	100	ug/L	10/14/04		KCA	SW 8270
1,4-Dichlorobenzene	ND	100	ug/L	10/14/04		KCA	SW 8270
2,4,5-Trichlorophenol	ND	100	ug/L	10/14/04		KCA	SW 8270

Client ID: S TROY IND PARK TANK

Phoenix I.D.: AF93398

Parameter	Result	RL	Units	Date	Time	By	Reference
2,4,6-Trichlorophenol	ND	100	ug/L	10/14/04		KCA	SW 8270
2,4-Dichlorophenol	ND	100	ug/L	10/14/04		KCA	SW 8270
2,4-Dimethylphenol	ND	100	ug/L	10/14/04		KCA	SW 8270
2,4-Dinitrophenol	ND	500	ug/L	10/14/04		KCA	SW 8270
2,4-Dinitrotoluene	ND	100	ug/L	10/14/04		KCA	SW 8270
2,6-Dichlorophenol	ND	100	ug/L	10/14/04		KCA	SW 8270
2,6-Dinitrotoluene	ND	100	ug/L	10/14/04		KCA	SW 8270
2-Chloronaphthalene	ND	100	ug/L	10/14/04		KCA	SW 8270
2-Chlorophenol	ND	100	ug/L	10/14/04		KCA	SW 8270
2-Methylnaphthalene	350	100	ug/L	10/14/04		KCA	SW 8270
2-Methylphenol (o-cresol)	1700	1000	ug/L	10/14/04		KCA	SW 8270
2-Nitroaniline	ND	500	ug/L	10/14/04		KCA	SW 8270
2-Nitrophenol	ND	100	ug/L	10/14/04		KCA	SW 8270
3&4 Methylphenol (m&p-cresol)	1100	1000	ug/L	10/14/04		KCA	SW 8270
3,3'-Dichlorobenzidine	ND	200	ug/L	10/14/04		KCA	SW 8270
3-Nitroaniline	ND	500	ug/L	10/14/04		KCA	SW 8270
4,6-Dinitro-2-methylphenol	ND	500	ug/L	10/14/04		KCA	SW 8270
4-Bromophenyl phenyl ether	ND	100	ug/L	10/14/04		KCA	SW 8270
4-Chloro-3-methylphenol	ND	200	ug/L	10/14/04		KCA	SW 8270
4-Chloroaniline	ND	200	ug/L	10/14/04		KCA	SW 8270
4-Chlorophenyl phenyl ether	ND	100	ug/L	10/14/04		KCA	SW 8270
4-Nitroaniline	ND	500	ug/L	10/14/04		KCA	SW 8270
4-Nitrophenol	ND	500	ug/L	10/14/04		KCA	SW 8270
Acenaphthene	ND	100	ug/L	10/14/04		KCA	SW 8270
Acenaphthylene	ND	100	ug/L	10/14/04		KCA	SW 8270
Anthracene	130	100	ug/L	10/14/04		KCA	SW 8270
Benzidine	ND	100	ug/L	10/14/04		KCA	SW 8270
Benzo(a)anthracene	ND	100	ug/L	10/14/04		KCA	SW 8270
Benzo(a)pyrene	ND	100	ug/L	10/14/04		KCA	SW 8270
Benzo(b)fluoranthene	ND	100	ug/L	10/14/04		KCA	SW 8270
Benzo(g,h,i)perylene	ND	100	ug/L	10/14/04		KCA	SW 8270
Benzo(k)fluoranthene	ND	100	ug/L	10/14/04		KCA	SW 8270
Benzoic acid	ND	500	ug/L	10/14/04		KCA	SW 8270
Benzyl alcohol	ND	200	ug/L	10/14/04		KCA	SW 8270
Benzyl butyl phthalate	ND	100	ug/L	10/14/04		KCA	SW 8270
Bis(2-chloroethoxy)methane	ND	100	ug/L	10/14/04		KCA	SW 8270
Bis(2-chloroethyl)ether	ND	100	ug/L	10/14/04		KCA	SW 8270
Bis(2-chloroisopropyl)ether	ND	100	ug/L	10/14/04		KCA	SW 8270
Bis(2-ethylhexyl)phthalate	ND	100	ug/L	10/14/04		KCA	SW 8270
Chrysene	ND	100	ug/L	10/14/04		KCA	SW 8270
Di-n-butylphthalate	ND	100	ug/L	10/14/04		KCA	SW 8270
Di-n-octylphthalate	ND	100	ug/L	10/14/04		KCA	SW 8270
Dibenz(a,h)anthracene	ND	100	ug/L	10/14/04		KCA	SW 8270
Dibenzofuran	ND	100	ug/L	10/14/04		KCA	SW 8270

Phoenix I.D.: AF93398

Client ID: S TROY IND PARK TANK

Parameter	Result	RL	Units	Date	Time	By	Reference
Diethyl phthalate	ND	100	ug/L	10/14/04		KCA	SW 8270
Dimethylphthalate	ND	100	ug/L	10/14/04		KCA	SW 8270
Fluoranthene	ND	100	ug/L	10/14/04		KCA	SW 8270
Fluorene	ND	100	ug/L	10/14/04		KCA	SW 8270
Hexachlorobenzene	ND	100	ug/L	10/14/04		KCA	SW 8270
Hexachlorobutadiene	ND	100	ug/L	10/14/04		KCA	SW 8270
Hexachlorocyclopentadiene	ND	100	ug/L	10/14/04		KCA	SW 8270
Hexachloroethane	ND	100	ug/L	10/14/04		KCA	SW 8270
Indeno(1,2,3-c,d)pyrene	ND	100	ug/L	10/14/04		KCA	SW 8270
Isophorone	ND	100	ug/L	10/14/04		KCA	SW 8270
N-Nitrosodi-n-propylamine	ND	100	ug/L	10/14/04		KCA	SW 8270
N-Nitrosodimethylamine	ND	100	ug/L	10/14/04		KCA	SW 8270
N-Nitrosodiphenylamine	ND	100	ug/L	10/14/04		KCA	SW 8270
Naphthalene	340	100	ug/L	10/14/04		KCA	SW 8270
Nitrobenzene	ND	100	ug/L	10/14/04		KCA	SW 8270
Pentachlorophenol	ND	100	ug/L	10/14/04		KCA	SW 8270
Phenanthrene	290	100	ug/L	10/14/04		KCA	SW 8270
Phenol	2500	1000	ug/L	10/14/04		KCA	SW 8270
Pyrene	ND	100	ug/L	10/14/04		KCA	SW 8270
Pyridine	ND	100	ug/L	10/14/04		KCA	SW 8270
QA/QC Surrogates							
% 2,4,6-Tribromophenol (Surrog Rec)	Diluted Out		%	10/14/04		KCA	SW 8270
% 2-Fluorobiphenyl (Surrogate Rec)	Diluted Out		%	10/14/04		KCA	SW 8270
% 2-Fluorophenol (Surrogate Rec)	Diluted Out		%	10/14/04		KCA	SW 8270
% Nitrobenzene-d5 (Surrogate Rec)	Diluted Out		%	10/14/04		KCA	SW 8270
% Phenol-d5 (Surrogate Rec)	Diluted Out		%	10/14/04		KCA	SW 8270
% Terphenyl-d14 (Surrogate Rec)	Diluted Out		%	10/14/04		KCA	SW 8270

Comments: ND=Not detected BDL = Below Detection Limit RL=Reporting Limit

**Petroleum hydrocarbon chromatogram was not a perfect match with any of the standards, but contains discreet peaks in the C9 to C36 range. The sample was quantitated against a C9-C36 standard.

*Surrogate recovery out of control limits. Insufficient sample for re-extraction.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

Phyllis Shiller, Laboratory Director
October 15, 2004

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

October 15, 2004

QA/QC Data

SDG I.D.: GAF93397

Parameter	Blank	LCS %	Dup RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch Sample No: AF93106 (AF93397, AF93398)						
ICP Metals - Aqueous						
Aluminum	BDL	93.8	2.80	115	93.5	20.6
Antimony	BDL	94.2	NC	104	97.5	6.5
Arsenic	BDL	95.1	NC	111	105	5.6
Barium	BDL	99.1	NC	103	94.8	8.3
Beryllium	BDL	97.6	NC	100	93.8	6.4
Boron	BDL		1.10			
Cadmium	BDL	96.8	NC	99.2	92.8	6.7
Calcium	BDL		2.90			
Chromium	BDL	95.9	NC	101	93.8	7.4
Cobalt	BDL	96.9	NC	97.5	90.8	7.1
Copper	BDL	99.7	NC	112	103	8.4
Iron	0.007	98.5	2.30	101	92.3	9.0
Lead	BDL	98.7	NC	96.8	90.4	6.8
Magnesium	BDL		2.80			
Manganese	BDL	97.4	NC	101	94.0	7.2
Molybdenum	BDL		2.90			
Nickel	BDL	97.0	NC	95.2	89.0	6.7
Phosphorus	BDL		4.30			
Selenium	BDL	95.4	NC	112	105	6.5
Silver	BDL	98.2	NC	113	106	6.4
Thallium	BDL	96.6	NC	92.9	87.6	5.9
Tin	BDL		NC			
Vanadium	BDL	98.5	NC	105	98.2	6.7
Zinc	BDL	95.7	NC	106	98.0	7.8
QA/QC Batch Sample No: AF93106 (AF93397, AF93398)						
Lead Analysis by Furnace	BDL	98.9	NC	76.2		NC

f there are any questions regarding this data, please call Phoenix Client Services at extension 200.

MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
RPD - Relative Percent Difference
LCS - Laboratory Control Sample

Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 15, 2004

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

October 15, 2004

QA/QC Data

SDG I.D.: GAF93397

Parameter	Blank	LCS Rec %	MS Rec %	RPD
QA/QC Batch Sample No: AF93395 (AF93397)				
pH		99.6	NR	0.0
QA/QC Batch Sample No: AF93397 (AF93397, AF93398)				
Flash Point		100		NC
QA/QC Batch Sample No: AF93455 (AF93398)				
pH		99.6	NR	0.0
QA/QC Batch Sample No: AF93537 (AF93397, AF93398)				
Reactivity Cyanide	BDL	100		NR
QA/QC Batch Sample No: AF93537 (AF93397, AF93398)				
Reactivity Sulfide	BDL			NR

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

LCS - Laboratory Control Sample
MS - Matrix Spike
RPD - Relative Percent Difference
Between Sample and Sample Duplicate

Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 15, 2004

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

October 15, 2004

QA/QC Data

SDG I.D.: GAF93397

Parameter	Blank	LCS %	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch Sample No: AF77602 (AF93397, AF93398)					
<u>Polychlorinated Biphenyls</u>					
PCB-1016	ND				
PCB-1221	ND				
PCB-1232	ND				
PCB-1242	ND				
PCB-1248	ND				
PCB-1254	ND				
PCB-1260	ND		107	100	6.8
PCB-1262	ND				
PCB-1268	ND				
% DCBP (Surrogate Rec)	77		69	70	1.4
% TCMX (Surrogate Rec)	85		143	95	40.3
Comment: A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.					
QA/QC Batch Sample No: AF90551 (AF93397, AF93398)					
<u>TPH by GC (Extractable Products)</u>					
Aviation Fuel/Kerosene	ND				
Fuel Oil #2/ Diesel Fuel	ND		100	89	11.6
Fuel Oil #4	ND				
Fuel Oil #6	ND				
Motor Oil	ND				
Other Oil (Cutting & Lubricating)	ND				
Unidentified	ND				
Comment: A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.					
QA/QC Batch Sample No: AF90552 (AF93397, AF93398)					
<u>Polynuclear Aromatic HC</u>					
2-Methylnaphthalene	ND				
Acenaphthene	ND		87	91	4.5
Acenaphthylene	ND				
Anthracene	ND				
Benzo(a) anthracene	ND				
Benzo(a) pyrene	ND				
Benzo(a)anthracene					
Benzo(a)pyrene					

QA/QC Data

SDG I.D.: GAF93397

Parameter	Blank	LCS %	MS Rec %	MS Dup Rec %	RPD
Benzo(b) fluoranthene	ND				
Benzo(b)fluoranthene					
Benzo(g,h,i) perylene	ND				
Benzo(g,h,i)perylene					
Benzo(k) fluoranthene	ND				
Benzo(k)fluoranthene					
Chrysene	ND				
Dibenzo(a,h) anthracene	ND				
Fluoranthene	ND				
Fluorene	ND				
Indeno(1,2,3-cd) pyrene	ND				
Naphthalene	ND				
Phenanthrene	ND				
Pyrene	ND		108	116	7.1
% 2-Fluorobiphenyl (Surrogate Rec)					
% Nitrobenzene-d5 (Surrogate Rec)					
% Terphenyl-d14 (Surrogate Rec)					
%2-Fluorobiphenyl (Surrogate)	74 %		71 %	74 %	NC
%Nitrobenzene-d5 (Surrogate)	84 %		73 %	76 %	NC
%Terphenyl-d14 (Surrogate)	91 %		85 %	88 %	NC

Comment: A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
RPD - Relative Percent Difference
LCS - Laboratory Control Sample

Phyllis Shiller, Laboratory Director
October 15, 2004

Adirondack Environmental Services, Inc.
Experience is the solution
314 North Pearl Street ♦ Albany, New York 12207
(800) 848-4983 ♦ (518) 434-4546 ♦ Fax (518) 434-0891

December 15, 2004

John Favreau
Precision Environmental
2144 Saratoga Avenue
Ballston Spa, NY 12020
TEL: (518) 885-4399
FAX: (518) 885-4416

Work Order No: 041213018

Reference No: B001634

RE: Soil Analysis
So. Troy Industrial Park

Dear John Favreau:

Adirondack Environmental Services, Inc received 1 sample on 12/13/2004 for the analyses presented in the following report.

There were no problems with the analyses and all associated QC met EPA or laboratory specifications, except if noted.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

ELAP#: 10709
AIHA#: 100307

Christopher Hess
QA Manager

FAX:
John Favreau

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Adirondack Environmental Services, Inc

Date: 15-Dec-04

CLIENT: Precision Environmental
Work Order: 041213018
Project: Soil Analysis
PO#:

Client Sample ID: Drummed Soil(Over Pack)
Collection Date: 12/13/2004
Lab Sample ID: 041213018-001
Matrix: SOIL

Reference No: B001634

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
POLYCHLORINATED BIPHENYLS SW8082(CLP4_PEST)						Analyst: KF
Aroclor 1016	< 420	420		µg/Kg-dry	10	12/13/2004 7:24:45 PM
Aroclor 1221	< 420	420		µg/Kg-dry	10	12/13/2004 7:24:45 PM
Aroclor 1232	< 420	420		µg/Kg-dry	10	12/13/2004 7:24:45 PM
Aroclor 1242	< 420	420		µg/Kg-dry	10	12/13/2004 7:24:45 PM
Aroclor 1248	< 420	420		µg/Kg-dry	10	12/13/2004 7:24:45 PM
Aroclor 1254	< 420	420		µg/Kg-dry	10	12/13/2004 7:24:45 PM
Aroclor 1260	< 420	420		µg/Kg-dry	10	12/13/2004 7:24:45 PM
TOTAL PETROLEUM HYDROCARBONS NYSDOH 310.13						Analyst: TN
Total Petroleum Hydrocarbons	45.0	1.0		%	1	12/13/2004
ICP METALS SW6010B(SW3050A)						Analyst: SM
Arsenic	< 0.25	0.25		µg/g	1	12/15/2004 2:38:00 PM
Barium	11.0	0.50		µg/g	1	12/15/2004 2:38:00 PM
Cadmium	< 0.25	0.25		µg/g	1	12/15/2004 2:38:00 PM
Chromium	5.14	0.25		µg/g	1	12/15/2004 2:38:00 PM
Lead	0.28	0.25		µg/g	1	12/15/2004 2:38:00 PM
Selenium	< 0.25	0.25		µg/g	1	12/15/2004 2:38:00 PM
Silver	< 1.00	1.00		µg/g	1	12/15/2004 2:38:00 PM
MERCURY SW7471A(SW7471A)						Analyst: SM
Mercury	< 0.020	0.020		µg/g	1	12/14/2004
SEMI VOLATILE ORGANICS SW8270C(SW3550)						Analyst: MT
Phenol	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Bis(2-chloroethyl)ether	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
2-Chlorophenol	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
1,3-Dichlorobenzene	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
1,4-Dichlorobenzene	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
1,2-Dichlorobenzene	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
2-Methylphenol	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Bis(2-chloroisopropyl)ether	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
4-Methylphenol	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
N-Nitrosodi-n-propylamine	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Hexachloroethane	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Nitrobenzene	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Isophorone	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
2-Nitrophenol	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
2,4-Dimethylphenol	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Bis(2-chloroethoxy)methane	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
2,4-Dichlorophenol	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Adirondack Environmental Services, Inc

Date: 15-Dec-04

CLIENT:	Precision Environmental	Client Sample ID:	Drummed Soil(Over Pack)
Work Order:	041213018	Collection Date:	12/13/2004
Project:	Soil Analysis	Lab Sample ID:	041213018-001
PO#:		Matrix:	SOIL

Reference No: B001634

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMI VOLATILE ORGANICS SW8270C(SW3550)						Analyst: MT
1,2,4-Trichlorobenzene	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Naphthalene	35000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
4-Chloroaniline	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Hexachlorobutadiene	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
4-Chloro-3-methylphenol	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
2-Methylnaphthalene	16000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Hexachlorocyclopentadiene	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
2,4,6-Trichlorophenol	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
2,4,5-Trichlorophenol	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
2-Chloronaphthalene	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
2-Nitroaniline	< 25000000	25000000		µg/Kg	50	12/15/2004 10:22:00 AM
Dimethyl phthalate	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Acenaphthylene	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
2,6-Dinitrotoluene	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
3-Nitroaniline	< 25000000	25000000		µg/Kg	50	12/15/2004 10:22:00 AM
Acenaphthene	18000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
2,4-Dinitrophenol	< 25000000	25000000		µg/Kg	50	12/15/2004 10:22:00 AM
4-Nitrophenol	< 25000000	25000000		µg/Kg	50	12/15/2004 10:22:00 AM
Dibenzofuran	20000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
2,4-Dinitrotoluene	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Diethyl phthalate	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
4-Chlorophenyl phenyl ether	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Fluorene	42000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
4-Nitroaniline	< 25000000	25000000		µg/Kg	50	12/15/2004 10:22:00 AM
4,6-Dinitro-2-methylphenol	< 25000000	25000000		µg/Kg	50	12/15/2004 10:22:00 AM
N-Nitrosodiphenylamine	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
4-Bromophenyl phenyl ether	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Hexachlorobenzene	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Pentachlorophenol	< 25000000	25000000		µg/Kg	50	12/15/2004 10:22:00 AM
Phenanthrene	100000000	5000000	E	µg/Kg	50	12/15/2004 10:22:00 AM
Anthracene	160000000	5000000	E	µg/Kg	50	12/15/2004 10:22:00 AM
Carbazole	64000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Di-n-butyl phthalate	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Fluoranthene	35000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Pyrene	16000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Butyl benzyl phthalate	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
3,3´-Dichlorobenzidine	< 9900000	9900000		µg/Kg	50	12/15/2004 10:22:00 AM
Benz(a)anthracene	9100000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Chrysene	14000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM

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Adirondack Environmental Services, Inc

Date: *15-Dec-04*

CLIENT:	Precision Environmental	Client Sample ID:	Drummed Soil(Over Pack)
Work Order:	041213018	Collection Date:	12/13/2004
Project:	Soil Analysis	Lab Sample ID:	041213018-001
PO#:		Matrix:	SOIL

Reference No: B001634

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMI VOLATILE ORGANICS SW8270C(SW3550)						Analyst: MT
Bis(2-ethylhexyl)phthalate	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Di-n-octyl phthalate	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Benzo(b)fluoranthene	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Benzo(k)fluoranthene	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Benzo(a)pyrene	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Indeno(1,2,3-cd)pyrene	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Dibenz(a,h)anthracene	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
Benzo(g,h,i)perylene	< 5000000	5000000		µg/Kg	50	12/15/2004 10:22:00 AM
VOLATILE ORGANICS SW8260B						Analyst: ML
Chloromethane	< 500	500		µg/Kg	50	12/13/2004 5:14:00 PM
Bromomethane	< 500	500		µg/Kg	50	12/13/2004 5:14:00 PM
Vinyl chloride	< 500	500		µg/Kg	50	12/13/2004 5:14:00 PM
Chloroethane	< 500	500		µg/Kg	50	12/13/2004 5:14:00 PM
Methylene chloride	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
Acetone	< 500	500		µg/Kg	50	12/13/2004 5:14:00 PM
Carbon disulfide	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
1,1-Dichloroethene	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
1,1-Dichloroethane	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
trans-1,2-Dichloroethene	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
cis-1,2-Dichloroethene	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
Chloroform	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
1,2-Dichloroethane	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
2-Butanone	< 500	500		µg/Kg	50	12/13/2004 5:14:00 PM
1,1,1-Trichloroethane	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
Carbon tetrachloride	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
Bromodichloromethane	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
1,2-Dichloropropane	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
cis-1,3-Dichloropropene	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
Trichloroethene	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
Dibromochloromethane	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
1,1,2-Trichloroethane	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
Benzene	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
trans-1,3-Dichloropropene	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
Bromoform	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
4-Methyl-2-pentanone	< 500	500		µg/Kg	50	12/13/2004 5:14:00 PM
2-Hexanone	< 500	500		µg/Kg	50	12/13/2004 5:14:00 PM
Tetrachloroethene	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
1,1,2,2-Tetrachloroethane	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
Toluene	1600	250		µg/Kg	50	12/13/2004 5:14:00 PM

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	* - Value exceeds Maximum Contaminant Level	

Adirondack Environmental Services, Inc

Date: *15-Dec-04*

CLIENT:	Precision Environmental	Client Sample ID:	Drummed Soil(Over Pack)
Work Order:	041213018	Collection Date:	12/13/2004
Project:	Soil Analysis	Lab Sample ID:	041213018-001
PO#:		Matrix:	SOIL

Reference No: B001634

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS SW8260B						Analyst: ML
Chlorobenzene	< 250	250		µg/Kg	50	12/13/2004 5:14:00 PM
Ethylbenzene	2200	250		µg/Kg	50	12/13/2004 5:14:00 PM
Styrene	6500	250		µg/Kg	50	12/13/2004 5:14:00 PM
m,p-Xylene	11000	250	E	µg/Kg	50	12/13/2004 5:14:00 PM
o-Xylene	5600	250		µg/Kg	50	12/13/2004 5:14:00 PM
CORROSIVITY SW9040B						Analyst: LS
Corrosivity	Non Corrosive	0			1	12/14/2004
IGNITABILITY SW1030						Analyst: PL
Ignitability	3	0		mm/sec	1	12/13/2004
CYANIDE, REACTIVE SW7.3.3.2						Analyst: PL
Reactive Cyanide	< 1.0	1.0		µg/g	1	12/14/2004
REACTIVE SULFIDE SW7.3.4.2						Analyst: PL
Reactive Sulfide	< 10	10		µg/g	1	12/14/2004
REACTIVTIY SW846 7.3.3						Analyst: PL
Reactivity	Non Reactive	0			1	12/14/2004

Qualifiers:

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www.cyclechem.com

Cycle Chem, Inc.

217 South 1st St.
Elizabeth, NJ 07206
Phone: (908) 355-5800
Fax: (908) 355-0552

550 Industrial Dr.
Lewisberry, PA 17339
Phone: (717) 938-4700
Fax: (717) 938-3301

General Chemical Corporation

133-138 Leland St., Framingham, MA 01701
Phone: (508) 872-5000 Fax: (508) 875-5271

Material Profile Sheet
Gencode - Stream:
Process Code:

A. GENERATOR INFORMATION

EPA ID #: NYR 000128405

GENERATOR NAME: Rensselaer Cty. Industrial Devel. Agcy

MAILING ADDRESS: 1600 7th Ave
Troy NY 12180

GENERATOR CONTACT: Daniel Pollay

GENERATOR PHONE #: (518) 270 2917

SITE ADDRESS: E. Industrial Park Rd.
Troy NY 12180

PICKUP COUNTY: Rensselaer

BILLING COMPANY: Environmental Prod & Svcs of VT Inc.

BILLING ADDRESS: 40 Hamilton Lane
Glenmont NY 12077

BILLING CONTACT: Heather Rekart

BILLING PHONE #: (518)4654000 FAX: (518)4655722

PROCESS GENERATING WASTE: buried drum

NAME OF WASTE: flammable liquids

B. PHYSICAL CHARACTERISTICS OF WASTE (AT 70o F)

Color/Physical Description: Black Sludge

Strong Incidental Odor Present? ☒ Yes ○ No

Wastewater: ○ Wastewater ☒ Non-wastewater

Specific Gravity: .71

Physical State:
- ☐ Single Phase
- ☐ Bi-Layered
- ☐ Multi-Layered
- ☐ Powder
- ☐ Solid
- ☐ Liquid
- ☒ Semi-Solid
- ☐ Sludge
- ☐ Gas/Aerosol
- ☐ Lab Pack

Liquid/Solid/Sludge
- % Liquid ____
- % Suspended Solids ____
- % Sludge 100
- % Solid ____
- Dumpable? ○ Yes ☒ No
- Pumpable? ○ Yes ☒ No
- Pourable? ☒ Yes ○ No

Flash Point: ○ Flash Point <74 F ☒ Flash Point 74-100 F ○ Flash Point 101-140 F ○ Flash Point 141-200 F ○ Flash Point >200 F ○ No Flash Point ○ Exact Flash Point ____
○ Open cup ○ Closed cup

Ignitable Solid? ○ Yes ○ No

pH: ○ <2.0 ○ 2.01-5.0 ☒ 5.01-9.0 ○ 9.01-12.49 ○ >12.5 ○ Exact pH ____

C. CHEMICAL COMPOSITION

ATTACHMENTS: ☐ MSDS attached ☒ Supplemental Analysis ☐ Additional Information ☐ LDR Attachment

Chemical Composition	Percent	Minimum	Maximum
see analysis			

D. REGULATORY INFORMATION

Is it USEPA haz waste? ☒ Yes ○ No

USEPA Haz Codes: D001

EPA Sub Categories: A

Is it STATE waste? ○ Yes ☒ No

STATE Haz Codes: ____

DOT Hazardous Material? ☒ Yes ○ No

Proper Shipping Name: waste flammable liquids, nos (gasoline)

Hazard Class: 3 [✓ UN]/NA #: 1993 P.G.: II

RQ: ____ ERG#: ____

E. SHIPPING INFORMATION

Shipment Method:
○ Bulk Liquid - Tanker ○ Pallet(s) ☒ Drum(Size): ____
○ Bulk Solid - Dump Tr. ○ Tote(s)
○ Bulk Solid - Roll Off ○ Cubic Yard Box(s) ○ Other(Size): ____

Anticipated Volume: ____ Per ____

Quantity: ____ Price: ____ / Unit: ____

F. SPECIAL HANDLING CONSIDERATIONS

- ☐ Radioactive
- ☐ Etiologic/Medical Waste
- ☐ Fuming
- ☐ Phenolics
- ☐ PA RW SQG
- ☐ DRMS/DRMO Waste
- ☐ CERCLA Waste
- ☐ Asbestos
- ☐ No Land Filling
- ☐ Incinerate Only
- ☐ Recycle Only
- ☐ Other:

Indicate if waste contains any of the following:

	Non-Reg	or Less Than		or Actual
PCBs	☐	☐	50 PPM	
Cyanides	☐	☐	250 PPM	
Phenolics	☐	☐	50 PPM	
Sulfides	☐	☐	500 PPM	
VOCs	☐	☐	500PPM	
Chlorides	☐	☐	1000 PPM	

G. TRANSPORTER ARRANGEMENTS

○ CCI/GCC Provides Transportation
☒ Customer Delivers to CCI/GCC
○ Customer Delivers to End Facility via CCI/GCC
○ Other: ____

H. OTHER HAZARDOUS CHARACTERISTICS

- ☐ RCRA REACTIVE
- ☐ WATER REACTIVE
- ☐ RADIOACTIVE
- ☐ SUBJECT TO SUBPART FF BENZENE REG
- ☐ ETIOLOGICAL
- ☐ TSCA REG
- ☐ OXIDIZING MAT'L
- ☐ PYROPHORIC
- ☐ EXPLOSIVE/SHOCK SENSITIVE
- ☒ NONE OF THE ABOVE

1. Is this waste characteristically hazardous for metals or organics (EPA Waste Codes D004 through D043)? ○ Yes ☒ No
If YES, please list the constituents and concentrations in section C.

2. Does this waste contain underlying hazardous constituents as defined in 40 CFR 268 Part 2, Section I at concentrations exceeding the UTS treatment standards? ○ Yes ☒ No
If YES, please list the constituents and concentrations in section C.

GENERATOR CERTIFICATION: I hereby certify that all information submitted in this and all other attached documents is complete, contains true and accurate descriptions and is representative of the waste material, and that all relevant information regarding known or suspected hazards in the possession of the generator has been disclosed. If CCI/GCC discovers, after having taken the delivery of the waste, that any waste does not conform to the identification or descriptions contained in this MPS then CCI/GCC shall provide notice to Generator and coordinate the return of the non conforming waste to the point of origin as set forth in the manifest or to such other locations designated in writing by the Generator. Generator agrees to reimburse CCI/GCC for all handling, packaging, cleanup and transportation costs or charges, damage to equipment and costs associated with lost time incurred by CCI/GCC during the receipt, handling, temporary storage and return of such non conforming waste to its point of origin or to such other location designated by the Generator. I hereby authorize CCI/GCC to amend and/or correct any information on the MPS with the full understanding that if any amendment or correction is performed, I will be contacted as such to renew any approval.

*Authorized Signature ____ *Title ____ *Date ____

CCI/GCC APPROVAL | Sales Code ____ | Tech Initials ____ Date ____ Management Initials ____ Date ____ | Residual Waste / Form Code: ____

www.cyclechem.com

Cycle Chem, Inc.

217 South 1st St.
Elizabeth, NJ 07206
Phone: (908) 355-5800
Fax: (908) 355-0562

550 Industrial Dr.
Lewisberry, PA 17339
Phone: (717) 938-4700
Fax: (717) 938-3301

General Chemical Corporation

133-138 Leland St., Framingham, MA 01701
Phone: (508) 872-5000 Fax: (508) 875-5271

Material Profile Sheet
Gencode - Stream: ________ - ________
Process Code: ________

A. GENERATOR INFORMATION

EPA ID # NYR000128405
GENERATOR NAME Rensselaer Cty Industrial Devel Agcy
MAILING ADDRESS 1600 7th Ave
Troy NY 12180
GENERATOR CONTACT Daniel Pollay
GENERATOR PHONE # (518) 270 2917
SITE ADDRESS E. Industrial Park Rd.
Troy NY 12180
PICKUP COUNTY Rensselaer

BILLING COMPANY Environmental Prod & SVCS of VT Inc.
BILLING ADDRESS 40 Hamilton Lane
Glenmont NY 12077
BILLING CONTACT Heather Rekart
BILLING PHONE # (518)4654000 FAX 5184655722

PROCESS GENERATING WASTE: buried drums
NAME OF WASTE: Soil (Contaminated)

B. PHYSICAL CHARACTERISTICS OF WASTE (AT 70o F)

Color/Physical Description: various
Strong Incidental Odor Present? ○ Yes ☒ No
Wastewater: ○ Wastewater ○ Non-wastewater
Specific Gravity: ________
Physical State: ☐ Single Phase ☐ Bi-Layered ☐ Multi-Layered ☐ Powder ☐ Solid ☐ Liquid ☐ Semi-Solid ☐ Sludge ☐ Gas/Aerosol ☐ Lab Pack
Flash Point: ○ Flash Point <74 F ○ Flash Point 74-100 F ○ Flash Point 101-140 F ○ Flash Point 141-200 F ○ Flash Point >200 F ○ No Flash Point ○ Exact Flash Point: ________
○ Open cup ○ Closed cup
Ignitable Solid? ○ Yes ☒ No
pH: ○ <2.0 ○ 2.01-5.0 ☒ 5.01-9.0 ○ 9.01-12.49 ○ >12.5 ○ Exact pH ________

Liquid/Solid/Sludge
% Liquid ________
% Suspended Solids ________
% Sludge ________
% Solid ________
Dumpable? ○ Yes ○ No
Pumpable? ○ Yes ○ No
Pourable? ○ Yes ○ No

C. CHEMICAL COMPOSITION

ATTACHMENTS: ☐ MSDS attached ☒ Supplemental Analysis ☐ Additional Information ☐ LDR Attachment

Chemical Composition	Percent	Minimum	Maximum
see analysis			

D. REGULATORY INFORMATION

Is it USEPA haz waste? ○ Yes ☒ No
USEPA Haz Codes: ________
EPA Sub Categories: ________
Is it STATE waste? ○ Yes ☒ No
STATE Haz Codes: ________
DOT Hazardous Material? ○ Yes ☒ No
Proper Shipping Name: non RCRA solids (Contaminated soil)
Hazard Class: NONE UN/NA #: NONE P.G.: —
RQ: N/A ERG#: N/A

E. SHIPPING INFORMATION

Shipment Method:
○ Bulk Liquid - Tanker ○ Bulk Solid - Dump Tk ○ Bulk Solid - Roll Off ○ Pallet(s) ○ Tote(s) ○ Cubic Yard Box(s) ☒ Drum(Size): ________ ○ Other(Size): ________
Anticipated Volume: ________ Per ________
Quantity: ________ Price: ________ / Unit: ________

F. SPECIAL HANDLING CONSIDERATIONS

☐ Radioactive ☐ Etiologic/Medical Waste ☐ Fuming ☐ Phenolics ☐ PA RW SOG ☐ DRES/DRMO Waste ☐ CERCLA Waste ☐ Asbestos ☐ No Land Filling ☐ Incinerate Only ☐ Recycle Only ☐ Other

Indicate if waste contains any of the following:

	Non-Reg	or Less Than		or Actual
PCBs	☒	☐	50 PPM	
Cyanides	☒	☐	250 PPM	
Phenolics	☒	☐	10 PPM	
Sulfides	☒	☐	500 PPM	
VOCs	☒	☐	500 PPM	
Chlorides	☒	☐	1000 PPM	

G. TRANSPORTER ARRANGEMENTS

○ CCI/GCC Provides Transportation
☒ Customer Delivers to CCI/GCC
○ Customer Delivers to End Facility via CCI/GCC
○ Other: ________

H. OTHER HAZARDOUS CHARACTERISTICS

☐ RCRA REACTIVE ☐ WATER REACTIVE ☐ RADIOACTIVE ☐ SUBJECT TO SUBPART FF BENZENE REG ☐ ETIOLOGICAL ☐ TSCA REG ☐ OXIDIZING MAT'L ☐ PYROPHORIC ☐ EXPLOSIVE/SHOCK SENSITIVE ☒ NONE OF THE ABOVE

1. Is this waste characteristically hazardous for metals or organics (EPA Waste Codes D004 through D043)? ○ Yes ☒ No
If YES, please list the constituents and concentrations in section C.

2. Does this waste contain underlying hazardous constituents as defined in 40 CFR 268 Part 2, Section I at concentrations exceeding the UTS treatment standards? ○ Yes ☒ No
If YES, please list the constituents and concentrations in section C.

GENERATOR CERTIFICATION: I hereby certify that all information submitted in this and all other attached documents is complete, contains true and accurate descriptions and is representative of the waste material, and that all relevant information regarding known or suspected hazards in the possession of the generator has been disclosed. If CCI/GCC discovers, after having taken the delivery of the waste, that any waste does not conform to the identification or descriptions contained in this MPS then CCI/GCC shall provide notice to Generator and coordinate the return of the non conforming waste to the point of origin as set forth in the manifest or to such other locations designated in writing by the Generator. Generator agrees to reimburse CCI/GCC for all handling, packaging, cleanup and transportation costs or charges, damage to equipment and costs associated with lost time incurred by CCI/GCC during the receipt, handling, temporary storage and return of such non conforming waste to its point of origin or to such other location designated by the Generator. I hereby authorize CCI/GCC to amend and/or correct any information on the MPS with the full understanding that if any amendment or correction is performed, I will be contacted as such to issue any approval.

Authorized Signature ________ Title ________ Date ________

CCI/GCC APPROVAL Sales Code ________ Tech Initials ________ Date ________ Management Initials ________ Date ________ Residual Waste / Form Code: ________

CycleChem, Inc.

Recycling Treatment & Disposal of Hazardous Waste

550 Industrial Drive, Lewisberry, PA 17339-9537 • 717-938-4700, Fax 717-938-3301

LAND DISPOSAL RESTRICTION NOTIFICATION AND CERTIFICATION FORM

Generator Name: Rensselaer County Industrial Development Agency

Generator EPA ID #: NYR000128405

Manifest #: PAG 1266606

This land disposal restriction (LDR) notification must be submitted with the initial shipment of all new waste streams. Due to revised LDR notification requirements effective after August 23, 1998, previously approved waste streams will require re-notification on this form with the first shipment after that date. Subsequent notification is not required unless the waste stream changes.

(1) WASTE STREAM INFORMATION

Box A: Check this box if this LDR certification has been supplied with a previous shipment. Additional information and certification is not required on this form.

Box B: Indicate if waste stream is a wastewater (WW) or non-wastewater (NWW) (aqueous waste streams containing < 1% total organic carbon (TOC) and < 1% total suspended solids (TSS) are wastewaters. All other streams are non-wastewaters).

Box C: List all EPA waste codes and subcategory reference letters (if applicable). Alternatively, attach and reference additional pages (e.g. profiles or lab pack slips) containing required information.

	A	B	C
Line #	Previously shipped LDR on file	NWW/WW	EPA Waste Codes and subcategory reference letter (if applicable)
A		NWW	D001
B		NWN	none
C			
D			

Subcategory Reference Letters (EPA codes not listed here do not have subcategories)

D001	A	Ignitable characteristic wastes, except high TOC ignitable liquids subcategory
D001	B	High TOC (> 10%) ignitable liquid subcategory
D003	A	Reactive sulfide subcategory
D003	B	Reactive cyanide subcategory
D003	C	Water reactive subcategory
D003	D	Other reactive subcategory
D006	A	Cadmium non-battery subcategory
D006	B	Cadmium containing batteries subcategory
D008	A	Lead non-battery subcategory
D008	B	Lead acid batteries subcategory
D009	A	High mercury organic subcategory (≥260 PPM Total Mercury)
D009	B	High mercury inorganic subcategory (≥ 260 PPM Total Mercury)
D009	C	Low mercury subcategory (< 260 PPM Total Mercury)
D009	D	Mercury wastewater subcategory

(2) SPENT SOLVENT WASTE CONSTITUENTS

Circle applicable waste code(s) and constituent(s) for each manifest line item containing EPA spent solvent waste codes F001-F005.

A B C D_____F001 A B C D_____F002 A B C D_____F003 A B C D_____F004 A B C D_____F005

A B C D__________-acetone
A B C D__________-benzene
A B C D__________-n-butyl alcohol
A B C D__________-iso-butyl alcohol
A B C D__________-carbon disulfide
A B C D__________-carbon tetrachloride
A B C D__________-chlorobenzene
A B C D__________-m-cresol
A B C D__________-o-cresol
A B C D__________-p-cresol
A B C D__________-cresylic acid
A B C D__________-cyclohexanone
A B C D__________-o-dichlorobenzene
A B C D__________-ethyl acetate
A B C D__________-ethyl benzene
A B C D__________-ethyl ether
A B C D__________-methanol
A B C D__________-methylene chloride
A B C D__________-methyl ethyl ketone
A B C D__________-methyl isobutyl ketone
A B C D__________-nitrobenzene
A B C D__________-pyridine
A B C D__________-tetrachloroethylene
A B C D__________-toluene
A B C D__________-1,1,1,-trichloroethane
A B C D__________-1,1,2-trichloroethane
A B C D__________-trichloroethylene
A B C D__________-trichloromonofluoromethane
A B C D__________-1,1,2-trichloro-1,2,2,-trifluoroethane
A B C D__________-xylenes

(3) UNDERLYING HAZARDOUS CONSTITUENTS

For characteristically hazardous waste streams (EPA codes D001-D043), please list all underlying hazardous constituents as defined in 40 CFR 268(2)(I) that are present at concentrations exceeding the universal treatment standards listed in 40 CFR 268.48 (F001-F005 constituents identified in section (2) and specific constituents for EPA U-, P-, and D004-D043 codes listed in Section (1) do not need to be listed in this section).

A.____ X None Present
B.____ X None Present
C.____ __None Present
D.____ __None Present

(4) HOW MUST THESE WASTE STREAMS BE MANAGED?

For each manifest line item, **circle** applicable treatment/requirement. For contaminated soil, **circle** applicable choice as indicated.

A [✓ B] C D________This waste is non-hazardous per 40 CFR 261, and is not restricted from land disposal under 40 CFR 268 subpart D.

[✓ A] B C D________This is an EPA hazardous waste that is not a contaminated soil or hazardous debris. Waste must be treated to the appropriate treatment standard set forth in 40 CFR subpart D prior to land disposal.

A B C D________This is a hazardous debris and is subject to the alternative treatment standards of 40 CFR 268.45.

A B C D________This is a hazardous waste contaminated soil. This contaminated soil **does/does not** (circle one) contain listed hazardous wastes and **does/does not** (circle one) exhibit a characteristic of hazardous waste and **is subject to/complies with** (circle one) the soil treatment standards as provided by 268.49(c) or the universal treatment standards.

A B C D________This is an EPA hazardous waste that meets all applicable treatment standards set forth in 40 CFR 268 subpart D, and can be landfilled without further treatment. I certify under penalty of law that I have personally examined and am familiar with the waste through analysis and testing or thorough knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D and all applicable prohibitions set forth in 40 CFR 268.32 or RCRA Section 3004(d). I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

(5) CERTIFICATION

I certify that all information on this and all associated documents is complete and accurate to the best of my knowledge.

Signature:______________________________ Title:______________________________

Printed Name:______________________________ Date:______________________________

HAZARDOUS WASTE

FEDERAL LAW PROHIBITS IMPROPER DISPOSAL

IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY.

ACCUMULATION START DATE 01/13/2005 E.P.A. WASTE NO. D001

D.O.T. PROPER SHIPPING NAME RQ WASTE Flammable liquids, n.o.s.

AND 3, UN1993, II

U.N. OR N.A. NO.

GENERATOR NAME RENSSELAER CTY INDUSTRIAL DEV. AGCY

ADDRESS E. INDUSTRIAL PARK RD

CITY TROY STATE NY 12180

E.P.A. I.D. NO. NYR000128405 MANIFEST DOCUMENT NO. PAG126606

(518) 270-3917

HAZARDOUS WASTE HANDLE WITH CARE!

PRINTED BY: G C LABEL / 1-800-997-6966 / PRINTED IN U.S.A. / ITEM# HWL500 VINYL

NON-RCRA REGULATED WASTE

THIS WASTE NOT REGULATED BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY 40CFR(RCRA) BUT MAY BE SUBJECT TO DEPT. OF TRANSPORTATION REGULATIONS (49CFR) OR STATE OR LOCAL REGULATIONS

GENERATOR INFORMATION:

SHIPPER Rensselaer Cty. Ind. Devel. Agcy

ADDRESS E. Industrial Park Rd

CITY, STATE, ZIP Troy NY 12180

PROPER D.O.T. SHIPPING NAME non RCRA solids, n.o.s. (contaminated soil)

UN OR NA NO.: NONE

PHONE: (518) 270 3917

NON-RCRA REGULATED WASTE

NONHAZARDOUS WASTE MANIFEST

Please type (or print)

1. Generator's US EPA ID No. NOT REQUIRED

Manifest Document No.

2. Page 1 of

A. Nonhazardous Waste Manifest Document Number **UIS A 0117807**

3. Generator's Name and Mailing Address
RENSSELAER COUNTY IDA
160 SEVENTH AVENUE TROY, NY 12180

4. Generator's Phone (518) 270-2988 ATTN:ROBERT PASINELLA

B. G.S.I. (Gen. Site Address)
SOUTH TROY INDUSTRIAL PARK
EAST INDUSTRIAL PARK ROAD
TROY, NY 12180

5. Transporter 1 Company Name UNITED INDUSTRIAL SERVICES

6. US EPA ID Number CTD021816859

C. S.T.I. (Trans. Lic. Plate #) 74619 CT

D. Tran. Phone (203) 238-6745

7. Transporter 2 Company Name

8. US EPA ID Number

E. S.T.I. (Trans. Lic. Plate #)

F. Tran. Phone ( )

9. Designated Facility Name and Site Address
NORLITE CORPORATION
628 SOUTH SARATOGA STREET
COHOES, NY 12047

10. US EPA ID Number NYD080469935

G. State Facility's ID (Not Required)

H. Facility's Phone 518 235-0401

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. NON DOT / NON RCRA REGULATED MATERIAL NONE, NONE	001	TT	1024	G	EPA NONE STATE NONE/
b.					EPA STATE
c.					EPA STATE
d.					EPA STATE

J. Additional Descriptions for Materials Listed Above		K. Handling Codes for Wastes Listed Above Interim	Final	Interim	Final
a. WASTE WATER FROM UNDERGROUND TANK	c.	a.	C	c.	
b.	d.	b.		d.	

15. Special Handling Instructions and Additional Information

02734FLM EMERGENCY RESPONSE GUIDE # N/A EMERGENCY PHONE # (203)238-6745

Point of Departure:

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, and all applicable State laws and regulations.

Agent of Rensselaer County

Printed/Typed Name Nathan T Freeman

Signature

Month 10 Day 29 Year 04

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name STEVEN PETTIT

Signature

Month 10 Day 29 Year 04

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

Month Day Year

COPY 4 GENERATOR COPY

State of New Jersey
Department of Environmental Protection
Hazardous Waste Regulation Program
Manifest Section
P.O. Box 414, Trenton, NJ 08625-0414

4068905

Please type or print in block letters. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039.

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. N Y R 0 0 0 1 2 8 4 0 5 Manifest Document No. 0 B D E
2. Page 1 of 1
Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address RENSSELAER CITY INDUSTRIAL DEV. AGCY
1600 7TH AVE
TROY NY 12180

4. Generator's Phone (518 270-3917

A. State Manifest Document Number **NJA 4068905**

B. State Generator's ID (Gen. Site Address) 1. INDUSTRIAL PARK RD
TROY, NY 12180

5. Transporter 1 Company Name ENVIRONMENTAL PROD & SVCS OF VT, INC.
6. US EPA ID Number V T R 0 0 0 5 0 0 0 0 6

C. State Trans. ID-NJDEP
Decal No. -

7. Transporter 2 Company Name ENVIRONMENTAL PROD & SVCS OF VT, INC.
8. US EPA ID Number V T R 0 0 0 5 0 0 0 0 6

D. Transporter's Phone (802) 862-1212

E. State Trans. ID-NJDEP
Decal No.

9. Designated Facility Name and Site Address
CYCLE CHEM, INC.
217 SOUTH FIRST STREET
ELIZABETH NJ 07206

10. US EPA ID Number N J D 0 0 2 2 0 0 0 4 6

F. Transporter's Phone (802) 862-1212

G. State Facility's ID

H. Facility's Phone (908) 355-5800

11. US DOT Description (Including Proper Shipping Name, Hazard Class or Division, ID Number and Packing Group)	HM	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. WASTE NON RCRA LIQUIDS, N.O.S. (TANK BOTTOMS/SLUDGE) NONE, NONE		0 0 6	D M	[illegible]	G	
b. WASTE NON RCRA LIQUIDS, N.O.S. (PURGEWATER) NONE, NONE		0 0 1	D M	[illegible]	G	
c. WASTE NON RCRA LIQUIDS, N.O.S. (DECONTAMINATION WATER) NONE, NONE		0 0 6	D M	[illegible]	G	
d. WASTE NONE RCRA SOLIDS, N.O.S. (WASTE PLASTIC/PPE) NONE, NONE		0 0 2	D M	[illegible]	P	

J. Additional Descriptions for Materials Listed Above
a.
b.
c.
d.

K. Handling Codes for Wastes Listed Above
a.
b.
c.
d.

15. Special Handling Instructions and Additional Information
a.937910 [illegible] JOB #A6490
b.937910 d.937910 EMERG. PHONE #802-862-1212
c.937910
Transporter Unit # 62C17

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; **OR**, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name Kirk MacNC Rensselaer Co. IDA
Signature
Month Day Year 1 2 1 1 0 4

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name [illegible]
Signature
Month Day Year 1 2 1 1 0 4

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name
Signature
Month Day Year

GENERATOR
TRANSPORTER
FACILITY

In case of an emergency or spill immediately call the state the emergency occurred in and the N.J. Dept. of Environmental Protection. (609) 292-7172

EPA Form 8700-22

SIGNATURE AND INFORMATION *MUST* BE LEGIBLE ON ALL COPIES

2500-FM-LRWM0051 REV. 7/99

PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Land Recycling and Waste Management
P.O. Box 8550
Harrisburg, PA 17105-8550
OFFICIAL PENNSYLVANIA MANIFEST FORM

Form approved.
OMB No. 2050-0039

In case of an emergency or spill immediately call the National Response Center (800) 424-8802 and the PA DEP (717) 787-4343

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. N Y R 0 0 0 1 2 8 4 0 5 Manifest Document No. 2 6 6 0 6
2. Page 1 of 1
Information within the bold red border is not required by Federal law but may be required by State law.

3. Generator's Name and Mailing Address
RENSSELAER CTY INDUSTRIAL DEV.
1600 7TH AVE
TROY NY 12180

4. Generator's Phone (518)270-3917

A. State Manifest Document Number PAG 126606

B. State Gen. ID E. Industrial Pk Rd Troy NY 12180

5. Transporter 1 Company Name ENVIRONMENTAL PROD & SVCS OF

6. US EPA ID Number ~~V T R 0 0 0 5 0 0 0 9 0~~

C. State Trans. ID PA-AH

D. Transporter's Phone 802) 862-1212

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Trans. ID PA-AH

F. Transporter's Phone ( )

9. Designated Facility Name and Site Address
CYCLE CHEM-PA
550 INDUSTRIAL DR
~~LEWISBERRY PA 17339~~

10. US EPA ID Number ~~P A D 2 6 7 0 9 8 8 2~~

G. State Facility's ID

H. Facility's Phone ~~(717)938-4700~~

GENERATOR

	HM	11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a.	X	RQ WASTE Flammable liquids, n.o.s. 3, UN1993, II	0 0 1	D M	30	G	D 0 0 1
b.		NON RCRA SOLIDS, N.O.S. (CONTAMINATED SOIL) ~~NONE~~	0 0 1	D M	300	P	NONE
c.							
d.							

J. Additional Descriptions for Materials Listed Above
a. gasoline

K. Handling Codes for Wastes Listed Above
a.
b.
c.
d.

15. Special Handling Instructions and Additional Information

JOB #A6490
PO#A4467
a. APPROVAL #EPS522-A-FW
b. APPROVAL #EPS522-B-LD
ERG# 128 EMERG. PHONE #802-862-1212

Transporter#1 LIC# 62C17 (VT)
Transporter#2 LIC#

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name JOHN H. CLINTON JR
Signature
Month Day Year 1 11 05

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name Josh Curzley
Signature
Month Day Year 1 13 05

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.
Printed/Typed Name
Signature
Month Day Year

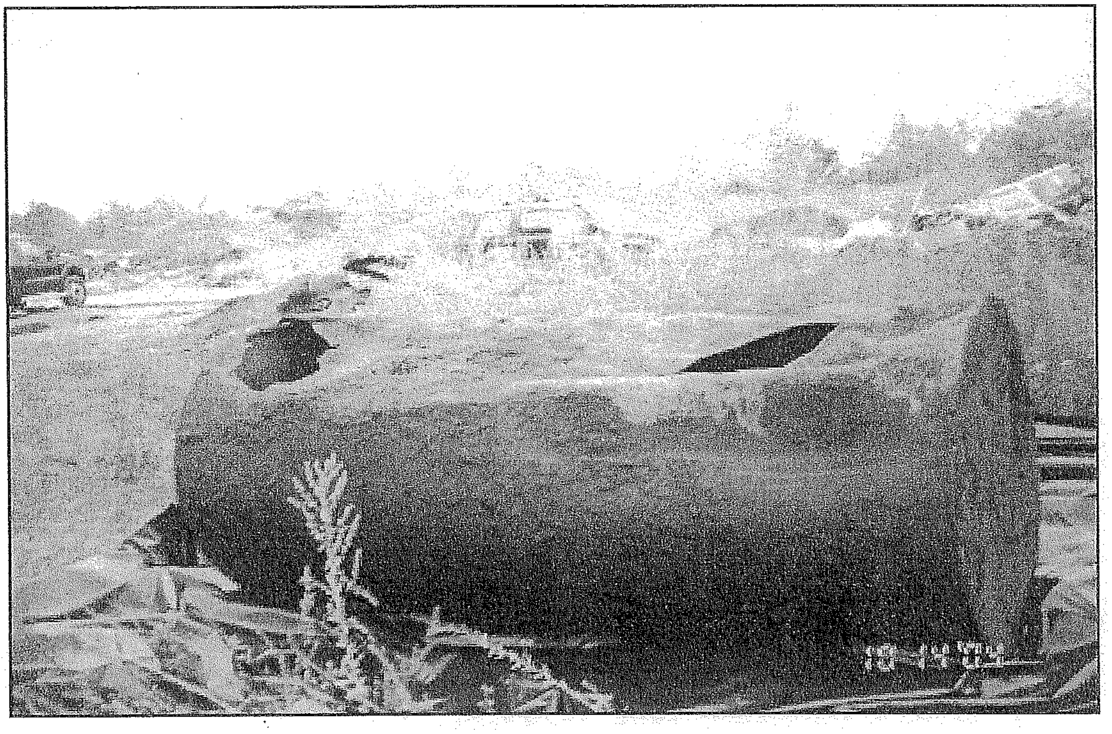
PAG 126606

EPA Form 8700-22 (Rev. 9/88) Previous editions are obsolete

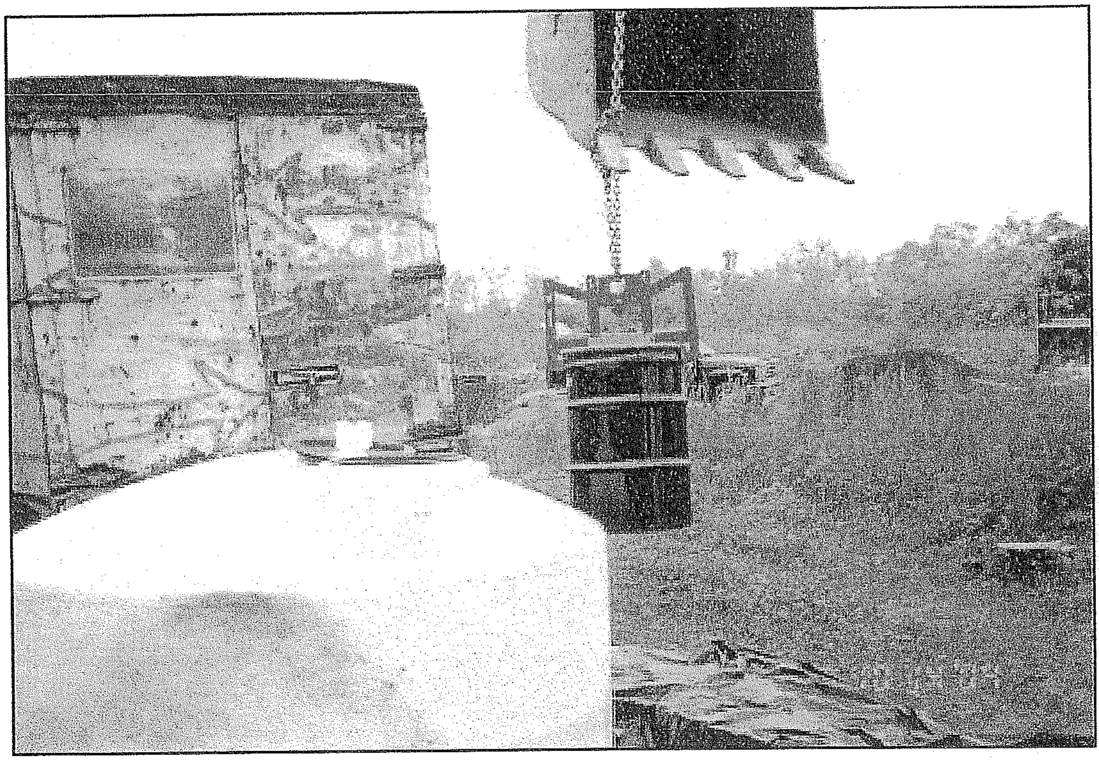
1

COPY 1 - TSD: MAIL TO PA DEP

Black Poly Placed in Excavation Above Contaminated Soil



UST Removed From Excavation



Drum Removed From Excavation to Holding Area

EP&S Pumping Out UST

C.T. MALE ASSOCIATES, P.C.

50 Century Hill Drive, P.O. Box 727, Latham, New York 12110-0727
518.786.7400 FAX 518.786.7299 ctmale@ctmale.com

January 24, 2005

Mr. George Heitzman, PE
Senior Environmental Engineer
NYSDEC Division of Environmental Remediation
625 Broadway
Albany, NY 12233 - 7013

Re: Summary of IRM Activities
South Troy Industrial Park
ERP No. B00163-4
CTMA Project No. 04.9138

Dear Mr. Heitzman:

The purpose of this letter is to summarize the work completed relative to the buried vessel and drums encountered on the northeast end of the above referenced site. The following provides a summary of the site work completed leading up to and during the Interim Remedial Measure (IRM).

Background

On October 6, 2004 the New York State Department of Environmental Conservation (DEC) was contacted by Erdman & Anthony Engineers (E&A) in regard to drilling activities taking place on-site, and the possibility that a buried vessel was encountered. E&A is working for the City of Troy with regard to the realignment study for East Industrial Park Road. The DEC Project Manager (George Heitzman) was on-site this day conducting oversight of the trenching activities, and visited the drilling location to assess the situation. SJB Services Inc. was the drilling subcontractor conducting the test borings for E&A and explained that while driving the sampling spoon from approximately 12-14 feet slight resistance was encountered followed by the spoon dropping approximately two feet with no resistance. It was SJB's opinion that they encountered a void which could possibly be a buried vessel. When the sampling spoon was removed from the boring location the spoon contained a thick black material with paint like odor. The DEC collected a sample of the material and relinquished it to C. T. Male for submission to the laboratory to be analyzed for VOC's, SVOC's and metals. The sample was submitted to Chemtech Laboratory of Mountainside, NJ and placed on hold. The drilling crew was asked to stop the drilling activity and not advance the boring deeper. C.T. Male Associates, NYSDEC and Rensselaer County IDA (RCIDA) were all in agreement that the suspected buried vessel would be investigated utilizing the excavator on-site for the Environmental Restoration Program (ERP) site investigation.

IRM Activity

October 12, 2004 marked the first day of investigating the encountered buried vessel. Precision Environmental Services, Inc. provided the labor and equipment for the site work as a subcontractor to C. T. Male.

An exploratory test pit was conducted to the east of soil boring were the buried vessel was encountered. Prior to the start of excavation dust monitors were placed in both upwind and downwind locations. Air monitoring for the presence of volatile organic compounds (VOCs) was also conducted utilizing two calibrated Mini Rae 2000 Photo-Ionization Detectors (PID). The excavation was advanced to a depth of twelve feet and then advanced in a westerly direction. A metal drum was encountered at nine feet below the ground surface and was in a vertical upright position. The excavator operator carefully worked to expose the entire drum. A second drum was found lying horizontal under the drum that was standing vertical. Continuing the investigation and working to expose the already encountered buried drums, a metal under ground storage tank (UST) was found immediately south of the drums.

The top of the UST was located approximately twelve feet below ground surface. The north end of the UST revealed a hole on the top of the tank created from the advancement of a hollow stem auger. The soils present above the buried vessel and drums consisted of fill material, slag, cinder and ash which appeared to have been previously disturbed as fused slag layers typically encountered in the exploratory test pits and trenches were not present. A fill or vent pipe was not connected to the UST. The fill material above the UST and drums exhibited a minor paint thinner type odor. The fill material was removed from the top of the buried vessels and the excavation was appropriately stepped back to allow safe entry to the tank. Donning the appropriate personnel protective equipment (PPE) and conducting continuous air monitoring the excavation was entered by a two man crew to determine the contents of each vessel. The PID readings in the open excavation ranged from 0.0 to 5.0 ppm. The tank was approximately 80 - 90% full and contained a thick black material with a PID reading of 500 ppm. The drum in the vertical position was less than 25% full and contained a pink liquid that emitted a PID reading of 300 ppm. The drum in the horizontal position was in poor condition and contained soil and a thick black tar like material. The liquid in the vertical drum and the tank were sample and submitted for laboratory analysis for lead, flash point, ignitability, ph, reactivity, PCBs, metals, SVOCs and VOCs.

October 14, 2004 the drum and tank removal activates were completed. NYSDEC, C.T Male Associates, Precision Environmental Services and Environmental Products and Services of Vermont (EPS) represent all parties involved with these activates.

A staging area was set up prior to the removal of any material from the excavation. The staging area was constructed of a wood (2"x10') frame and lined with two layers of 6 mil black poly extending up the side walls of the containment. The tank liquids were removed with a vacuum truck. The tank was then cleaned in place. The vacuum truck contents were then off loaded into a 1,500 gallon poly tank within the staging area pending waste characterization results. Approximately 780 gallons were removed from the discovered UST. The drums were removed from the excavation using a drum hook and excavator then placed in overpack drums within the staging area. The tank was observed to be in fair condition once cleaned and removed from its grave, with some pitting and scaling observed as well as the presence of a few small holes on the tank bottom. The tank measured approximately 10 feet long by 4 feet in diameter which indicates that the tank is approximately 1,000 gallons in capacity.

Upon the removal of the buried vessel and drums from the excavation the soils beneath were explored for the presence of contamination and other possible buried objects (none were discovered). Fill material consisting of slag, cinder and ash was present to sixteen feet below the ground surface before encountering native brown silt and fine sand. All soils removed from the excavation were screened with the PID and staged on poly sheeting if contamination was noted with the PID. As the excavation was advanced to eighteen feet, the severity of contamination subjectively increased. The native soils from these depths (±18' bgs) exhibited heavy paint like odors and shinny staining. Soils screened from eighteen feet emitted a PID reading of 400 ppm. Due to the large volume of contaminated soil encountered it was determined that all the material stockpiled would be placed back in the excavation. A layer of poly sheeting (10' x 22') was positioned above the contaminated soil. The poly sheeting was placed in the excavation to separate the contaminated from the uncontaminated as well as creating a vapor barrier and a demarcation layer for future work in this area.

Analytical Results

The October 15, 2004 analytical results for the liquid pumped from the UST revealed the presence of select VOCs and SVOCs. Analytical results are attached. MtBE, Methylene chloride and toluene were the volatile organic compounds detected. Semi-volatile organic compounds present were 2-Methylnaphthalene, 2- Methylphenol, 3&4 Methylphenol, Anthracene, Naphthalene, Phenanthrene and Phenol. MtBE, a gasoline additive used in gasoline from the late 1970's until recently, suggests that the product within the tank may postdate the introduction on MtBE. The compounds detected are indicative of a gasoline grade fuel not a fuel oil grade product. No chlorinated compounds were detected in the UST liquid.

Liquid sampled from the vertical buried drum revealed failed results for ignitability due to the presence of a number of volatile compounds detected. Two semi-volatile compounds were also found, 2-Methylnaphthalene and Naphthalene.

Soil sampled from the buried horizontal drum contained a wide range of semi volatile compounds and a select few volatile compounds.

The results for all of the analyses performed relative to the discovered containers are present in Exhibit 1.

In order to transport and dispose of the encountered waste, a Material Profile has been prepared on the basis of the known information regarding the material. The information provided on the Cycle Chem, Inc. profile sheets is considered by C.T. Male Associates to be accurate and representative of the liquid and solids within the drums. The Cycle Chem, Inc. profile sheets are attached and present in Exhibit 2.

Waste Generated

Waste generated during these activates consisted of two 55 gallon overpack drums containing the two buried drums, two 55 gallon drums of tank bottoms and sludges (tank cleaning), one 55 gallon drum of waste poly and approximately 750 to 800 gallons of product and water removed from the tank (temporarily stored in a 1,500 gallon poly tank). All of these materials were staged within the secure staging area.

Waste Disposal

The generated waste from these activates was initially reviewed for hazardous characterization on the basis of analytical results. The water and product (approximately 780 gallons) from the tank were transported as non hazardous waste to Norlite Corporation of Cohoes, NY. The Bill of Lading represents a total quantity of 1,024 gallons shipped, this includes the liquid from the UST as well as four 55 gallon drums of decontamination water produced as a result of the ERP site investigation. A copy of the Straight Bill of Lading for the liquids is present as Exhibit 3. The two 55 gallon drums of tank bottoms and sludges and the one 55 gallons drum of waste poly were transported as non hazardous waste to Cycle Chem Inc. of Elizabeth, NJ. A copy of the waste manifest is present as Exhibit 4. Prior to transportation, all the drummed material was profiled. The pink colored liquid in the 55 gallon drum was determined to be hazardous waste on the basis of the materials Ignitability. A USEPA Hazardous Waste Identification Number was issued to the Rensselaer County Industrial Development Agency (RCIDA) by the USEPA. This number is indicated on the hazardous waste manifest. A copy of the Hazardous Waste Manifest is attached as Exhibit 5. The soil in the horizontal drum was profiled as well and was determined to be non-hazardous. The two buried drums were transported to Cycle Chem Inc. of Lewisberry, PA. The tank carcass was transported to a scrap metal recycling facility.

Follow-up Work

C.T. Male has completed an investigation on the subject site for the presence of suspect buried vessels. The suspect location was assessed through the advancement of an exploratory test pit. The investigation revealed the presence of two buried drums as well a 1,000 gallon UST.

The soils beneath the buried drums and tank were explored and found to be contaminated. Due to the larger that anticipated volume of contaminated soil. the material was left in the excavation. The excavation was back filled to grade. Two monitoring wells were installed in the excavation area to monitor the groundwater quality. The soil boring activity was conducted utilizing 4 ¼″ hollow stem augers and continuous sampling with a 2″ slit spoon. CTM-1S was set to a total depth of 17′ below the ground surface with a five foot screened section. The second well, CTM-1 was set to a total depth of 29′ with five foot of screened section. The shallow and deep well cluster was installed to help define the vertical extent of the contamination in soil and groundwater, as well as to possibly be used for a vapor extraction pilot study.

The residual contamination present within this area will be evaluated within the Site Investigation/Remedial Alternatives Report (SI/RAR) which is currently in preparation.

If you have any questions, please contact the undersigned at (518) 786-7586.

Sincerely,

C.T. MALE ASSOCIATES, P.C.

Nathan Freeman
Environmental Scientist

Kirk Moline
Managing Geologist

Attachments:
Exhibit 1: Laboratory Report
Exhibit 2: Cycle Chem, Inc. Profile sheets
Exhibit 3: Bill of Lading
Exhibit 4: Waste Manifest
Exhibit 5: Waste Manifest
Photographs
Site Map

Cc: Daniel Pollay, RCIDA

EXHIBIT 8

ANALYTICAL RESULTS FOR SAMPLES COLLECTED OF SLAG MOUNTAIN

COPY

ERDMAN
ANTHONY

January 16, 2004

JAN 2004

Mr. Mark VanValkenburg
Chief, Western Section
New York State Department of Health
Bureau of Environmental Exposure Investigation
Flanigan Square
547 River Street-Room 300
Troy, New York 12180-2216

RE: ***South Troy Riverfront Bikeway/Walkway(Main Street-Monroe Street)***

Dear Mr. VanValkenburg:

On Tuesday, December 2, 2003, Erdman Anthony and Associates, the City of Troy, NYSDEC, and the NYSDOH met at the site of the South Troy Riverfront Bikeway/Walkway. The bikeway route along several properties was walked to provide the NYSDEC and NYSDOH with additional information regarding the bikeway/walkway sites. At that meeting, the NYSDEC requested the collection of two additional samples from the large slag pile near the northern end of the properties in question. Those samples (S-4 and S-5) were collected on December 19, 2003 under the supervision of the NYSDEC. The attached table lists the sampling results. As illustrated these results are consistent with the results obtained from the prior samples taken on September 5, 2003.

At the December 2, 2003 meeting, the NYSDOH stated that their final determination regarding cover material would be contingent on the sample results discussed above and the NYSDEC's opinion. We are requesting the NYSDOH and NYSDEC review the attached sample results and notify us with regard to the cover material required. In addition, slag excavation and grading work is being proposed on the Rensselaer County IDA (RCIDA) - "slag mountain site" and the adjacent Perry portion of the property. The excavated material will be stored on site or used as fill on the RCIDA property. We are requesting the NYSDOH and NYSDEC's opinion regarding the excavation, grading, and use of this material. At this time, additional machine crushing of slag chunks on site is not proposed however, the City would also like comments regarding adding this to the scope of work. A project "Site Environmental Health and Safety Work Plan" will be prepared, addressing the control of dust on the site.

Once you have had the opportunity to review this letter and the enclosed results, please contact Vie Zubkovs at the Troy Planning Department or me with any questions you may have. Thank you in advance for your assistance in this matter.

Sincerely,

Melanie C. Osterhout, PE

Enclosure

c: George Heitzman, NYSDEC
Michael Komoroske, NYSDEC
V. Zubkovs, City of Troy
Frederick Ring, City of Troy
file

1/20/04
Called Melanie - Told her nothing changes from 12/8/03 letter. OK to grade on IDA. Depth of cover is up to DOH.

SOUTH TROY SLAG PILE
SOIL SAMPLING RESULTS (ppm)

Parameter	*Recommended Soil Cleanup Objective*	*Sample ID*				
		S-1	**S-2**	**S-3**	**S-4**	**S-5**
Arsenic	SB	<0.25	<0.25	<0.25	<0.25	<0.25
Barium	300 or SB	52.0	251	298	262	180
Cadmium	1 or SB	<0.25	<0.25	<0.25	<0.25	<0.25
Chromium	10 or SB*	15.2	<0.25	1.72	4.35	<0.25
Lead	SB**	0.51	<0.25	<0.25	<0.25	<0.25
Selenium	2 or SB	<0.25	<0.25	<0.25	2.52	1.93
Silver	SB**	<1.00	<1.00	<1.00	<1.00	1.76
Mercury	0.1	<0.020	<0.020	<0.020	<0.020	<0.020

*The NYSDEC has stated that the chromium level is in the process of being raised to 50 ppm.

**Site background unknown.

TABLES

TABLE 4.3-1

BACKGROUND SURFACE SOIL ANALYTICAL SUMMARY RESULTS

TABLE 4.3: Background Surface Soil Analytical Results Above SCGs
SVOCs and Metals
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	**NYSDEC TAGM 4046 RSCOs (mg/kg)******	**Eastern USA Background (mg/kg)**	**SURFACE SOIL # 22 mg/kg**		**SURF. SOIL #22 (Duplicate) mg/kg**		**SURFACE SOIL # 23 mg/kg**		**SURFACE SOIL # 24 mg/kg**		**EQUIPMENT BLANK mg/l**	
			Result	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
SVOC's												
Benzo(a)anthracene	0.224 or MDL	Not Applicable	**0.41**	J	0.075	J	**0.32**	J	0.068	J	0.00023	U
Benzo(a)pyrene	0.061 or MDL	Not Applicable	**0.29**	J	**0.075**	J	**0.29**	J	**0.063**	J	0.00045	U
METALS												
Arsenic	7.5 or SB	3-12	6.010		5.110		5.850		8.540		4.840	U
Barium	300 or SB	15-600	92.2	J	374	J	**920**	J	83.8	J	11.0	U
Beryllium	0.16 or SB	0-1.75	0.651		1.480		0.550	J	0.676	J	1.060	U
Copper	25 or SB	1-50	30.0		29.3		50.0		**52.3**		0.739	U
Iron	2,000 or SB	2,000-550,000	19200	J	18000	J	14300	J	25300	J	29.0	U
Lead	SB	***	86.3	J	89.0	J	**3240**	J	213	J	2.730	J
Magnesium	SB	100-5,000	4050	J	**5310**	J	4140	J	3950	J	254	U
Mercury	0.1	0.001-0.2	0.149	J	0.007	UJ	**1.1**		**0.314**		0.0300	U
Nickel	13 or SB	0.5-25	16.1		13.7		19.8		23.2		5.550	U
Selenium	2 or SB	0.1-3.9	0.387	U	0.386	U	0.375	U	0.476	U	5.240	U
Zinc	20 or SB	9-50	**95.1**	J	**98.0**	J	**620**	J	**200**	J	8.110	U

Notes:

U indicates that the compound was analyzed for but not detected

J indicates an estimated value

E indicates compounds whose concentrations exceed the calibration range of the instrument for the specific analysis

mg/kg indicates mlligram per kilogram or parts per million (ppm)

mg/l indicates milligram per liter or parts per million (ppm)

SB indicates Site Background

N/A indicates that the value is not available

MDL indicates the laboratory's minimum detection limit

* TAGM 4046 lists 1 ppm as the Standard, Criteria and Guidance (SCG) for Cadmium.
However, recent DEC Records of Decision (ROD) specify 10 ppm as the SCG.

** TAGM 4046 lists 10 ppm as the Standard, Criteria and Guidance (SCG) for Chromium.
However, recent DEC Records of Decision (ROD) specify 50 ppm as the SCG.

*** Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4-61 ppm.
Average background levels in metropolitan or suburban areas or near highways are much higher and typically
range from 200-500 ppm

**** New York State Department of Environmental Conservation Technical and Administrative Guidance
Memorandum #4046 - Recommended Soil Cleanup Objectives
Bolded numbers indicate values that have exceeded SCGs

TABLE 4.4-1

SURFACE SOIL ANALYTICAL SUMMARY RESULTS

TABLE 4.4-1: Surface Soil Analytical Summary Results
SVOCs and Metals
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	NYSDEC TAGM 4046 RSCO's (mg/kg)****	Eastern USA Background (mg/kg)	SURFACE SOIL#1 mg/kg		SURFACE SOIL#2 mg/kg		SURFACE SOIL#3 mg/kg		SURFACE SOIL#4 mg/kg		SURFACE SOIL#5 mg/kg		SURFACE SOIL#6 mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
SVOC's														
Naphthalene	13.0	Not Applicable	0.170	J	0.0085	U	0.091	J	0.0081	U	0.11	J	0.09	U
2-Methylnaphthalene	36.4	Not Applicable	0.170	J	0.0067	U	0.13	J	0.0064	U	0.0078	U	0.071	U
Acenaphthylene	41.0	Not Applicable	0.500	J	0.012	U	0.097	J	0.011	U	0.22	J	0.54	J
Acenaphthene	50.0	Not Applicable	0.270	J	0.0086	U	0.0087	U	0.0082	U	0.0099	U	0.091	U
Dibenzofuran	6.2	Not Applicable	0.240	J	0.013	U	0.013	U	0.012	U	0.072	J	0.14	U
Fluorene	50.0	Not Applicable	0.330	J	0.011	U	0.011	U	0.011	U	0.11	J	0.12	U
Phenanthrene	50.0	Not Applicable	2.90		0.0087	U	0.21	J	0.0083	U	0.93		1.70	J
Anthracene	50.0	Not Applicable	0.860		0.0093	U	0.092	J	0.0089	U	0.31	J	0.45	J
Carbazole	No Standard	Not Applicable	0.340	J	0.0086	U	0.0087	U	0.0082	U	0.053	J	0.091	U
Di-n-butylphthalate	8.1	Not Applicable	0.590	JB	0.0052	U	0.0053	U	0.0049	U	0.006	U	0.055	U
Fluoranthene	50.0	Not Applicable	5.20		0.0054	U	0.86		0.054	J	2.4		3.70	J
Pyrene	50.0	Not Applicable	9.40	E	3.6	D	1		0.052	J	2.4		5.30	
Butylbenzylphthalate	50.0	Not Applicable	0.180	J	0.013	U	0.013	U	0.012	U	0.015	U	0.14	U
Benzo(a)anthracene	0.224 or MDL	Not Applicable	**3.00**		0.0059	U	**0.59**		0.04	J	**1.5**		**2.3**	J
Chrysene	0.4	Not Applicable	**3.20**		0.012	U	**0.66**		0.045	J	**1.2**		**3.4**	J
bis(2-Ethylhexyl)phthalate	50.0	Not Applicable	0.250	J	0.0089	U	0.067	J	0.0085	U	0.06	J	1.2	J
Benzo(b)fluoranthene	1.1	Not Applicable	**4.00**		0.021	U	0.97		0.067	J	**1.8**		**4.7**	
Benzo(k)fluoranthene	1.1	Not Applicable	**2.30**		0.013	U	0.45		0.013	U	**1.3**		**2.8**	J
Benzo(a)pyrene	0.061 or MDL	Not Applicable	**2.50**		0.0067	U	**0.64**		0.0064	U	**1.3**		**2.8**	J
Indeno(1,2,3-cd)pyrene	3.2	Not Applicable	0.57	J	0.0094	U	0.33	J	0.009	U	0.37	J	0.9	J
Dibenz(a,h)anthracene	0.014 or MDL	Not Applicable	**0.023**	U	0.011	U	**0.11**	J	0.011	U	**0.079**	J	**0.12**	U
Benzo(g,h,i)perylene	50.0	Not Applicable	1.20		0.017	U	0.46		0.016	U	0.49		1.7	J
Metals														
Aluminum	SB	33,000	6880		10900		15000		10800		8540		6380	
Antimony	SB	N/A	4.840	J	0.660	U	0.680	U	0.631	U	0.773	U	22.5	
Arsenic	7.5 or SB	3-12	**17.1**		**37.5**		**19.5**		6.240		**32.8**		**24.8**	
Barium	300 or SB	15-600	235		121		**341**		97.7		110		**696**	
Beryllium	0.16 or SB	0-1.75	**0.851**		**1.720**		**2.740**		**0.584**		**0.833**		**0.264**	J
Cadmium	10 or SB*	0.1-1	7.220		4.350		2.880		0.703		4.860		**17.2**	
Calcium	SB	130-35,000	**71400**		**48700**		**53500**		14700		32400		**37300**	
Chromium	50 or SB**	1.5-40	**89.9**		16.1		25.4		12.8		18.6		**309**	
Cobalt	30 or SB	2.5-60	17.1		6.930		9.380		9.830		17.3		17.9	
Copper	25 or SB	1-50	**405**		**25.7**		**48.1**		**28.2**		**54.1**		**1020**	
Iron	2,000 or SB	2,000-550,000	**80000**		**144000**		**77500**		**26100**		**132000**		**135000**	
Lead	SB	***	380		62.1		103		27.0		192		**1550**	
Magnesium	SB	100-5,000	**5500**		2450		**5700**		**6140**		4250		**7030**	
Mercury	0.1	0.001-0.2	0.084		0.007	U	0.007	U	0.059		0.084		**3.6**	
Manganese	SB	50-5,000	4450		1950		2800		956		3480		**8260**	
Nickel	13 or SB	0.5-25	**107**		7.660		**29.8**		**20.7**		**29.5**		**124**	
Potassium	SB	8,500-43,000	1350		1830		1950		1100		1720		1010	
Selenium	2 or SB	0.1-3.9	**3.020**		**2.220**		**2.420**		1.010	J	**5.660**		**6.110**	
Silver	SB	N/A	**6.710**		0.123	U	0.127	U	0.118	U	**4.010**		**6.140**	
Sodium	SB	6,000-8,000	611		687		1270		60.5	J	463	J	973	
Thallium	SB	N/A	0.394	U	0.387	U	0.399	U	0.370	U	0.453	U	0.414	U
Vanadium	150 or SB	1-300	30.9		54.8		61.0		16.3		108		**189**	
Zinc	20 or SB	9-50	**804**		**157**		**192**		**125**		**143**		**5290**	

TABLE 4.4-1: Surface Soil Analytical Summary Results
SVOCs and Metals
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	NYSDEC TAGM 4046 RSCO's (mg/kg)****	Eastern USA Background (mg/Kg)	SURFACE SOIL#7 mg/Kg		SURFACE SOIL#8 mg/Kg		SURFACE SOIL#9 mg/Kg		SURFACE SOIL#10 mg/Kg		SURFACE SOIL#11 mg/Kg		SURFACE SOIL#12 mg/Kg		SURFACE SOIL#13 mg/Kg		SURFACE SOIL#14 mg/Kg		SURFACE SOIL #14 DUP mg/Kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
SVOC's																				
2-Methylnaphthalene	36.4	Not Applicable	0.0067	U	0.0065	U	0.043	J	0.0064	U	0.0064	U	0.0065	U	0.0066	U	0.0065	U	0.013	U
Acenaphthylene	41.0	Not Applicable	0.012	U	0.011	U	0.012	U	0.011	U	0.011	U	0.011	U	0.069	J	0.076	J	0.11	J
Fluorene	50.0	Not Applicable	0.011	U	0.011	U	0.011	U	0.011	U	0.01	U	0.011	U	0.011	U	0.039	J	0.021	U
Phenanthrene	50.0	Not Applicable	0.088	J	0.0084	U	0.12	J	0.0083	U	0.084	J	0.048	J	0.15	J	0.32	J	0.48	J
Anthracene	50.0	Not Applicable	0.0093	U	0.009	U	0.0094	U	0.0088	U	0.0088	U	0.009	U	0.078	J	0.09	J	0.14	J
Fluoranthene	50.0	Not Applicable	0.073	J	0.04	J	0.066	J	0.052	J	0.21	J	0.13	J	0.48		0.63		0.92	
Pyrene	50.0	Not Applicable	0.071	J	0.0067	U	0.071	J	0.046	J	0.2	J	0.12	J	0.6		0.62		0.97	
Benzo(a)anthracene	0.224 or MDL	Not Applicable	0.0059	U	0.0057	U	0.0059	U	0.0056	U	0.14	J	0.085	J	**0.39**		**0.44**		**0.67**	J
Chrysene	0.4	Not Applicable	0.075	J	0.012	U	0.071	J	0.012	U	0.14	J	0.085	J	**0.45**		**0.42**		**0.62**	J
bis(2-Ethylhexyl)phthalate	50.0	Not Applicable	0.041	J	0.079	J	0.009	U	0.0085	U	0.0085	U	0.0087	U	0.0088	U	0.072	J	0.017	U
Benzo(b)fluoranthene	1.1	Not Applicable	0.021	U	0.02	U	0.021	U	0.049	J	0.22	J	0.15	J	0.77		0.67		0.95	
Benzo(k)fluoranthene	1.1	Not Applicable	0.071	J	0.013	U	0.013	U	0.013	U	0.061	J	0.05	J	0.27	J	0.19	J	0.33	J
Benzo(a)pyrene	0.061 or MDL	Not Applicable	0.0067	U	0.0065	U	0.0068	U	0.0064	U	**0.14**	J	**0.086**	J	**0.45**		**0.45**		**0.65**	J
Indeno(1,2,3-cd)pyrene	3.2	Not Applicable	0.0095	U	0.0091	U	0.0095	U	0.009	U	0.066	J	0.043	J	0.26	J	0.23	J	0.29	J
Dibenz(a,h)anthracene	0.014 or MDL	Not Applicable	0.011	U	0.011	U	0.012	U	0.011	U	0.011	U	0.011	U	0.011	U	**0.086**	J	**0.1**	J
Benzo(g,h,i)perylene	50.0	Not Applicable	0.017	U	0.016	U	0.017	U	0.016	U	0.083	J	0.057	J	0.34	J	0.28	J	0.35	J
Metals																				
Aluminum	SB	33,000	4590		13700		6300		16400		18900		11000		11300		13800		15800	
Antimony	SB	N/A	0.668	U	0.648	U	0.677	U	0.641	U	0.633	U	0.652	U	0.868	J	1.980	J	0.642	U
Arsenic	7.5 or SB	3-12	4.420		6.300		**8.900**		**15.8**		**13.9**		**8.640**		**21.2**		**16.5**		**18.4**	
Barium	300 or SB	15-600	73.9		148		73.5		191		**601**		153		157		230		253	
Beryllium	0.16 or SB	0-1.75	**0.446**	J	**0.736**		**0.718**		**3.400**		**3.890**		**1.500**		**1.990**		**2.410**		**2.870**	
Cadmium	10 or SB*	0.1-1	2.270		0.872		3.650		1.370		3.410		1.260		2.760		1.520		2.520	
Calcium	SB	130-35,000	31100		3590		**39500**		**91900**		**95200**		33000		34500		**55800**		**55900**	
Chromium	50 or SB**	1.5-40	19.1		17.2		18.9		7.590		21.2		14.8		18.1		13.0		32.4	
Cobalt	30 or SB	2.5-60	8.230		12.0		9.830		6.310		7.830		8.880		12.8		7.820		9.590	
Copper	25 or SB	1-50	18.5		**25.6**		**39.6**		17.7		20.2		**31.3**		**60.0**		**31.0**		**31.0**	
Iron	2,000 or SB	2,000-550,000	**57100**		**27000**		**71700**		**36000**		**88500**		**34300**		**74900**		**39100**		**69400**	
Lead	SB	***	71.4		28.0		124		46.1		50.0		58.0		104		95.7		84.2	
Magnesium	SB	100-5,000	**5980**		5000		**5410**		**5210**		**8930**		**5360**		3690		**5420**		**5720**	
Mercury	0.1	0.001-0.2	0.035		0.046		**0.103**		0.006	U	0.006		0.007	U	0.214	U	0.007	U	0.007	U
Manganese	SB	50-5,000	4320		946		3420		1810		3680		2070		1940		1720		3760	
Nickel	13 or SB	0.5-25	13.0		**22.7**		**14.4**		7.480		7.200		**13.1**		**19.9**		12.4		**13.1**	
Potassium	SB	8,500-43,000	1490		1130		1380		3240		3360		1520		3240		2530		2920	
Selenium	2 or SB	0.1-3.9	**2.800**		0.998	J	**3.240**		**2.300**		**2.220**		1.600		**3.090**		**2.010**		**2.780**	
Silver	SB	N/A	**5.460**		1.370		2.330		0.120	U	0.118	U	0.122	U	0.913	J	0.119	U	0.120	U
Sodium	SB	6,000-8,000	668		42.8	U	832		1320		2590		575	J	453	J	1170		1460	
Thallium	SB	N/A	0.391	U	0.380	U	1.000	J	0.376	U	0.371	U	0.382	U	0.390	U	0.374	U	0.376	U
Vanadium	150 or SB	1-300	101		18.8		68.9		26.7		140		40.2		40.5		32.8		103	
Zinc	20 or SB	9-50	**732**		**78.3**		**1200**		**199**		**168**		**292**		**280**		**321**		**208**	

TABLE 4.4-1: Surface Soil Analytical Summary Results
SVOCs and Metals
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

	NYSDEC TAGM 4046	Eastern USA Background	SURFACE SOIL#15 mg/kg		SURFACE SOIL#16 mg/kg		SURFACE SOIL#17 mg/kg		SURFACE SOIL#19 mg/kg		SURFACE SOIL#20 mg/kg		SURFACE SOIL#21 mg/kg		SURFACE SOIL #SS-21 mg/kg		EQUIP.BLANK mg/l	
COMPOUND	RSCO's (mg/kg)****	(mg/kg)	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qual;ifier	Result	Qualifier
SVOC's																		
Naphthalene	13.0	Not Applicable	0.0089	U	0.048	J	0.32	J	0.077	U	0.54		0.0082	U	0.043	J	0.00027	U
Caprolactam	No Standard	Not Applicable	0.015	U	0.014	U	0.094	J	0.13	U	0.016	U	0.014	U	0.014	U	0.00051	U
2-Methylnaphthalene	36.4	Not Applicable	0.007	U	0.0064	U	0.093	J	0.061	U	0.62		0.0065	U	0.0067	U	0.0005	U
1,1-Biphenyl	No Standard	Not Applicable	0.012	U	0.011	U	0.022	U	0.1	U	0.08	J	0.011	U	0.012	U	0.00027	U
Acenaphthylene	41.0	Not Applicable	0.012	U	0.077	J	1.6		0.43	J	0.66		0.011	U	0.25	J	0.00044	U
Dibenzofuran	6.2	Not Applicable	0.013	U	0.012	U	0.089	J	0.12	U	0.29	J	0.012	U	0.013	U	0.00032	U
Fluorene	50.0	Not Applicable	0.012	U	0.011	U	0.082	J	0.1	U	0.3	J	0.011	U	0.26	J	0.00017	U
Phenanthrene	50.0	Not Applicable	0.079	J	0.23	J	2.1		1.5	J	2.8		0.064	J	3.1		0.00028	U
Anthracene	50.0	Not Applicable	0.0097	U	0.085	J	0.91		0.39	J	0.61		0.009	U	0.37	J	0.00016	U
Carbazole	No Standard	Not Applicable	0.009	U	0.0082	U	0.016	U	0.078	U	0.3	J	0.0083	U	0.051	J	0.00031	U
Fluoranthene	50.0	Not Applicable	0.086	J	0.72		13	E	2.3	J	3.9	E	0.19	J	2.6		0.00021	U
Pyrene	50.0	Not Applicable	0.065	J	0.92		13	E	2.7	J	2.6	J	0.18	J	3.5		0.00025	U
Benzo(a)anthracene	0.224 or MDL	Not Applicable	0.048	J	**0.74**		**11**	E	**1.3**	J	**2.6**		0.13	J	**0.96**		0.00023	U
Chrysene	0.4	Not Applicable	0.013	U	**0.78**		**11**	E	**1.6**	J	**2.5**		0.13	J	**0.76**		0.00039	U
bis(2-Ethylhexyl)phthalate	50.0	Not Applicable	0.0093	U	0.0085	U	0.11	J	0.081	U	0.047	J	0.0086	U	0.061	J	0.00035	U
Benzo(b)fluoranthene	1.1	Not Applicable	0.06	J	**1.4**		**14**	E	1.1	J	**3.5**		0.19	J	1.1	J	0.00023	U
Benzo(k)fluoranthene	1.1	Not Applicable	0.014	U	0.47		**7.2**	E	**1.5**	J	**1.8**		0.058	J	0.54	J	0.00039	U
Benzo(a)pyrene	0.061 or MDL	Not Applicable	0.007	U	**0.83**		**8.8**	E	**1**	J	**2**		**0.11**	J	**0.85**	J	0.00045	U
Indeno(1,2,3-cd)pyrene	3.2	Not Applicable	0.0098	U	0.32	J	2.2		0.085	U	0.41	J	0.049	J	0.15	J	0.00029	U
Dibenz(a,h)anthracene	0.014 or MDL	Not Applicable	0.012	U	0.011	U	**0.7**	J	**0.1**	U	0.013	U	0.011	U	**0.084**	J	0.00029	U
Benzo(g,h,i)perylene	50.0	Not Applicable	0.018	U	0.38		3		0.75	J	0.82		0.064	J	0.27	J	0.00043	U
Metals																		
Aluminum	SB	33,000	26000		9930		2200		10100		3510		16400		9020	J	0.18	U
Antimony	SB	N/A	0.690	U	0.638	U	0.832	J	0.612	U	1.580	J	0.641	U	0.670	U	0.0066	U
Arsenic	7.5 or SB	3-12	4.810		**14.6**		**16.6**		**8.270**		**11.8**		**15.8**		**7.970**		0.00484	U
Barium	300 or SB	15-600	**893**		119		43.2		130		160		191		257	J	0.011	U
Beryllium	0.16 (HEAST) or SB	0-1.75	**5.490**		**0.683**		**0.361**	J	**0.789**		**0.669**		**3.400**		**1.570**		0.00106	U
Cadmium	10 or SB*	0.1-1	0.594	J	2.440		0.321	J	0.957		0.948		1.370		2.910		0.000994	U
Calcium	SB	130-35,000	**160000**		13900		2020		27300		11500		91900		34,400	J	1.74	U
Chromium	50 or SB**	1.5-40	8.740		28.8		5.520		18.8		23.5		7.590		11.6	J	0.00122	U
Cobalt	30 or SB	2.5-60	3.880	J	11.8		5.270	J	8.070		6.170	J	6.310		6.560		0.00238	U
Copper	25 or SB	1-50	7.780		**44.4**		23.8		24.8		**25.1**		17.7		**34.5**		0.00508	J
Iron	2,000 or SB	2,000-550,000	**22400**		**59900**		**11300**		**26700**		**27400**		**36000**		**32,300**	J	0.0384	J
Lead	SB	***	21.8		92.1		32.6		40.2		98.2		46.1		87.4	J	0.00179	U
Magnesium	SB	100-5,000	**12700**		4870		546	J	**15100**		1260		**5210**		4140	J	0.361	J
Mercury	0.1	0.001-0.2	0.007	U	**0.14**		**0.113**		0.006	U	**0.222**		0.006	U	0.036		0.00003	U
Manganese	SB	50-5,000	2200		2000		149		982		781		1810		1780	J	0.0019	J
Nickel	13 or SB	0.5-25	5.170		**23.5**		12.7		**20.9**		**24.6**		7.480		**13.5**		0.00555	U
Potassium	SB	8,500-43,000	4640		1790		311	J	1310		695		3240		1980	J	0.051	U
Selenium	2 or SB	0.1-3.9	**2.310**		1.910		0.934	J	0.945	J	**2.160**		**2.300**		0.373	U	0.00367	U
Silver	SB	N/A	0.129	U	0.119	U	0.119	U	0.409	J	0.278	J	0.120	U	2.990		0.00338	U
Sodium	SB	6,000-8,000	4020		42.1	U	66.3	J	236	J	249	J	1320		1130		0.189	U
Thallium	SB	N/A	0.404	U	0.374	U	0.374	U	0.359	U	0.438	U	0.376	U	0.393	U	0.00578	U
Vanadium	150 or SB	1-300	63.3		62.4		14.7		29.6		35.8		26.7		31.1		0.00186	U
Zinc	20 or SB	9-50	**43.2**		**265**		**40.2**		**77.8**		**162**		**199**		**251**	J	0.0199	J

Qualifiers

U - The compound was not detected at the indicated concentration

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than
The concentration given is an approximate value

E - indicates compounds whose concentrations exceed the calibration range of the instrument for the specific analysis

MDL indicates the laboratory's minimum detection limit

mg/kg (milligram per kilogram) indicates parts per million or ppm. mg/l (milligram per liter) indicates parts per million or ppm

NA - Not Applicable

Background range consists of the low and high concentration values obtained from background surface soil samples 22 through 24 collected at vacant grassy lot west of Mr. Sub (22), northwest corner of the intersection of VanBuren and First Street (23) and southwest corner of Tyler and First Street (24). All background samples were collected within the City of Troy Right-of-Way.

* TAGM 4046 lists 1 ppm as the Standard, Criteria and Guidance (SCG) for Cadmium.
However, recent DEC Records of Decision (ROD) specify 10 ppm as the SCG.

** TAGM 4046 lists 10 ppm as the Standard, Criteria and Guidance (SCG) for Chromium.
However, recent DEC Records of Decision (ROD) specify 50 ppm as the SCG.

*** Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4-61 ppm.
Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200-500 ppm

**** New York State Department of Environmental Conservation Technical and Administrative Guidance Memorandum (TAGM) #4046 - Recommended Soil Cleanup Objectives (RSCOs)
Bolded numbers indicate values that have exceeded TAGM RSCOs

TABLE 4.5-1

TRENCH AND TEST PIT ANALYTICAL SUMMARY RESULTS

TABLE 4.5-1: Trench and Test Pit Analytical Summary Results
VOCs, SVOCs and Metals
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	NYSDEC TAGM 4046 RSCO's (mg/kg)****	NYSDEC TAGM 4046 Eastern USA Background (mg/kg)	TRENCH-1 UPPER (2.5') mg/kg Result	Qualifier	TRENCH-1 LOWER (15.5') mg/kg Result	Qualifier	TRENCH-1 UPPER-1 (6') mg/kg Result	Qualifier	TRENCH-1 LOWER-1 (20') mg/kg Result	Qualifier	DUP 2 (Trench-1 Lower-1) mg/kg Result	Qualifier	TRENCH-1 LOWER-2 (17') mg/kg Result	Qualifier	TRENCH-1 UPPER-2 (6') mg/kg Result	Qualifier
VOC's																
Acetone	0.2	NA	0.0083	U	0.0084	U	0.0086	U	0.0081	U	0.0079	U	0.022	J	0.011	U
Carbon Disulfide	2.7	NA	0.00011	U	0.00011	U	0.00012	U	0.00011	U	0.00011	U	0.00012	U	0.00014	U
Methylene Chloride	0.1	NA	0.0012	UJ	0.002	UJ	0.0018	UJ	0.0025	UJ	0.0023	UJ	0.0028	UJ	0.0019	UJ
2-Butanone (MEK)	0.3	NA	0.0025	U	0.0026	U	0.0026	U	0.0025	U	0.0024	U	0.0026	U	0.0032	U
Chloroform	0.3	NA	0.00026	U	0.00027	U	0.00027	U	0.00026	U	0.00025	U	0.00028	U	0.00034	U
SVOC's																
Acetophenone	No Standard	NA	0.019	U	0.019	U	0.02	U	0.019	U	0.018	U	0.02	U	0.025	U
Naphthalene	13.0	NA	0.048	J	0.008	U	0.068	J	0.43		0.0075	U	0.0083	U	0.01	U
2-Methylnaphthalene	36.4	NA	0.051	J	0.0063	UJ	0.075	J	0.0061	UJ	0.0059	UJ	0.19	J	0.0081	UJ
Dimethylphthalate	2.0	NA	0.0087	U	0.0088	U	0.009	U	0.0085	U	0.0082	U	0.0091	U	0.011	U
Acenaphthylene	41.0	NA	0.011	U	0.011	U	0.011	U	0.011	U	0.01	U	0.011	U	0.014	U
Acenaphthene	50.0	NA	0.008	U	0.0081	U	0.0083	U	0.0078	U	0.0076	U	0.0084	U	0.01	U
Dibenzofuran	6.2	NA	0.012	U	0.012	U	0.012	U	0.012	U	0.011	U	0.012	U	0.015	U
Fluorene	50.0	NA	0.01	U	0.01	U	0.011	U	0.01	U	0.0098	U	0.011	U	0.013	U
Phenanthrene	50.0	NA	0.18	J	0.11	J	0.27	J	0.0079	U	0.0077	U	0.13	J	0.011	U
Anthracene	50.0	NA	0.053	J	0.065	J	0.065	J	0.0085	U	0.0082	U	0.054	J	0.011	U
Carbazole	No Standard	NA	0.008	U	0.0081	U	0.0083	U	0.0078	U	0.0076	U	0.0084	U	0.01	U
Di-n-butylphthalate	8.1	NA	0.0048	U	0.0049	U	0.005	U	0.0047	U	0.0046	U	0.005	U	0.0063	U
Fluoranthene	50.0	NA	0.46		0.52		0.52		0.0049	U	0.0048	U	0.041	J	0.0065	U
Pyrene	50.0	NA	0.46		0.47		0.44		0.0063	U	0.0061	U	0.041	J	0.0084	U
Butylbenzylphthalate	50.0	NA	0.012	U	0.012	U	0.013	U	0.012	U	0.012	U	0.013	U	0.016	U
Benzo(a)anthracene	0.224 or MDL	NA	**0.35**	J	**0.39**		**0.35**	J	0.0053	U	0.0052	U	0.0057	U	0.0071	U
Chrysene	0.4	NA	0.29	J	0.28	J	**0.44**		0.011	U	0.011	U	0.012	U	0.015	U
bis(2-Ethylhexyl)phthalate	50.0	NA	0.047	U	0.0085	U	0.075	U	0.053	U	0.08	U	0.09	U	0.061	U
Benzo(b)fluoranthene	1.1	NA	0.49	J	0.35	J	0.64	J	0.019	U	0.018	U	0.02	U	0.025	U
Benzo(k)fluoranthene	1.1	NA	0.19	J	0.14	J	0.28	J	0.012	U	0.012	U	0.013	U	0.016	U
Benzo(a)pyrene	0.061 or MDL	NA	**0.34**	J	**0.28**	J	**0.39**		0.0061	U	0.0059	U	0.0065	U	0.0081	U
Indeno(1,2,3-cd)pyrene	3.2	NA	0.17	J	0.11	J	0.28	J	0.0086	U	0.0083	U	0.0092	U	0.011	U
Dibenz(a,h)anthracene	0.014 or MDL	NA	0.011	U	0.011	U	**0.043**	J	0.01	U	0.01	U	0.011	U	0.014	U
Benzo(g,h,i)perylene	50.0	NA	0.21	J	0.13	J	0.31	J	0.015	U	0.015	U	0.017	U	0.02	U
Metals																
Aluminum	SB	33,000	10600		5020		7070		10500		9640		15200		2560	
Antimony	SB	NA	1.030	J	0.630	U	0.651	U	0.615	U	0.587	U	0.658	U	0.791	U
Arsenic	7.5 or SB	3-12	**25.6**		2.580		**17.6**		6.240		5.970		**25.9**		**8.290**	
Barium	300 or SB	15-600	203	J	20.1	J	77.2	J	47.5	J	47.3	J	173	J	37.2	J
Beryllium	0.16 (HEAST) or SB	0-1.75	**1.510**		**0.201**	J	**0.846**		**0.428**	J	**0.449**	J	**3.120**		**0.731**	
Cadmium	10 or SB*	0.1-1	0.051	U	0.141	J	0.053	U	0.050	U	0.048	U	0.054	U	0.065	U
Calcium	SB	130-35,000	**35100**		1810		16900		1970		1740		**85800**		11300	
Chromium	50 or SB**	1.5-40	15.2		6.280		31.3		11.6		11.6		7.920		14.8	
Cobalt	30 or SB	2.5-60	7.290		5.180	J	8.990		9.220		8.400		10.0		5.690	J
Copper	25 or SB	1-50	**31.4**	J	8.920	J	**71.7**	J	18.5	J	22.1	J	18.6	J	20.2	J
Iron	2,000 or SB	2,000-550,000	**41800**		**11100**		**79500**		**22400**		**21400**		**61400**		**47300**	
Lead	SB	***	102	J	14.0	J	101	J	12.1	J	8.810	J	86.0	J	11.4	J
Magnesium	SB	100-5,000	4140		2410		2660		4620		4330		3690		683	J
Manganese	SB	50-5,000	1490		200		2150		535		568		1100		657	
Mercury	0.1	0.001-0.2	0.068		**0.366**		**0.165**		0.025		0.027		0.036		0.008	U
Nickel	13 or SB	0.5-25	**23.5**	J	9.780	J	**16.4**	J	**18.9**	J	**19.5**	J	10.3	J	8.710	J
Potassium	SB	8,500-43,000	1330	J	587	J	1060	J	1100	J	1060	J	3310	J	493	J
Selenium	2 or SB	0.1-3.9	**2.440**		0.350	U	**4.330**		0.744	J	0.973	J	**2.990**		1.920	
Silver	SB	NA	0.116	UJ	0.117	UJ	0.313	J	0.115	UJ	0.110	UJ	0.123	UJ	0.589	J
Sodium	SB	6,000-8,000	638		87.8	J	250	J	40.6	U	38.8	U	922		76.9	J
Thallium	SB	NA	0.365	UJ	0.369	UJ	0.382	UJ	0.361	UJ	0.344	UJ	0.386	UJ	0.959	J
Vanadium	150 or SB	1-300	38.0		8.430		66.9		12.1		15.3		37.1		**165**	
Zinc	20 or SB	9-50	**114**	J	**34.1**	J	**185**	J	**49.8**	J	**48.6**	J	**50.8**	J	**57.9**	J

TABLE 4.5-1: Trench and Test Pit Analytical Summary Results
VOCs, SVOCs and Metals
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	NYSDEC TAGM 4046 RSCO's (mg/kg)****	NYSDEC TAGM 4046 Eastern USA Background (mg/kg)	TRENCH-1 LOWER-3 (20') mg/kg		TRENCH-2 UPPER (1.5') mg/kg		TRENCH-2 SS-1 (9.5') mg/kg		TRENCH-2 SS-2 (7') mg/kg		TRENCH-2 SS-3 (8.5') mg/kg		TRENCH-2 LOWER-1 (8') mg/kg		TRENCH-2 LOWER-2 (8') mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's																
Acetone	0.2	NA	0.046		0.0088	U	**0.34**		0.0085	U	0.0091	U	0.018	J	0.0088	U
Carbon Disulfide	2.7	NA	0.00013	U	0.00012	U	0.0068		0.00011	U	0.00012	U	0.00012	U	0.00012	U
Methylene Chloride	0.1	NA	0.0017	UJ	0.0021	J	0.00089	U	0.0016	J	0.0019	J	0.012		0.0016	J
2-Butanone (MEK)	0.3	NA	0.0029	U	0.0027	U	0.043		0.0026	U	0.0028	U	0.0028	U	0.0027	U
Chloroform	0.3	NA	0.0003	U	0.00028	U	0.00031	U	0.00027	U	0.00029	U	0.0014	J	0.00028	U
SVOC's																
Acetophenone	No Standard	NA	0.022	U	0.02	U	0.022	U	0.019	U	0.021	U	0.021	U	0.02	U
Naphthalene	13.0	NA	0.009	U	0.0084	U	0.0093	U	0.0081	U	0.0087	U	0.0089	U	0.0084	U
2-Methylnaphthalene	36.4	NA	0.0071	UJ	0.0066	U	0.0073	U	0.0064	U	0.0069	U	0.007	U	0.0067	U
Dimethylphthalate	2.0	NA	0.0099	U	0.0092	U	0.01	U	0.0089	U	0.0095	U	0.0097	U	0.11	U
Acenaphthylene	41.0	NA	0.012	U	0.012	U	0.013	U	0.011	U	0.012	U	0.012	U	0.012	U
Acenaphthene	50.0	NA	0.0091	U	0.0085	U	0.0094	U	0.0082	U	0.0088	U	0.009	U	0.0085	U
Dibenzofuran	6.2	NA	0.014	U	0.013	U	0.014	U	0.012	U	0.013	U	0.013	U	0.013	U
Fluorene	50.0	NA	0.053	J	0.011	U	0.012	U	0.011	U	0.011	U	0.012	U	0.011	U
Phenanthrene	50.0	NA	0.74		0.055	J	0.0095	U	0.0083	U	0.0089	U	0.0091	U	0.25	J
Anthracene	50.0	NA	0.43		0.0092	U	0.01	U	0.0089	U	0.0095	U	0.0097	U	0.15	J
Carbazole	No Standard	NA	0.0091	U	0.0085	U	0.0094	U	0.0082	U	0.0088	U	0.009	U	0.0085	U
Di-n-butylphthalate	8.1	NA	0.0055	U	0.0051	U	0.0057	U	0.0049	U	0.0053	U	0.0054	U	0.0051	U
Fluoranthene	50.0	NA	2.3		0.085	J	0.0059	U	0.0052	U	0.0055	U	0.054	J	1.7	
Pyrene	50.0	NA	1.7		0.089	J	0.0076	U	0.0066	U	0.0071	U	0.07	J	2.4	
Butylbenzylphthalate	50.0	NA	0.014	U	0.013	U	0.014	U	0.012	U	0.013	U	0.014	U	0.013	U
Benzo(a)anthracene	0.224 or MDL	NA	**1.4**		0.082	J	0.0064	U	0.0056	U	0.006	U	0.044	J	**1.2**	
Chrysene	0.4	NA	**1.1**		0.084	J	0.014	U	0.012	U	0.013	U	0.047	J	**1.2**	
bis(2-Ethylhexyl)phthalate	50.0	NA	0.095	U	0.21	J	0.15	J	0.0085	U	0.055	J	0.057	J	0.23	J
Benzo(b)fluoranthene	1.1	NA	**1.2**	J	0.076	J	0.023	U	0.02	U	0.021	U	0.022	U	1.1	J
Benzo(k)fluoranthene	1.1	NA	0.67	J	0.075	J	0.015	U	0.013	U	0.014	U	0.014	U	0.4	J
Benzo(a)pyrene	0.061 or MDL	NA	**1.1**		**0.07**	J	0.0073	U	0.0064	U	0.0069	U	0.007	U	**0.98**	
Indeno(1,2,3-cd)pyrene	3.2	NA	0.38	J	0.045	J	0.01	U	0.009	U	0.0096	U	0.0098	U	0.0093	U
Dibenz(a,h)anthracene	0.014 or MDL	NA	**0.077**	J	0.011	U	0.012	U	0.011	U	0.012	U	0.012	U	**0.19**	J
Benzo(g,h,i)perylene	50.0	NA	0.44		0.063	J	0.019	U	0.016	U	0.017	U	0.018	U	0.017	U
Metals																
Aluminum	SB	33,000	8570		11800		9030		30600		8290		9050		7390	
Antimony	SB	NA	0.709	U	0.655	U	0.736	U	0.642	U	0.686	U	0.685	U	0.660	U
Arsenic	7.5 or SB	3-12	4.080		**22.5**		3.090		**42.7**		3.880		4.310		4.700	
Barium	300 or SB	15-600	68.6	J	130	J	104	J	**350**	J	83.5	J	85.4	J	58.4	J
Beryllium	0.16 (HEAST) or SB	0-1.75	**0.364**	J	**3.630**		**0.437**	J	**7.640**		**0.391**	J	**0.577**	J	0.080	J
Cadmium	10 or SB*	0.1-1	0.058	U	0.054	U	0.060	U	0.052	U	0.056	U	0.056	U	0.054	U
Calcium	SB	130-35,000	3700		**56400**		3080		**181000**		3040		7160		4200	
Chromium	50 or SB**	1.5-40	10.3		5.530		10.4		5.840		9.460		9.740		8.420	
Cobalt	30 or SB	2.5-60	8.690		5.870		8.620		11.3		8.500		7.910		6.880	
Copper	25 or SB	1-50	16.1	J	20.3	J	15.8	J	8.780	J	14.3	J	15.0	J	9.650	J
Iron	2,000 or SB	2,000-550,000	**16500**		**40200**		**16800**		**36700**		**15600**		**15400**		**16700**	
Lead	SB	***	26.0	J	30.6	J	7.080	J	15.7	J	12.4	J	10.9	J	14.7	J
Magnesium	SB	100-5,000	4290		2370		3340		4880		3270		3340		3600	
Manganese	SB	50-5,000	200		972		232		2310		737		537		436	
Mercury	0.1	0.001-0.2	**0.213**		0.011	J	0.023		0.009	J	0.045		0.040		**0.124**	
Nickel	13 or SB	0.5-25	**15.5**	J	8.440	J	**15.5**	J	9.960	J	**15.6**	J	**14.5**	J	12.8	J
Potassium	SB	8,500-43,000	911	J	1610	J	1010	J	38300	J	1540	J	2410	J	1550	J
Selenium	2 or SB	0.1-3.9	0.537	J	**2.180**		0.620	J	**4.830**		1.270		1.160	J	0.954	J
Silver	SB	NA	0.132	UJ	0.122	UJ	0.137	UJ	0.120	UJ	0.128	UJ	0.128	UJ	0.123	UJ
Sodium	SB	6,000-8,000	46.8	U	448	J	48.6	U	**11500**		264	J	733		43.6	U
Thallium	SB	NA	0.416	UJ	0.384	UJ	0.431	UJ	0.376	UJ	1.290	J	0.915	J	0.804	J
Vanadium	150 or SB	1-300	11.5		24.1		13.8		22.0		12.1		13.3		11.2	
Zinc	20 or SB	9-50	**54.7**	J	**439**	J	**60.6**	J	**314**	J	**58.0**	J	**58.2**	J	**59.2**	J

TABLE 4.5-1: Trench and Test Pit Analytical Summary Results
VOCs, SVOCs and Metals
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

	NYSDEC	NYSDEC	TRENCH-2 UPPER-1 (4')		TRENCH-2 UPPER-2 (3')		TRENCH-3 LOWER (13')		TRENCH-3 UPPER (3')		TRENCH-3 LOWER-1 (10')		TRENCH-3 UPPER-1 (4')		TRENCH-3 LOWER-2 (10')	
	TAGM 4046	TAGM 4046	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
COMPOUND	RSCO's (mg/kg)****	Eastern USA Background (mg/kg)	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's																
Acetone	0.2	NA	0.022	J	0.009	U	0.0093	U	0.0093	U	0.0091	U	0.0087	UJ	0.0093	U
Carbon Disulfide	2.7	NA	0.00012	U	0.00012	U	0.00013	U	0.00013	U	0.00012	U	0.00012	UJ	0.00013	U
Methylene Chloride	0.1	NA	0.0019	J	0.0015	J	0.003	U	0.00085	UJ	0.002	U	0.00079	UJ	0.0023	U
2-Butanone (MEK)	0.3	NA	0.0026	U	0.0027	U	0.0028	U	0.0028	U	0.0028	U	0.0026	UJ	0.0028	U
Chloroform	0.3	NA	0.00027	U	0.00029	U	0.0003	U	0.0003	U	0.00029	U	0.00028	UJ	0.0003	U
SVOC's																
Acetophenone	No Standard	NA	0.02	U	0.021	U	0.022	U	0.021	U	0.021	U	0.02	U	0.021	U
Naphthalene	13.0	NA	0.0082	U	0.0086	U	0.009	U	0.0089	U	0.0088	U	0.15	J	0.0088	U
2-Methylnaphthalene	36.4	NA	0.0065	U	0.0068	U	0.0071	U	0.051	J	0.0069	U	0.19	J	0.007	U
Dimethylphthalate	2.0	NA	0.0089	U	0.0094	U	0.0098	U	0.0098	U	0.0096	U	0.009	U	0.0097	U
Acenaphthylene	41.0	NA	0.011	U	0.012	U	0.012	U	0.012	U	0.012	U	0.043	J	0.012	U
Acenaphthene	50.0	NA	0.0083	U	0.0087	U	0.0091	U	0.009	U	0.0089	U	0.0084	U	0.009	U
Dibenzofuran	6.2	NA	0.012	U	0.013	U	0.014	U	0.013	U	0.013	U	0.088	J	0.013	U
Fluorene	50.0	NA	0.011	U	0.011	U	0.012	U	0.012	U	0.011	U	0.011	U	0.012	U
Phenanthrene	50.0	NA	0.0084	U	0.042	J	0.0092	U	0.12	J	0.078	J	0.34	J	0.14	J
Anthracene	50.0	NA	0.0089	U	0.0094	U	0.0098	U	0.0098	U	0.0096	U	0.084	J	0.074	J
Carbazole	No Standard	NA	0.0083	U	0.0087	U	0.0091	U	0.009	U	0.0089	U	0.0084	U	0.009	U
Di-n-butylphthalate	8.1	NA	0.005	U	0.0052	U	0.0055	U	0.0054	U	0.0054	U	0.005	U	0.0054	U
Fluoranthene	50.0	NA	0.058	J	0.0055	U	0.0057	U	0.19	J	0.27	J	0.39		0.56	
Pyrene	50.0	NA	0.11	J	0.007	U	0.0074	U	0.2	J	0.26	J	0.39		0.51	
Butylbenzylphthalate	50.0	NA	0.013	U	0.013	U	0.014	U	0.014	U	0.014	U	0.013	U	0.014	U
Benzo(a)anthracene	0.224 or MDL	NA	0.065	J	0.006	U	0.0062	U	0.13	J	0.2	J	**0.3**	J	**0.39**	J
Chrysene	0.4	NA	0.1	J	0.098	J	0.013	U	0.15	J	0.16	J	0.29	J	0.29	J
bis(2-Ethylhexyl)phthalate	50.0	NA	0.091	J	0.2	J	0.13	J	0.093	J	0.12	J	0.19	J	0.28	J
Benzo(b)fluoranthene	1.1	NA	0.13	J	0.048	J	0.022	U	0.16	J	0.15	J	0.42	J	0.32	J
Benzo(k)fluoranthene	1.1	NA	0.076	J	0.013	U	0.014	U	0.09	J	0.1	J	0.15	J	0.17	J
Benzo(a)pyrene	0.061 or MDL	NA	**0.092**	J	0.0068	U	0.0071	U	**0.14**	J	**0.15**	J	**0.25**	J	**0.28**	J
Indeno(1,2,3-cd)pyrene	3.2	NA	0.077	J	0.0095	U	0.01	UJ	0.077	J	0.063	J	0.14	J	0.12	J
Dibenz(a,h)anthracene	0.014 or MDL	NA	0.011	U	0.012	U	0.012	U	0.012	U	0.012	U	0.011	U	0.012	U
Benzo(g,h,i)perylene	50.0	NA	0.083	J	0.064	J	0.018	UJ	0.088	J	0.07	J	0.18	J	0.13	J
Metals																
Aluminum	SB	33,000	29600		860		10500		9410		8570		6000		9150	
Antimony	SB	NA	0.644	U	0.680	U	0.706	U	0.737	J	0.674	U	1.170	J	0.705	U
Arsenic	7.5 or SB	3-12	**28.6**		6.960		4.340		**36.0**		3.800		**13.8**		4.620	
Barium	300 or SB	15-600	246	J	24.6	J	85.1		126		69.5	J	87.8	J	77.4	J
Beryllium	0.16 (HEAST) or SB	0-1.75	**6.100**		**0.271**	J	**0.401**	J	**2.140**		**0.451**	J	**0.838**		**0.467**	J
Cadmium	10 or SB*	0.1-1	0.053	U	0.056	U	0.058	UJ	0.058	UJ	0.055	U	0.053	U	0.058	U
Calcium	SB	130-35,000	**142000**		1440		2940		30700		2490		21800		2960	
Chromium	50 or SB**	1.5-40	8.590		3.910		11.5		12.9		9.790		19.9		10.2	
Cobalt	30 or SB	2.5-60	11.3		2.500	J	6.560		10.7		7.970		12.5		8.390	
Copper	25 or SB	1-50	18.5	J	13.5	J	16.9		**85.1**		14.9	J	**63.6**	J	16.2	J
Iron	2,000 or SB	2,000-550,000	**34000**		**6010**		**19300**		**72900**		**16100**		**67500**		**17000**	
Lead	SB	***	10.2	J	12.9	J	8.340		143		16.3	J	126	J	13.5	J
Magnesium	SB	100-5,000	**5410**		147	J	3620		3150		3400		2620		3480	
Manganese	SB	50-5,000	2150		74.5		264		2210		523				575	
Mercury	0.1	0.001-0.2	0.007	U	0.007	U	0.016		**0.135**		0.063		0.008	J	0.078	
Nickel	13 or SB	0.5-25	12.2	J	5.390	J	**15.3**		**15.3**		**15.1**	J	**21.5**	J	**15.8**	J
Potassium	SB	8,500-43,000	31200	J	381	J	1200		1810		860	J	2190	J	1150	J
Selenium	2 or SB	0.1-3.9	**3.920**		0.378	U	1.230	J	**3.560**		1.290		**4.440**		1.190	J
Silver	SB	NA	0.120	UJ	0.127	UJ	0.132	UJ	5.550	J	0.126	UJ	0.120	UJ	0.131	UJ
Sodium	SB	6,000-8,000	11400		204	J	49.0	J	607	J	44.5	U	642		46.5	U
Thallium	SB	NA	0.378	UJ	1.020	J	0.414	U	0.587	J	0.395	UJ	2.920	J	0.413	UJ
Vanadium	150 or SB	1-300	24.9		11.7		15.6		59.6		11.6		99.1		13.1	
Zinc	20 or SB	9-50	**199**	J	9.380	J	**52.5**		**262**		**56.2**	J	**949**	J	**64.7**	J

TABLE 4.5-1: Trench and Test Pit Analytical Summary Results
VOCs, SVOCs and Metals
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

	NYSDEC	NYSDEC	TRENCH-3 UPPER-2 (4')		TRENCH-4 LOWER (18')		TRENCH-4 UPPER (5')		TRENCH-4 LOWER-1 (19')		TRENCH-4 UPPER-1 (6')		TRENCH-4 UPPER-2 (6')		TRENCH-4 LOWER-2 (20')	
	TAGM 4046	TAGM 4046	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
COMPOUND	RSCO's (mg/kg)****	Eastern USA Background (mg/kg)	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's																
Acetone	0.2	NA	0.0083	UJ	0.0092	U	0.051	J	0.0089	U	0.01	UJ	0.011	U	0.0092	U
Carbon Disulfide	2.7	NA	0.00011	UJ	0.00012	U	0.00014	UJ	0.00012	U	0.00014	UJ	0.00014	U	0.00012	U
Methylene Chloride	0.1	NA	0.0019	UJ	0.0014	U	0.0016	UJ	0.0016	U	0.0014	UJ	0.00096	U	0.0017	U
2-Butanone (MEK)	0.3	NA	0.0025	UJ	0.0028	U	0.0031	UJ	0.0027	U	0.0031	UJ	0.0032	U	0.0028	U
Chloroform	0.3	NA	0.00026	UJ	0.00029	U	0.00032	UJ	0.00028	U	0.00032	UJ	0.00033	U	0.00029	U
SVOC's																
Acetophenone	No Standard	NA	0.019	U	0.021	U	0.024	U	0.02	U	0.024	U	0.024	U	0.021	U
Naphthalene	13.0	NA	0.008	U	0.0089	U	0.0098	U	0.0085	U	0.0098	U	0.12	J	0.0088	U
2-Methylnaphthalene	36.4	NA	0.088	J	0.007	U	0.0078	U	0.0067	U	0.0077	U	0.099	J	0.0069	U
Dimethylphthalate	2.0	NA	0.0087	U	0.0097	U	0.011	U	0.0093	U	0.011	U	0.011	U	0.0096	U
Acenaphthylene	41.0	NA	0.072	J	0.012	U	0.013	U	0.012	U	0.013	U	0.014	U	0.1	J
Acenaphthene	50.0	NA	0.0081	U	0.009	U	0.0099	U	0.0086	U	0.0099	U	0.2	J	0.0089	U
Dibenzofuran	6.2	NA	0.041	J	0.013	U	0.015	U	0.013	U	0.015	U	0.15	J	0.013	U
Fluorene	50.0	NA	0.039	J	0.012	U	0.013	U	0.011	U	0.013	U	0.24	J	0.011	U
Phenanthrene	50.0	NA	0.38		0.0091	U	0.01	U	0.0087	U	0.01	U	1.3		0.11	J
Anthracene	50.0	NA	0.086	J	0.0097	U	0.011	U	0.0093	U	0.011	U	0.36	J	0.053	J
Carbazole	No Standard	NA	0.044	J	0.009	U	0.0099	U	0.0086	U	0.0099	U	0.19	J	0.0089	U
Di-n-butylphthalate	8.1	NA	0.0049	U	0.0054	U	0.006	U	0.0052	U	0.006	U	0.0062	U	0.0054	U
Fluoranthene	50.0	NA	0.77		0.067	J	0.0063	U	0.0054	U	0.0063	U	0.95		0.45	
Pyrene	50.0	NA	0.74		0.064	J	0.008	U	0.007	U	0.008	U	0.89		0.58	
Butylbenzylphthalate	50.0	NA	0.012	U	0.014	U	0.015	U	0.013	U	0.015	U	0.051	J	0.014	U
Benzo(a)anthracene	0.224 or MDL	NA	**0.54**		0.052	J	0.0068	U	0.0059	U	0.0068	U	**0.52**		**0.43**	
Chrysene	0.4	NA	**0.45**		0.06	J	0.014	U	0.012	U	0.014	U	0.36	J	0.36	J
bis(2-Ethylhexyl)phthalate	50.0	NA	0.22	J	0.26	J	0.31	J	0.3	J	0.15	J	0.48		0.44	
Benzo(b)fluoranthene	1.1	NA	0.47	J	0.11	J	0.024	U	0.021	U	0.024	UJ	0.39	J	0.67	J
Benzo(k)fluoranthene	1.1	NA	0.5	J	0.044	J	0.015	U	0.013	U	0.015	UJ	0.14	J	0.27	J
Benzo(a)pyrene	0.061 or MDL	NA	**0.5**		0.057	J	0.0078	U	0.0067	U	0.0077	UJ	**0.3**	J	**0.42**	
Indeno(1,2,3-cd)pyrene	3.2	NA	0.23	J	0.0099	U	0.011	U	0.0094	U	0.011	UJ	0.05	J	0.15	J
Dibenz(a,h)anthracene	0.014 or MDL	NA	**0.044**	J	0.012	U	0.013	U	0.011	U	0.013	UJ	0.014	U	0.012	U
Benzo(g,h,i)perylene	50.0	NA	0.24	J	0.042	J	0.02	U	0.017	U	0.02	UJ	0.073	J	0.2	J
Metals																
Aluminum	SB	33,000	6460		10200		11500		**39500**		9540		19300		21100	
Antimony	SB	NA	0.628	U	2.400	J	0.775	U	0.661	U	0.762	U	0.790	U	0.689	U
Arsenic	7.5 or SB	3-12	**14.1**		**10.3**		4.930		**21.0**		4.760		**10.0**		**10.9**	
Barium	300 or SB	15-600	64.2	J	166		144		**348**		109		142		218	
Beryllium	0.16 (HEAST) or SB	0-1.75	**0.818**		**2.160**		**0.647**	J	**5.760**		**0.639**	J	**1.100**		**2.900**	
Cadmium	10 or SB*	0.1-1	0.051	U	0.057	UJ	0.063	UJ	0.054	UJ	0.062	UJ	0.065	UJ	0.056	UJ
Calcium	SB	130-35,000	15600		24700		**68700**		**208000**		**65100**		11400		**93400**	
Chromium	50 or SB**	1.5-40	14.1		**106**		20.0		2.320		16.9		28.5		4.800	
Cobalt	30 or SB	2.5-60	8.000		26.7		5.150	J	3.730	J	5.130	J	20.5		5.340	J
Copper	25 or SB	1-50	24.3	J	**149**		18.5		6.470		13.8		**43.2**		19.7	
Iron	2,000 or SB	2,000-550,000	**64700**		**48200**		**15500**		**11800**		**11400**		**61600**		**34700**	
Lead	SB	***	59.1	J	92.9		10.3		4.550		7.240		14.4		54.1	
Magnesium	SB	100-5,000	3310		**6940**		**6670**		**23900**		**5260**		**6610**		**9340**	
Manganese	SB	50-5,000	1630		769		379		2670		289		922		1420	
Mercury	0.1	0.001-0.2	0.014		**0.210**		**0.120**		0.010	U	0.030		0.030		0.010	U
Nickel	13 or SB	0.5-25	11.8	J	**136**		**15.9**		1.440	J	**13.6**		**33.8**		6.070	
Potassium	SB	8,500-43,000	1420	J	1900		1560		5770		1300		2770		1960	
Selenium	2 or SB	0.1-3.9	**2.910**		0.809	J	0.539	J	**2.390**		0.423	U	**3.200**		**2.300**	
Silver	SB	NA	0.117	UJ	0.129	UJ	0.145	UJ	0.123	UJ	0.142	UJ	3.230	J	0.129	UJ
Sodium	SB	6,000-8,000	341	J	268	J	133	J	1690		50.3	U	369	J	1040	
Thallium	SB	NA	0.368	UJ	0.407	U	0.455	U	0.547	J	0.446	U	0.463	U	0.404	U
Vanadium	150 or SB	1-300	60.9		20.0		17.7		9.240		18.3		54.8		17.5	
Zinc	20 or SB	9-50	**561**	J	**321**		**51.3**		**75.5**		**34.1**		**81.2**		**94.7**	

TABLE 4.5-1: Trench and Test Pit Analytical Summary Results
VOCs, SVOCs and Metals
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

	NYSDEC	NYSDEC	TRENCH-5 LOWER (9')		TRENCH-5 UPPER (2')		TRENCH-5 LOWER-1 (9')		TRENCH-5 UPPER-1 (2')		DUP. (Trench-5 Lower-1)		TRENCH-6 LOWER (8')		TRENCH-6 UPPER (4')	
	TAGM 4046	TAGM 4046	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
COMPOUND	RSCO's (mg/kg)****	Eastern USA Background (mg/kg)	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's																
Acetone	0.2	NA	0.0097	U	0.009	U	0.0096	U	0.0093	U	0.0096	U	0.0099	U	0.0091	U
Carbon Disulfide	2.7	NA	0.00013	U	0.00012	U	0.00013	U	0.00013	U	0.00013	U	0.00013	U	0.00012	U
Methylene Chloride	0.1	NA	0.00088	U	0.0026	J	0.0048	U	0.00085	U	0.0023	U	0.0036	U	0.0014	U
2-Butanone (MEK)	0.3	NA	0.003	U	0.0027	U	0.0029	U	0.0028	U	0.0029	U	0.003	U	0.0028	U
Chloroform	0.3	NA	0.00031	U	0.00029	U	0.0003	U	0.0003	U	0.0003	U	0.00032	U	0.00029	U
SVOC's																
Acetophenone	No Standard	NA	0.022	U	0.021	U	0.022	U	0.022	U	0.022	U	0.023	U	0.021	U
Naphthalene	13.0	NA	0.0093	U	0.0087	U	0.0091	U	0.009	U	0.0092	U	0.0095	U	0.0086	U
2-Methylnaphthalene	36.4	NA	0.0074	U	0.0068	U	0.0072	U	0.0071	U	0.0073	U	0.0075	U	0.0068	U
Dimethylphthalate	2.0	NA	0.01	U	0.0095	U	0.01	U	0.0099	U	0.01	U	0.01	U	0.0095	U
Acenaphthylene	41.0	NA	0.013	U	0.012	U	0.013	U	0.012	U	0.013	U	0.013	U	0.012	U
Acenaphthene	50.0	NA	0.0094	U	0.0088	U	0.0092	U	0.0091	U	0.0094	U	0.0096	U	0.0088	U
Dibenzofuran	6.2	NA	0.014	U	0.013	U	0.014	U	0.014	U	0.014	U	0.014	U	0.013	U
Fluorene	50.0	NA	0.012	U	0.011	U	0.012	U	0.012	U	0.012	U	0.012	U	0.011	U
Phenanthrene	50.0	NA	0.0096	U	0.0089	U	0.0094	U	0.077	J	0.0095	U	0.0098	U	0.0089	U
Anthracene	50.0	NA	0.01	U	0.0095	U	0.01	U	0.0099	U	0.01	U	0.01	U	0.0095	U
Carbazole	No Standard	NA	0.0094	U	0.0088	U	0.0092	U	0.0091	U	0.0094	U	0.0096	U	0.0088	U
Di-n-butylphthalate	8.1	NA	0.0057	U	0.0053	U	0.0056	U	0.0055	U	0.0056	U	0.0058	U	0.0053	U
Fluoranthene	50.0	NA	0.069	J	0.067	J	0.16	J	0.13	J	0.14	J	0.06	J	0.0055	U
Pyrene	50.0	NA	0.058	J	0.063	J	0.14	J	0.11	J	0.12	J	0.052	J	0.0071	U
Butylbenzylphthalate	50.0	NA	0.014	U	0.013	U	0.014	U	0.014	U	0.014	U	0.015	U	0.013	U
Benzo(a)anthracene	0.224 or MDL	NA	0.056	J	0.06	J	0.12	J	0.11	J	0.11	J	0.0066	U	0.006	U
Chrysene	0.4	NA	0.014	U	0.046	J	0.092	J	0.091	J	0.08	J	0.014	U	0.013	U
bis(2-Ethylhexyl)phthalate	50.0	NA	0.18	J	0.27	J	0.14	J	0.15	J	0.16	J	0.28	J	0.73	
Benzo(b)fluoranthene	1.1	NA	0.023	U	0.067	J	0.085	J	0.11	J	0.072	J	0.023	U	0.021	U
Benzo(k)fluoranthene	1.1	NA	0.015	U	0.014	U	0.046	J	0.044	J	0.048	J	0.015	U	0.014	U
Benzo(a)pyrene	0.061 or MDL	NA	0.0074	U	0.054	J	0.078	J	**0.094**	J	0.072	J	0.0075	U	0.0068	U
Indeno(1,2,3-cd)pyrene	3.2	NA	0.01	U	0.0096	U	0.01	U	0.01	U	0.01	U	0.011	U	0.0096	U
Dibenz(a,h)anthracene	0.014 or MDL	NA	0.013	U	0.012	U	0.012	U	0.012	U	0.012	U	0.013	U	0.012	U
Benzo(g,h,i)perylene	50.0	NA	0.019	U	0.017	U	0.018	U	0.06	J	0.018	U	0.019	U	0.017	U
Metals																
Aluminum	SB	33,000	9580		3830		10500		1920		8920		11600		**41700**	
Antimony	SB	NA	0.721	U	0.663	U	0.724	U	0.707	U	0.718	U	0.747	U	0.676	U
Arsenic	7.5 or SB	3-12	4.950		**44.5**		7.41		5.83		6.91		5.410		**18.7**	
Barium	300 or SB	15-600	102		118		87.7		42.5		62.3		141		255	
Beryllium	0.16 (HEAST) or SB	0-1.75	**0.407**	J	**0.334**	J	**0.454**	J	**0.339**	J	**0.371**	J	**0.479**	J	**5.050**	
Cadmium	10 or SB*	0.1-1	0.059	UJ	0.054	UJ	0.059	UJ	0.058	UJ	0.059	UJ	0.061	UJ	0.055	UJ
Calcium	SB	130-35,000	3350		15800		4180		2130		4490		3770		**158000**	
Chromium	50 or SB**	1.5-40	11.1		0.112	U	11.1		6.22		11.7		12.1		1.560	
Cobalt	30 or SB	2.5-60	7.050		3.780	J	9.11		10.2		8.6		14.1		5.840	J
Copper	25 or SB	1-50	**25.8**		19.1		17.3		**34.8**		19.4		**26.5**		9.460	
Iron	2,000 or SB	2,000-550,000	**20100**		**152000**		**25100**		**50600**		**21200**		**20900**		**21400**	
Lead	SB	***	7.860		71.3		25.1		20.4		26.8		33.4		1.930	
Magnesium	SB	100-5,000	3610		9540		4020		298	J	3630		3960		**31400**	
Manganese	SB	50-5,000	363		6650		791		137		557		931		**6430**	
Mercury	0.1	0.001-0.2	0.100		0.080		0.100		0.02		**0.12**		**0.160**		0.010	U
Nickel	13 or SB	0.5-25	**14.7**		3.170	J	**17.5**		**14.2**		**16.3**		**15.3**		4.230	J
Potassium	SB	8,500-43,000	944		834		1430		277	J	1140		1540		2740	
Selenium	2 or SB	0.1-3.9	0.401	U	**12.0**		**2.28**		**4.32**		**2.23**		0.415	U	**2.670**	
Silver	SB	NA	0.134	UJ	0.124	UJ	0.135	UJ	3.96	J	0.134	UJ	0.139	UJ	0.126	UJ
Sodium	SB	6,000-8,000	47.6	U	174	J	47.8	U	72.9	J	198	J	49.3	U	1340	
Thallium	SB	NA	0.423	U	0.486	J	0.463	J	0.415	U	0.421	U	0.438	U	0.397	U
Vanadium	150 or SB	1-300	13.3		16.3		12.8		18.7		17.3		14.7		7.190	
Zinc	20 or SB	9-50	**59.5**		**422**		**119**		**34.7**		**157**		**63.4**		**108**	

TABLE 4.5-1: Trench and Test Pit Analytical Summary Results
VOCs, SVOCs and Metals
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	NYSDEC TAGM 4046 RSCO's (mg/kg)****	NYSDEC TAGM 4046 Eastern USA Background (mg/kg)	TRENCH-6 LOWER-1 (7') mg/kg		TRENCH-6 UPPER-1 (3') mg/kg		TRENCH-7 UPPER (4') mg/kg		TRENCH-7 LOWER (12') mg/kg		TRENCH-7 LOWER-1 (16') mg/kg		TRENCH-7 UPPER-1 (5') mg/kg		TEST PIT-1 UPPER (2') mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's																
Acetone	0.2	NA	0.0092	U	0.0087	U	0.008	U	0.0089	U	0.0091	U	0.0096	U	0.026	U
Carbon Disulfide	2.7	NA	0.00012	U	0.00012	U	0.00011	U	0.00012	U	0.00012	U	0.00013	U	0.00011	U
Methylene Chloride	0.1	NA	0.003	U	0.00079	U	0.00073	U	0.0016	U	0.0016	U	0.0014	U	0.0016	UJ
2-Butanone (MEK)	0.3	NA	0.0028	U	0.0026	U	0.0024	U	0.0027	U	0.0028	U	0.0029	U	0.0025	U
Chloroform	0.3	NA	0.00029	U	0.00028	U	0.00025	U	0.00028	U	0.00029	U	0.0003	U	0.00026	U
SVOC's																
Acetophenone	No Standard	NA	0.021	U	0.02	U	0.019	U	0.02	U	0.021	U	0.022	U	0.019	U
Naphthalene	13.0	NA	0.0088	U	0.082	J	0.05	J	0.04	J	0.0087	U	0.0092	U	0.078	J
2-Methylnaphthalene	36.4	NA	0.007	U	0.13	J	0.052	J	0.0067	U	0.0069	U	0.0072	U	0.054	J
Dimethylphthalate	2.0	NA	0.0097	U	0.0091	U	0.0085	U	0.0093	U	0.0095	U	0.01	U	0.0087	U
Acenaphthylene	41.0	NA	0.012	U	0.054	J	0.011	U	0.055	J	0.012	U	0.013	U	0.16	J
Acenaphthene	50.0	NA	0.0089	U	0.0084	U	0.0078	U	0.0086	U	0.0088	U	0.0093	U	0.008	U
Dibenzofuran	6.2	NA	0.013	U	0.061	J	0.012	U	0.013	U	0.013	U	0.014	U	0.012	U
Fluorene	50.0	NA	0.012	U	0.011	U	0.01	U	0.097	J	0.011	U	0.012	U	0.01	U
Phenanthrene	50.0	NA	0.0091	U	0.32	J	0.38		0.86		0.0089	U	0.0094	U	1.0	
Anthracene	50.0	NA	0.0097	U	0.058	J	0.044	J	0.41		0.0095	U	0.01	U	0.08	J
Carbazole	No Standard	NA	0.0089	U	0.0084	U	0.0078	U	0.0086	U	0.0088	U	0.0093	U	0.18	J
Di-n-butylphthalate	8.1	NA	0.0054	U	0.0051	U	0.0047	U	0.0052	U	0.0053	U	0.0056	U	0.0048	U
Fluoranthene	50.0	NA	0.0056	U	0.45		0.28	J	1.8		0.0055	U	0.0058	U	2.9	
Pyrene	50.0	NA	0.0072	U	0.43		0.26	J	1.6		0.0071	U	0.0075	U	2.7	
Butylbenzylphthalate	50.0	NA	0.054	J	0.18	J	0.012	U	0.013	U	0.013	U	0.014	U	0.012	U
Benzo(a)anthracene	0.224 or MDL	NA	0.0061	U	**0.35**	J	**0.24**	J	**1.3**	J	0.006	U	0.0064	U	**1.0**	
Chrysene	0.4	NA	0.013	U	0.38		**0.41**		**0.94**		0.013	U	0.013	U	**1.2**	
bis(2-Ethylhexyl)phthalate	50.0	NA	0.29	J	0.55		0.19	J	0.2	J	0.25	J	0.14	J	0.063	U
Benzo(b)fluoranthene	1.1	NA	0.022	U	0.62	J	0.36	J	1.1	J	0.021	U	0.022	U	**1.4**	J
Benzo(k)fluoranthene	1.1	NA	0.014	U	0.2	J	0.14	J	0.52	J	0.014	U	0.014	U	0.63	J
Benzo(a)pyrene	0.061 or MDL	NA	0.007	U	**0.37**	J	**0.18**	J	**0.85**		0.0069	U	0.0072	U	**0.86**	
Indeno(1,2,3-cd)pyrene	3.2	NA	0.0098	U	0.15	J	0.043	J	0.17	J	0.0096	U	0.01	U	0.0088	U
Dibenz(a,h)anthracene	0.014 or MDL	NA	0.012	U	0.011	U	0.01	U	**0.045**	J	0.012	U	0.012	U	**0.048**	J
Benzo(g,h,i)perylene	50.0	NA	0.018	U	0.22	J	0.097	J	0.21	J	0.017	U	0.018	U	0.35	J
Metals																
Aluminum	SB	33,000	13800		10200		2330		7630		7900		2880		2440	
Antimony	SB	NA	0.694	U	0.656	U	0.603	U	0.664	U	0.683	U	0.721	U	5.41	J
Arsenic	7.5 or SB	3-12	6.040		**13.4**		**13.7**		4.040		3.840		**8.720**		**51**	
Barium	300 or SB	15-600	109		185		44.4		57.2		69.9		28.5		43.2	
Beryllium	0.16 (HEAST) or SB	0-1.75	**0.775**		**1.270**		**0.867**		**0.358**	J	**0.380**	J	**0.689**		**0.214**	J
Cadmium	10 or SB*	0.1-1	0.057	UJ	0.054	UJ	0.049	UJ	0.054	UJ	0.056	UJ	0.059	UJ	0.05	U
Calcium	SB	130-35,000	2460		**39600**		6430		3010		1830		4660		1780	
Chromium	50 or SB**	1.5-40	14.3		13.7		12.0		9.050		9.590		19.0		21.6	
Cobalt	30 or SB	2.5-60	10.7		10.8		5.670		7.290		7.570		6.720		**40.4**	
Copper	25 or SB	1-50	**67.9**		**32.9**		**51.1**		13.1		13.5		20.3		**355**	J
Iron	2,000 or SB	2,000-550,000	**27300**		**60800**		**39600**		**17200**		**15600**		**46500**		**375000**	
Lead	SB	***	59.9		34.2		90.8		13.5		12.9		11.5		188	
Magnesium	SB	100-5,000	4140		3620		837		3340		3450		834		760	
Manganese	SB	50-5,000	522		**6740**		1080		426		522		1210		704	
Mercury	0.1	0.001-0.2	**0.130**		0.030		**0.170**		**0.120**		0.030		0.010	U	0.010	J
Nickel	13 or SB	0.5-25	**21.5**		**17.1**		9.850		**13.2**		**14.7**		11.7		**93.5**	
Potassium	SB	8,500-43,000	1810		1780		440	J	1060		1050		507	J	466	J
Selenium	2 or SB	0.1-3.9	1.090	J	**5.510**		**2.810**		0.369	U	0.411	J	1.460		**7.1**	
Silver	SB	NA	0.129	UJ	0.122	UJ	0.113	UJ	0.124	UJ	2.220	J	2.490	J	0.115	UJ
Sodium	SB	6,000-8,000	45.8	U	1090		97.6	J	43.8	U	90.6	J	201	J	40.7	U
Thallium	SB	NA	0.407	U	0.385	U	0.354	U	0.389	U	0.400	U	0.423	U	0.361	UJ
Vanadium	150 or SB	1-300	19.9		56.9		58.5		12.3		13.7		113		19.3	
Zinc	20 or SB	9-50	**93.1**		**109**		**159**		**45.4**		**43.9**		**26.5**		**665**	

TABLE 4.5-1: Trench and Test Pit Analytical Summary Results
VOCs, SVOCs and Metals
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	NYSDEC TAGM 4046 RSCO's (mg/kg)****	NYSDEC TAGM 4046 Eastern USA Background (mg/kg)	TEST PIT-1 LOWER (4') mg/kg		TEST PIT-2 UPPER (4') mg/kg		TEST PIT-2 LOWER (20') mg/kg		TEST PIT-3 UPPER (2') mg/kg		TEST PIT-3 LOWER (5') mg/kg		TEST PIT-4 UPPER (7') mg/kg		TEST PIT-4 LOWER (19') mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's																
Acetone	0.2	NA	0.041	U	0.042	U	0.041	U	0.032	U	0.047	U	0.032	UJ	**0.38**	U
Carbon Disulfide	2.7	NA	0.00011	U	0.00011	U	0.00011	U	0.00013	U	0.00013	U	0.00011	UJ	0.0053	J
Methylene Chloride	0.1	NA	0.0013	UJ	0.0014	UJ	0.0021	UJ	0.002	UJ	0.0028	UJ	0.00076	UJ	0.0013	UJ
2-Butanone (MEK)	0.3	NA	0.0024	U	0.0024	U	0.0026	U	0.0029	U	0.003	U	0.0025	UJ	0.043	
Chloroform	0.3	NA	0.002	J	0.002	J	0.0029	J	0.0003	U	0.0043	J	0.0021	J	0.0015	J
SVOC's																
Acetophenone	No Standard	NA	0.018	U	0.018	U	0.019	U	0.42	J	0.023	U	0.38	U	0.023	U
Naphthalene	13.0	NA	0.0075	U	0.0077	U	0.0081	U	0.91		0.0096	U	0.16	U	0.0094	U
2-Methylnaphthalene	36.4	NA	0.0059	U	0.0061	U	0.0064	U	0.083	J	0.0076	U	0.13	U	0.0074	U
Dimethylphthalate	2.0	NA	0.0082	U	0.0084	U	0.0088	U	0.01	U	0.01	U	0.17	U	0.01	U
Acenaphthylene	41.0	NA	0.01	U	0.011	U	0.011	U	0.013	U	0.013	U	0.22	U	0.013	U
Acenaphthene	50.0	NA	0.0076	U	0.0078	U	0.0082	U	0.0092	U	0.0097	U	0.16	U	0.0095	U
Dibenzofuran	6.2	NA	0.011	U	0.012	U	0.012	U	0.014	U	0.014	U	0.24	UJ	0.014	U
Fluorene	50.0	NA	0.0098	U	0.01	U	0.011	U	0.012	U	0.012	U	0.21	U	0.012	U
Phenanthrene	50.0	NA	0.0077	U	0.0079	U	0.0083	U	0.0094	U	0.0098	U	0.16	U	0.0096	U
Anthracene	50.0	NA	0.0082	U	0.0084	U	0.0088	U	0.01	U	0.01	U	0.17	U	0.01	U
Carbazole	No Standard	NA	0.0076	U	0.0078	U	0.0082	U	0.0092	U	0.0097	U	0.16	U	0.0095	U
Di-n-butylphthalate	8.1	NA	0.0046	U	0.0047	U	0.0049	U	0.0056	U	0.0058	U	0.097	U	0.0057	U
Fluoranthene	50.0	NA	0.0048	U	0.061	J	0.0051	U	0.0058	U	0.0061	U	0.1	U	0.006	U
Pyrene	50.0	NA	0.0061	U	0.065	J	0.0066	U	0.0075	U	0.0078	U	0.13	U	0.0077	U
Butylbenzylphthalate	50.0	NA	0.012	U	0.012	U	0.012	U	0.014	U	0.015	U	0.25	U	0.014	U
Benzo(a)anthracene	0.224 or MDL	NA	0.0052	U	0.052	J	0.0056	U	0.0063	U	0.0066	U	0.11	U	0.0065	U
Chrysene	0.4	NA	0.011	U	0.042	J	0.012	U	0.013	U	0.014	U	0.23	U	0.014	U
bis(2-Ethylhexyl)phthalate	50.0	NA	0.0079	U	0.057	U	0.043	U	0.058	U	0.068	U	0.17	U	0.11	U
Benzo(b)fluoranthene	1.1	NA	0.018	U	0.043	J	0.02	U	0.022	U	0.023	U	0.39	U	0.023	U
Benzo(k)fluoranthene	1.1	NA	0.012	U	0.012	UJ	0.013	U	0.014	U	0.015	U	0.25	U	0.015	U
Benzo(a)pyrene	0.061 or MDL	NA	0.0059	U	0.0061	UJ	0.0064	U	0.0072	U	0.0076	U	0.13	U	0.0074	U
Indeno(1,2,3-cd)pyrene	3.2	NA	0.0083	U	0.0085	UJ	0.0089	U	0.01	U	0.011	U	0.18	U	0.01	U
Dibenz(a,h)anthracene	0.014 or MDL	NA	0.01	U	0.01	UJ	0.011	U	0.012	U	0.013	U	0.21	U	0.013	U
Benzo(g,h,i)perylene	50.0	NA	0.015	U	0.015	UJ	0.016	U	0.018	U	0.019	U	0.32	U	0.019	U
Metals																
Aluminum	SB	33,000	7070		8730		6950		1520		19800		2940		13200	
Antimony	SB	NA	0.594	U	0.602	U	0.868	J	0.712	U	0.751	U	0.626	U	0.732	U
Arsenic	7.5 or SB	3-12	1.810		4.600		2.680		**9.910**		6.770		**24.1**		3.960	
Barium	300 or SB	15-600	45.0		45.0		35.1		22.1	J	150		43.7		140	
Beryllium	0.16 (HEAST) or SB	0-1.75	**0.292**	J	**0.339**	J	**0.297**	J	**0.439**	J	**0.962**		**0.345**	J	**0.626**	J
Cadmium	10 or SB*	0.1-1	0.049	U	0.049	U	0.052	U	0.058	U	0.061	U	0.051	U	0.060	U
Calcium	SB	130-35,000	1270		1390		4170		2590		24800		13400		3360	
Chromium	50 or SB**	1.5-40	7.780		10.9		7.520		11.0		20.2		25.2		14.1	
Cobalt	30 or SB	2.5-60	5.810		7.980		6.420		10.9		15.5		9.160		11.3	
Copper	25 or SB	1-50	8.630	J	17.7	J	12.8	J	**25.1**	J	**31.7**	J	**40.9**	J	19.6	J
Iron	2,000 or SB	2,000-550,000	**16500**		**20500**		**16300**		**50300**		**33500**		**90000**		**24000**	
Lead	SB	***	4.000		5.520		5.650		12.6		8.920		128		9.200	
Magnesium	SB	100-5,000	3410		4800		3440		307	J	**8800**		1160		4690	
Manganese	SB	50-5,000	199		547		244		675		878		973		794	
Mercury	0.1	0.001-0.2	0.011		0.089		0.014		0.011	J	0.020		0.020		0.038	
Nickel	13 or SB	0.5-25	12.7		**17.7**		**15.3**		**17.4**		**30.3**		12.2		**20.4**	
Potassium	SB	8,500-43,000	836	J	861	J	722	J	207	J	3820	J	538	J	980	J
Selenium	2 or SB	0.1-3.9	0.330	U	0.360	J	0.357	U	**2.160**		0.539	J	**4.530**		0.472	J
Silver	SB	NA	0.309	J	0.698	J	0.120	UJ	5.350	J	0.140	UJ	9.190	J	0.137	UJ
Sodium	SB	6,000-8,000	86.9	J	68.6	J	50.2	J	47.0	U	119	J	134	J	48.4	U
Thallium	SB	NA	0.348	UJ	0.353	UJ	0.376	UJ	0.653	J	0.440	UJ	0.408	J	0.429	UJ
Vanadium	150 or SB	1-300	9.820		13.2		11.2		25.4		30.8		72.8		18.7	
Zinc	20 or SB	9-50	**40.7**		**58.4**		**91.3**		12.7		**79.2**		**27.3**		**70.9**	

TABLE 4.5-1: Trench and Test Pit Analytical Summary Results
VOCs, SVOCs and Metals
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	NYSDEC TAGM 4046 RSCO's (mg/kg)****	NYSDEC TAGM 4046 Eastern USA Background (mg/kg)	EQUIP. BLANK#1 mg/l Result	Qualifier	EQUIP. BLANK#2 mg/l Result	Qualifier	EQUIP. BLANK #3 mg/l Result	Qualifier	EQUIP. BLANK #4 mg/l Result	Qualifier
VOC's										
Methylene Chloride	0.1	NA	0.00062	UJ	0.0029	J	0.008	J	0.013	J
SVOC's										
bis(2-Ethylhexyl)phthalate	50.0	NA	0.00035	U	0.00034	U	0.0071	JB	0.0057	J
Metals										
Aluminum	SB	33,000	180	U	180	U	180	U	180	U
Arsenic	7.5 or SB	3-12	4.84	U	4.84	U	4.840	U	4.840	U
Barium	300 or SB	15-600	11	U	11	U	11.0	J	11.0	U
Beryllium	0.16 (HEAST) or SB	0-1.75	**1.06**	U	**1.06**	U	**1.060**	U	**1.060**	U
Calcium	SB	130-35,000	1910	J	1890	J	1740	U	1740	U
Chromium	50 or SB**	1.5-40	1.22	U	1.22	U	1.220	U	1.220	U
Cobalt	30 or SB	2.5-60	2.38	U	2.38	U	2.380	U	2.380	U
Copper	25 or SB	1-50	7.58	J	7.47	J	0.739	U	0.739	U
Iron	2,000 or SB	2,000-550,000	29.6	J	41.2	J	29.0	U	29.0	U
Lead	SB	***	1.79	U	1.79	U	1.790	U	1.790	U
Magnesium	SB	100-5,000	426	J	420	J	254	U	254	U
Manganese	SB	50-5,000	0.195	U	0.195	U	0.195	U	0.195	U
Mercury	0.1	0.001-0.2	0.03	U	0.03	U	0.0300	U	0.0300	U
Nickel	13 or SB	0.5-25	7.67	J	6.4	J	5.550	U	5.550	U
Potassium	SB	8,500-43,000	80.7	J	88.9	J	51.0	U	51.0	U
Selenium	2 or SB	0.1-3.9	**5.24**	U	**5.24**	U	**5.240**	U	**5.240**	U
Silver	SB	NA	3.38	U	3.38	U	6.930	J	3.380	U
Thallium	SB	NA	5.78	U	5.78	U	5.780	U	5.780	U
Vanadium	150 or SB	1-300	1.86	U	1.86	U	1.860	U	1.860	U
Zinc	20 or SB	9-50	8.11	U	8.11	U	8.110	U	8.110	U

Qualifiers

U - The compound was not detected at the indicated concentration.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

NA - Not Applicable

SB - Site Background

HEAST - Health Effects Assessment Summary Tables

MDL indicates the laboratory's minimum detection limit

mg/kg indicates mlligram per kilogram or parts per million (ppm)

mg/l indicates milligram per liter or parts per million (ppm)

(#) indicates number of feet below grade that sample was collected

* TAGM 4046 lists 1 ppm as the Standard, Criteria and Guidance (SCG) for Cadmium.

** TAGM 4046 lists 10 ppm as the Standard, Criteria and Guidance (SCG) for Chromium. However, recent DEC Records of Decision (ROD) specify 50 ppm as the SCG.

*** Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4-61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200-500 ppm

**** New York State Department of Environmental Conservation Technical and Administrative Guidance Memorandum (TAGM) #4046 - Recommended Soil Cleanup Objectives (RSCOs)

Bolded numbers indicates that the parameter is at a concentration that has exceeded its SCG

TABLE 4.6-1

SOIL BORING ANALYTICAL SUMMARY RESULTS

TABLE 4.6-1: Soil Boring Analytical Summary Results
VOCs, SVOCs and Metals
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	NYSDEC TAGM 4046 RSCO's (mg/kg)****	NYSDEC TAGM 4046 Eastern USA Background (mg/kg)	CTM-1 (15-17') mg/kg		CTM-2 (6-8') mg/kg		CTM-3 (2-4') mg/kg		CTM-5 (10-12') mg/kg		CTM-6 (8-10') mg/kg		CTM-7 (2-4') mg/kg		CTM-8 (4-6') mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's																
Acetone	0.2	NA	0.0096	U	0.012	J	0.026	U	0.0220	U	0.014	U	0.008	U	0.0099	UJ
Carbon Disulfide	2.7	NA	0.089		0.0026	J	0.0027	J	0.0001	U	0.00012	U	0.00011	U	0.00013	UJ
Methyl tert-butyl Ether	0.12	NA	0.0028	J	0.00025	U	0.00026	U	0.0003	U	0.00027	U	0.00025	U	0.00031	U
Methylene Chloride	0.1	NA	0.0051	U	0.00074	U	0.00076	UJ	0.0009	UJ	0.0047	UJ	0.0033	U	0.00091	U
2-Butanone (MEK)	0.3	NA	0.0029	U	0.0025	U	0.0026	U	0.0028	U	0.0027	UJ	0.0024	U	0.003	U
Methylcyclohexane	No Standard	NA	0.012		0.00039	U	0.0004	U	0.0004	U	0.00042	U	0.00038	U	0.00047	U
Toluene	1.5	NA	0.00033	U	0.00028	U	0.00029	U	0.0003	U	0.00031	U	0.00028	U	0.00035	U
Isopropylbenzene	5.0	NA	0.00047	U	0.0004	U	0.00042	U	0.0005	U	0.00044	U	0.0004	U	0.00049	U
SVOC's																
Acenaphthylene	41.0	NA	0.013	U	0.011	U	0.011	U	0.012	U	0.012	U	0.082	J	0.013	U
Phenanthrene	50.0	NA	0.0094	U	0.008	U	0.069	J	0.0091	U	0.0087	U	0.45		0.0097	U
Anthracene	50.0	NA	0.01	U	0.0085	U	0.0087	U	0.0098	U	0.0093	U	0.11	J	0.01	U
Di-n-butylphthalate	8.1	NA	0.0056	U	0.0047	U	0.0049	U	0.0054	U	0.0052	U	0.0047	U	0.0058	U
Fluoranthene	50.0	NA	0.0059	U	0.0049	U	0.18	J	0.0057	U	0.0054	U	1.1		0.0061	U
Pyrene	50.0	NA	0.0075	U	0.0063	U	0.19	J	0.0073	U	0.0069	U	0.77		0.0078	U
Benzo(a)anthracene	0.224 or MDL	NA	0.0064	U	0.0054	U	0.13	J	0.0062	U	0.0059	U	**0.55**		0.0066	U
Chrysene	0.4	NA	0.013	U	0.011	U	0.15	J	0.013	U	0.012	U	**0.56**		0.014	U
bis(2-Ethylhexyl)phthalate	50.0	NA	0.0097	U	0.0082	U	0.11	J	0.22	J	0.19	J	0.049	U	0.01	U
Benzo(b)fluoranthene	1.1	NA	0.022	U	0.019	U	0.16	J	0.022	U	0.021	U	0.49	J	0.023	U
Benzo(k)fluoranthene	1.1	NA	0.014	U	0.012	U	0.082	J	0.014	U	0.013	U	0.33	J	0.015	U
Benzo(a)pyrene	0.061 or MDL	NA	0.0072	U	0.0061	U	**0.13**	J	0.007	U	0.0067	U	**0.41**		0.0075	U
Indeno(1,2,3-cd)pyrene	3.2	NA	0.01	U	0.0086	U	0.09	J	0.0099	U	0.0094	U	0.14	J	0.011	U
Benzo(g,h,i)perylene	50.0	NA	0.018	U	0.015	U	0.1	J	0.018	U	0.017	U	0.13	J	0.019	U
Metals																
Aluminum	SB	33,000	8310		16700		11000		10300		11000		4860		18900	
Arsenic	7.5 or SB	3-12	3.060		6.550		**23.4**		5.690		**8.840**		**14.4**		**16.9**	
Barium	300 or SB	15-600	72.3		107		92.8		96.7		106		35.7		168	
Beryllium	0.16 (HEAST) or SB	0-1.75	**0.439**	J	**0.938**		**1.410**		**0.642**		**1.070**		**0.329**	J	**2.890**	
Cadmium	10 or SB*	0.1-1	0.059	U	0.587		0.052	U	0.057	U	0.055	U	0.341	J	1.810	
Calcium	SB	130-35,000	2690		5560		**46800**		5370		10900		3030		**114000**	
Chromium	50 or SB**	1.5-40	9.780		16.2		4.440		12.5		18.0		12.1		13.6	
Cobalt	30 or SB	2.5-60	8.650	J	13.0	J	15.5	J	8.930	J	12.9	J	10.2	J	6.970	J
Copper	25 or SB	1-50	15.9	J	**25.9**	J	**81.4**	J	14.2	J	**32.1**	J	**37.0**	J	11.8	J
Iron	2,000 or SB	2,000-550,000	**16400**		**34300**		**169000**		**32300**		**31200**		**65600**		**97900**	
Lead	SB	***	16.6	J	16.9	J	10.6	J	7.930	J	25.1	J	35.6	J	28.7	J
Magnesium	SB	100-5,000	3370		**5560**		**6110**		3580		4430		2320		4870	
Manganese	SB	50-5,000	258		337		1850		752		609		546		2290	
Mercury	0.1	0.001-0.2	0.057		0.006	U	0.017		0.027		0.017		0.042		0.029	
Nickel	13 or SB	0.5-25	**14.9**		**29.8**		**15.3**		**15.6**		**21.7**		**16.6**		6.440	
Potassium	SB	8,500-43,000	1010	J	2730	J	3360	J	1320	J	1240	J	679	J	7650	J
Selenium	2 or SB	0.1-3.9	0.399	U	0.337	U	**4.250**		0.556	J	**2.260**		0.337	U	0.420	U
Silver	SB	NA	1.460		0.113	U	0.118	U	0.131	U	3.620		3.030		0.141	U
Sodium	SB	6,000-8,000	129	J	165	J	752		46.3	U	326	J	40.1	U	1220	
Vanadium	150 or SB	1-300	13.1	J	27.1	J	31.5	J	33.9	J	26.9	J	47.3	J	60.7	J
Zinc	20 or SB	9-50	**48.9**		**77.0**		**245**		**58.6**		**81.6**		**36.4**		14.5	

TABLE 4.6-1: Soil Boring Analytical Summary Results
VOCs, SVOCs and Metals
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

	NYSDEC	NYSDEC	CTM-9 (4-8')		CTM-10 (2-4')		CTM-11 (8-10')		CTM-13 (14-16')		DUP #3		EQUIPBLANK#5		EQUIPBLANK#6	
	TAGM 4046	TAGM 4046	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/l		mg/l	
COMPOUND	RSCO's (mg/kg)****	Eastern USA Background (mg/kg)	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's																
Acetone	0.2	NA	0.0079	U	0.033	U	0.37	UJ	0.022	J	0.008	U	0.0033	UJ	0.0033	UJ
Carbon Disulfide	2.7	NA	0.00011	U	0.0022	J	0.0044	J	0.0067	J	0.00011	U	0.00039	U	0.00039	U
Methyl tert-butyl Ether	0.12	NA	0.00024	U	0.00026	U	0.00029	J	0.00027	U	0.00025	U	0.00036	U	0.00036	U
Methylene Chloride	0.1	NA	0.0032	U	0.0047	UJ	0.00086	J	0.0008	U	0.0025	U	0.0097		0.0097	
2-Butanone (MEK)	0.3	NA	0.0024	U	0.0026	U	0.023	J	0.0027	U	0.0024	U	0.0028	U	0.0028	U
Methylcyclohexane	No Standard	NA	0.00038	U	0.0004	U	0.00045	J	0.00042	U	0.00038	U	0.00058	U	0.00058	U
Toluene	1.5	NA	0.00028	U	0.00029	U	0.0013	J	0.0003	U	0.00028	U	0.00039	U	0.00039	U
Isopropylbenzene	5.0	NA	0.00039	U	0.00042	U	0.066	J	0.00044	U	0.0004	U	0.00033	U	0.00033	U
SVOC's																
Acenaphthylene	41.0	NA	0.01	U	0.011	U	0.012	U	0.012	U	0.011	U	0.00044	U	0.00043	U
Phenanthrene	50.0	NA	0.055	J	0.0083	U	0.53		0.11	J	0.0079	U	0.00028	U	0.00027	U
Anthracene	50.0	NA	0.0084	U	0.0089	U	0.0099	U	0.0092	U	0.0085	U	0.00016	U	0.00016	U
Di-n-butylphthalate	8.1	NA	0.07	J	0.005	U	0.0055	U	0.0051	U	0.0047	U	0.000099	U	0.000098	U
Fluoranthene	50.0	NA	0.12	J	0.0052	U	0.0058	U	0.058	J	0.12	J	0.00021	U	0.00021	U
Pyrene	50.0	NA	0.098	J	0.0066	U	0.11	J	0.0069	U	0.084	J	0.00025	U	0.00025	U
Benzo(a)anthracene	0.224 or MDL	NA	0.068	J	0.0056	U	0.0063	U	0.0058	U	0.063	J	0.00023	U	0.00022	U
Chrysene	0.4	NA	0.068	J	0.012	U	0.013	U	0.012	U	0.07	J	0.00039	U	0.00038	U
bis(2-Ethylhexyl)phthalate	50.0	NA	0.17	J	0.13	J	0.0096	U	0.0089	U	0.13	J	0.00035	U	0.0049	J
Benzo(b)fluoranthene	1.1	NA	0.055	J	0.02	U	0.022	U	0.021	U	0.051	J	0.00023	U	0.00023	U
Benzo(k)fluoranthene	1.1	NA	0.053	J	0.013	U	0.014	U	0.013	U	0.058	J	0.00039	U	0.00038	U
Benzo(a)pyrene	0.061 or MDL	NA	0.048	J	0.0064	U	0.0072	U	0.0067	U	0.048	J	0.00045	U	0.00045	U
Indeno(1,2,3-cd)pyrene	3.2	NA	0.0085	U	0.009	U	0.01	U	0.0093	U	0.0086	U	0.00029	U	0.00029	U
Benzo(g,h,i)perylene	50.0	NA	0.015	U	0.016	U	0.018	U	0.017	U	0.015	U	0.00043	U	0.00042	U
Metals																
Aluminum	SB	33,000	5090		26000		8960		7080		7100		180	U	180	U
Arsenic	7.5 or SB	3-12	4.130		4.830		3.910		5.600		4.240		4.840	U	4.840	U
Barium	300 or SB	15-600	38.2		174		90.9		59.5		42.2		11.0	U	11.0	U
Beryllium	0.16 (HEAST) or SB	0-1.75	**0.246**	J	**2.130**		**0.510**	J	**1.120**		**0.300**	J	1.060	U	1.060	U
Cadmium	10 or SB*	0.1-1	0.048	U	0.052	U	0.058	U	0.453	J	0.050	U	0.994	U	0.994	U
Calcium	SB	130-35,000	2010		**117000**		3700		**35900**		4580		1740	U	1740	U
Chromium	50 or SB**	1.5-40	6.920		13.2		9.890		3.300		9.950		1.220	U	1.220	U
Cobalt	30 or SB	2.5-60	6.890	J	10.5	J	8.090	J	1.930	J	7.380	J	2.380	UJ	2.380	U
Copper	25 or SB	1-50	11.2	J	**27.7**	J	14.2	J	2.960	J	12.6	J	0.739	UJ	0.739	U
Iron	2,000 or SB	2,000-550,000	**23700**		**48400**		**17600**		**25800**		**27300**		29.0	U	29.0	U
Lead	SB	***	15.9	J	17.1	J	6.880	J	7.820	J	15.0	J	1.790	UJ	1.790	U
Magnesium	SB	100-5,000	2680		8950		3320		2910		3810		254	U	254	U
Manganese	SB	50-5,000	243		3980		617		855		259		0.195	U	0.195	U
Mercury	0.1	0.001-0.2	0.013		0.008	J	0.018		0.007	U	0.016		0.0300	U	0.0300	U
Nickel	13 or SB	0.5-25	**14.0**		10.8		**15.3**		1.900	J	**17.3**		5.550	U	5.550	U
Potassium	SB	8,500-43,000	629	J	7710	J	1410	J	1800	J	846	J	51.0	UJ	51.0	U
Selenium	2 or SB	0.1-3.9	0.328	U	**3.420**		0.830	J	0.366	U	0.338	U	**6.540**	J	**5.730**	J
Silver	SB	NA	1.390		0.120	U	0.133	U	0.123	U	2.240		3.380	U	3.380	U
Sodium	SB	6,000-8,000	92.2	J	3780		47.2	U	407	J	107	J	189	U	189	U
Vanadium	150 or SB	1-300	8.180	J	69.1	J	12.8	J	14.7	J	11.1	J	1.860	UJ	1.860	U
Zinc	20 or SB	9-50	**50.7**		**74.6**		**55.0**		**24.3**		**36.1**		8.110	U	8.110	U

Qualifiers

U - The compound was not detected at the indicated concentration.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

NA - Not Applicable

mg/kg indicates mlligram per kilogram or parts per million (ppm) and mg/l indicates milligram per liter or parts per million (ppm)

HEAST - Health Effects Assessment Summary Tables

MDL indicates the laboratory's minimum detection limit

* TAGM 4046 lists 1 ppm as the Standard, Criteria and Guidance (SCG) for Cadmium. However, recent DEC Records of Decision (ROD) specify 10 ppm as the SCG.

** TAGM 4046 lists 10 ppm as the Standard, Criteria and Guidance (SCG) for Chromium. However, recent DEC Records of Decision (ROD) specify 50 ppm as the SCG.

*** Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4-61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200-500 ppm

**** New York State Department of Environmental Conservation Technical and Administrative Guidance Memorandum (TAGM) #4046 - Recommended Soil Cleanup Objectives (RSCOs)

SB- Site Background

TABLE 4.7-1

GROUNDWATER ANALYTICAL SUMMARY RESULTS

TABLE 4.7-1: Groundwater Analytical Summary Results
VOCs, SVOCs and Metals
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	NYSDEC Groundwater Standard $^{(1)}$ ug/l	CTM-1 ug/l		CTM-1S ug/l		CTM-2 ug/l		CTM-3 ug/l		CTM-5 ug/l		CTM-6 ug/l		CTM-7 ug/l		CTM-8 ug/l	
		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's																	
1,1-Dichloroethene	5	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U
Acetone	50 (GV)	3.3	U	**66**	J	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
Methyl tert-butyl Ether	10	0.36	U	**27**		0.36	U	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U
Methylene Chloride	5	0.62	U	3.5	J	0.62	U	0.62	U	0.62	U	0.62	U	0.62	U	0.62	U
Cyclohexane	NA	0.37	U	3.6	J	0.37	U	0.37	U	0.37	U	0.37	U	0.37	U	0.37	U
2-Butanone (MEK)	50 (GV)	2.8	U	17	J	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U
Chloroform	7	0.58	U	0.58	U	0.58	U	1.8	J	3.2	J	0.58	U	0.58	U	0.58	U
Methylcyclohexane	NA	0.58	U	5.5		0.58	U	0.58	U	0.58	U	0.58	U	0.58	U	0.58	U
Benzene	1	**17**	J	**9.9**		0.24	U	0.24	U	0.24	U	0.24	U	0.24	U	0.24	U
4-Methyl-2-Pentanone	NA	1.3	U	16	J	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
Toluene	5	1.6	J	**110**		0.39	U	0.39	U	0.39	U	0.39	U	0.39	U	0.39	U
Tetrachloroethene	5	0.33	U	2.6	J	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U
Ethyl Benzene	5	**39**		**110**		0.41	U	0.41	U	0.41	U	0.41	U	0.41	U	0.41	U
m/p-Xylenes	5	1.9	J	**250**		0.96	U	0.96	U	0.96	U	0.96	U	0.96	U	0.96	U
o-Xylene	5	**22**		**180**		0.37	U	0.37	U	0.37	U	0.37	U	0.37	U	0.37	U
Styrene	5	0.34	U	**22**		0.34	U	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U
Isopropylbenzene	5	**6.9**		**38**		0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U
SVOC's																	
Naphthalene	10(GV)	6.5	U	**83**		0.270	U	0.270	U	0.270	U	0.270	U	0.270	U	0.270	U
2-Methylnaphthalene	No Standard	3.0	J	8.9	J	0.510	U	0.500	U	0.500	U	0.510	U	0.500	U	0.500	U
Acenaphthene	20(GV)	0.240	U	0.240	U	0.240	U	0.240	U	0.240	U	0.240	U	0.240	U	0.240	U
Dibenzofuran	No Standard	0.310	U	0.310	U	0.320	U	0.310	U	0.310	U	0.320	U	0.320	U	0.310	U
Fluorene	50(GV)	0.170	U	0.170	U	0.180	U	0.170	U	0.170	U	0.180	U	0.170	U	0.170	U
bis(2-Ethylhexyl)phthalate	50(GV)	7.1	U	1.6	U	1.4	U	4.3	U	1.1	U	1.2	U	0.350	U	1.6	U
Metals																	
Aluminum	No Standard	180	U	206		180	U	635		180	U	759		295		180	U
Arsenic	25	4.8	U	5.200	J	4.840	U	4.8	U	4.840	U	4.840	U	4.840	U	4.840	U
Barium	1,000	177	J	54.4	J	28.0	J	68.7	J	50.6	J	52.3	J	51.2	J	75.0	J
Calcium	No Standard	79400	J	171000	J	55400	J	104000	J	66000	J	72100	J	65000	J	62000	J
Chromium	50	1.8	J	1.220	U	1.220	U	1.2	U	1.220	U	1.220	U	1.220	U	1.220	U
Cobalt	5	2.4	U	2.380	U	2.380	U	2.4	U	2.380	U	2.380	U	2.560	J	2.380	U
Copper	200	10.1	J	4.930	J	5.880	J	11.1	J	4.260	J	4.700	J	5.080	J	6.180	J
Iron	300	**3690**		**412**		285		**2230**		**477**		**1480**		**461**		86.1	J
Lead	25	1.8	U	1.790	U	1.790	U	3.7	J	1.790	U	1.790	U	1.790	U	1.790	U
Magnesium	35,000(GV)	9520	J	11400		2930	J	12100	J	10200		22600		29400		16300	
Manganese	300	**2990**		**1680**		8.060	J	**303**		**478**		**2560**		**6870**		**6680**	
Nickel	100	5.5	U	5.550	U	5.550	U	5.5	U	5.550	U	5.550	U	5.550	U	5.550	U
Potassium	No Standard	22400	J	23400		10200		11000	J	20100		1400	J	2290	J	3350	J
Selenium	10	5.2	U	5.240	U	5.240	U	**10.8**	J	5.900	J	5.240	U	5.240	U	5.240	U
Sodium	20,000	16800	J	14500	J	13900	J	10200	J	**42900**	J	**21200**	J	**22400**	J	**27300**	J
Zinc	5,000(GV)	27.9		20.7		31.1		32.7		27.5		11.6	J	8.110	U	8.110	U

TABLE 4.7-1: Groundwater Analytical Summary Results
VOCs, SVOCs and Metals
(Validated Results)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	NYSDEC Groundwater Standard (1) ug/l	CTM-9 ug/l		CTM-10 ug/l		CTM-11 ug/l		CTM-13 ug/l		MW-3(ESI) ug/l		MW-8(ESI) ug/l		EQIUP. BLANK ug/l		TRIP BLANK ug/l	
		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's																	
1,1-Dichloroethene	5	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U	3.1	J	0.32	U
Acetone	50 (GV)	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U
Methyl tert-butyl Ether	10	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U
Methylene Chloride	5	0.62	U	0.62	U	0.62	U	0.62	U	0.62	U	0.62	U	**5.9**		0.62	U
Cyclohexane	NA	0.37	U	0.37	U	0.37	U	0.37	U	0.37	U	0.37	U	0.37	U	0.37	U
2-Butanone (MEK)	50 (GV)	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U	2.8	U
Chloroform	7	0.58	U	0.58	U	0.58	U	0.58	U	0.58	U	0.58	U	0.58	U	0.58	U
Methylcyclohexane	NA	0.58	U	0.58	U	0.58	U	0.58	U	0.58	U	0.58	U	0.58	U	0.58	U
Benzene	1	0.24	U	0.24	U	0.24	U	0.24	U	**2.0**	J	0.24	U	0.24	U	0.24	U
4-Methyl-2-Pentanone	NA	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
Toluene	5	0.39	U	0.39	U	0.39	U	0.39	U	0.39	U	0.39	U	0.39	U	0.39	U
Tetrachloroethene	5	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U
Ethyl Benzene	5	0.41	U	0.41	U	0.41	U	0.41	U	0.41	U	0.41	U	0.41	U	0.41	U
m/p-Xylenes	5	0.96	U	0.96	U	0.96	U	0.96	U	0.96	U	0.96	U	0.96	U	0.96	U
o-Xylene	5	0.37	U	0.37	U	0.37	U	0.37	U	0.37	U	0.37	U	0.37	U	0.37	U
Styrene	5	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U
Isopropylbenzene	5	0.33	U	0.33	U	0.33	U	0.33	U	**6.6**		0.33	U	0.33	U	0.33	U
SVOC's																	
Naphthalene	10(GV)	0.270	U	0.270	U	3.9	U	0.270	U	0.270	U	0.270	U	1.2	J		
2-Methylnaphthalene	No Standard	5.7	J	0.500	U	0.500	U	0.500	U	13		0.500	U	1.5	J		
Acenaphthene	20(GV)	0.240	U	0.240	U	0.240	U	0.240	U	1.1	J	0.240	U	0.240	U		
Dibenzofuran	No Standard	0.320	U	0.310	U	0.310	U	0.320	U	1.3	J	0.320	U	0.320	U		
Fluorene	50(GV)	0.180	U	0.170	U	0.170	U	0.170	U	2.9	J	0.170	U	0.170	U		
bis(2-Ethylhexyl)phthalate	50(GV)	1.1	U	1.2	U	1.6	U	1.1	U	1.5	U	1.3	U	1.3	JB		
Metals																	
Aluminum	No Standard	180	U	180	U	395		180	U	180	U	245		180	U		
Arsenic	25	4.840	U	4.840	U	4.8	U	4.840	U	14.7		4.840	U	4.8	U		
Barium	1,000	325		32.9	J	81.5	J	33.0	J	275		19.8	J	11.0	U		
Calcium	No Standard	53300	J	81500	J	102000	J	131000	J	73500	J	26200	J	1740	U		
Chromium	50	1.220	U	1.680	J	1.2	U	1.760	J	1.2	U	1.220	U	1.2	U		
Cobalt	5	2.380	U	2.380	U	**5.4**	J	2.380	U	2.4	U	2.380	U	2.4	U		
Copper	200	3.700	J	4.680	J	11.4	J	4.610	J	9.2	J	6.040	J	7.3	J		
Iron	300	**2050**		80.5	J	**1530**		62.4	J	**21700**		**444**		38.4	J		
Lead	25	1.790	U	1.790	U	1.8	U	1.790	U	1.8	U	1.790	U	1.8	U		
Magnesium	35,000(GV)	8250		7530		3620	J	10600		10200		3150	J	324	J		
Manganese	300	**734**		20.3		**3670**		9.820	J	**1200**		15.8		1.3	J		
Nickel	100	5.550	U	5.550	U	8.9	J	5.550	U	5.5	U	5.550	U	5.5	U		
Potassium	No Standard	9400		11400		23500		40700		8330		2650	J	73.9	J		
Selenium	10	5.240	U	5.240	U	**13.9**		**10.8**		5.2	U	5.240	U	5.2	U		
Sodium	20,000	**151000**	J	**26900**	J	8300	J	**25600**	J	**39200**	J	8640	J	189	U		
Zinc	5,000(GV)	10.4	J	32.2	J	28.2	J	25.6		22.5	U	24.2		20.7			

(1) TOGS 1.1.1, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, New York State Department of Environmental Conservation, June 1998 and Addendum, April 2000.

Concentrations expressed in ug/l (micrograms per liter) or parts per billion (ppb)

Qualifiers

U - The compound was not detected at the indicated concentration.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero.
The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

GV - denotes Guidance Value

(ESI) Monitoring Well previously installed by Empire Soils Investigations

NA - Not Applicable

TABLE 4.8.2

SOIL BORING ANALYTICAL SUMMARY RESULTS

(IRM INVESTIGATION)

TABLE 4.8.2: Soil Boring Analytical Results Summary
IRM Investigation
VOCs and SVOCs
(Validated Data)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	NYSDEC TAGM 4046 RSCOs (mg/kg)****	SB-100 (14-16') mg/kg		SB-101S(15-17) mg/kg		SB-102(16-18) mg/kg		SB-103(14-16) mg/kg		SB-103(22-24) mg/kg		SB-105(26-28) mg/kg		SB-105S(17-19) mg/kg		EQUIPMENTBLANK mg/l	
		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs																	
Acetone	0.2	0.037		0.2		0.1		0.094		0.03		0.026	J	0.16		0.0023	U
Carbon Disulfide	2.7	0.00047	U	0.0019	J	0.00047	U	0.00047	U	0.0019	J	0.0018	J	0.00048	U	0.0004	UJ
Methylene Chloride	0.1	0.0081	U	0.0025	U	0.0023	U	0.0057	JB	0.0043	U	0.0035	U	0.0036	U	0.00043	U
2-Butanone	0.3	0.0036	U	0.04		0.023	J	0.018	J	0.0031	U	0.0032	U	0.021	J	0.0011	U
Toluene	1.5	0.0021	U	0.00055	U	0.00052	U	0.00052	U	0.00045	U	0.00045	U	0.00053	U	0.0011	J
Ethyl Benzene	5.5	0.00046	U	0.00048	U	0.00045	U	0.00045	U	0.00039	U	0.0013	J	0.00047	U	0.00045	U
Isopropylbenzene	5	0.00054	U	0.00056	U	0.00053	U	0.00053	U	0.00046	U	0.0019	J	0.00055	U	0.00044	U
SVOCs																	
Phenanthrene	50	0.068	U	0.17	J	0.24	J	0.067	U	0.058	U	0.059	U	0.069	U	0.0015	U
Anthracene	50	0.064	U	0.067	U	0.13	J	0.064	U	0.055	U	0.055	U	0.065	U	0.0015	U
Fluoranthene	50	0.063	U	0.38	J	0.57		0.063	U	0.055	U	0.055	U	0.064	U	0.0013	U
Pyrene	50	0.075	U	0.26	J	0.38	J	0.075	U	0.065	U	0.065	U	0.077	U	0.0015	U
Benzo(a)anthracene	0.224 or MDL	0.059	U	0.15	J	0.21	J	0.059	U	0.051	U	0.051	U	0.061	U	0.0012	U
Chrysene	0.4	0.076	U	0.14	J	0.21	J	0.076	U	0.066	U	0.066	U	0.078	U	0.0018	U
bis(2-Ethylhexyl)phthalate	50	0.089	U	0.086	U	0.08	U	0.085	U	0.07	U	0.071	U	0.083	U	0.01	JB
Benzo(b)fluoranthene	1.1	0.047	U	0.15	J	0.2	J	0.047	U	0.04	U	0.04	U	0.048	U	0.00079	U
Benzo(a)pyrene	0.061 or MDL	0.068	U	**0.12**	J	**0.16**	J	0.068	U	0.059	U	0.059	U	0.069	U	0.0012	U
Indeno(1,2,3-cd)pyrene	3.2	0.054	U	0.057	U	0.078	J	0.054	U	0.047	U	0.047	U	0.055	U	0.00087	U
Benzo(g,h,i)perylene	50	0.07	U	0.074	U	0.073	J	0.07	U	0.061	U	0.061	U	0.072	U	0.0011	U

Qualifiers

U - The compound was not detected at the indicated concentration.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation lim
The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of th

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater thar

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

NA - Not Applicable

mg/kg indicates mlligram per kilogram or parts per million (ppm) and mg/l indicates milligram per liter or parts per million (ppm)

HEAST - Health Effects Assessment Summary Tables

MDL indicates the laboratory's minimum detection limit

* TAGM 4046 lists 1 ppm as the Standard, Criteria and Guidance (SCG) for Cadmium.
However, recent DEC Records of Decision (ROD) specify 10 ppm as the SCG.

** TAGM 4046 lists 10 ppm as the Standard, Criteria and Guidance (SCG) for Chromium.
However, recent DEC Records of Decision (ROD) specify 50 ppm as the SCG.

*** Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4-61 ppm.
Average background levels in metropolitan or suburban areas or near highways are much higher and typically
range from 200-500 ppm

**** New York State Department of Environmental Conservation Technical and Administrative Guidance
Memorandum (TAGM) #4046 - Recommended Soil Cleanup Objectives (RSCOs)

SB- Site Background

TABLE 4.8.3-1

GROUNDWATER ANALYTICAL SUMMARY RESULTS

(IRM INVESTIGATION)

TABLE 4.8.3-1: Groundwater Analytical Results Summary
IRM Investigation
VOCs and SVOCs
(Validated Data)
South Troy Industrial Park
C. T. Male Project No. 04.9138

COMPOUND	NYSDEC Groundwater Standard (1) ug/l	CTM-100 ug/L		CTM-101 ug/L		CTM-105 ug/L		FD (CTM-105) ug/L		CTM-1 ug/L		EQUIPMENT BLANK ug/L		FIELD BLANK ug/L	
		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs															
Acetone	50 (GV)	2.3	U	2.3	U	2.3	U	2.3	U	3.5	U	10	J	2.3	U
Methylene Chloride	5	0.43	U	0.43	U	0.43	U	0.43	U	1.8	U	1.7	J	3.0	J
Benzene	1	0.39	U	**4.0**	J	**3.4**	J	0.39	U	**1.7**	J	0.39	U	0.39	U
Isopropylbenzene	5 (GV)	0.44	U	2.8	J	1.8	J	0.44	U	1.1	J	0.44	U	0.44	U
SVOCs															
Acenaphthene	20 (GV)	1.4	U	2.7	J	2.6	J	1.4	U	1.4	U	NA		NA	
Diethylphthalate	50 (GV)	1.5	J	3.0	J	1.9	J	1.8	J	1.4	U	NA		NA	
Carbazole	NS	1.3	U	1.3	U	1.5	J	1.3	U	1.3	U	NA		NA	

(1) TOGS 1.1.1, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, New York State Department of Environmental Conservation, June 1998 and Addendum, April 2000.

Concentrations expressed in ug/l (micrograms per liter) or parts per billion (ppb)

Qualifiers

U - The compound was not detected at the indicated concentration.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

GV - denotes Guidance Value

(ESI) Monitoring Well previously installed by Empire Soils Investigations

NA - Not Analyzed

NS - No Standard

TABLE 4.9.2

SOIL BORING ANALYTICAL SUMMARY RESULTS

(PARCEL 2 INVESTIGATION)

TABLE 4.9.2: Soil Boring Analytical Results Summary
Parcel 2 Supplemental Investigation
VOCs and SVOCs
(Validated Data)
South Troy Industrial Park
C.T. Male Project No. 04.9138

Compound	NYSDEC TAGM 4046 RSCOs (mg/kg)*	SB-200 (20-24') mg/kg		SB-201 (26-28') mg/kg		SB-202 (20-22') mg/kg		SB-203 (16-18') mg/kg		SB-205 (26-28') mg/kg		FD (CTM-205) mg/kg		SB-206 (10-12') mg/kg		SB-208 (6-8') mg/kg		SB-209 (6-8') mg/kg	
		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs																			
Acetone	0.2	0.027	J	0.0081	J	0.022	J	0.051		0.016	J	0.014	J	0.02	J	0.015	J	0.014	J
Carbon Disulfide	2.7	0.0021	J	0.00044	U	0.00043	U	0.00047	U	0.00046	U	0.00044	U	0.0005	U	0.00047	U	0.00048	U
Methylene Chloride	0.1	0.0034	U	0.0037	U	0.011	UJ	0.0039	U	0.0023	U	0.003	U	0.012	UJ	0.01	UJ	0.0073	UJ
2-Butanone	0.3	0.0033	U	0.0033	U	0.0033	U	0.0089	J	0.0035	U	0.0033	U	0.0038	U	0.0036	U	0.0037	U
Benzene	0.06	0.0015	J	0.00047	U	0.00046	U	0.00051	U	0.0005	U	0.00047	U	0.00054	UJ	0.00051	U	0.00052	U
Toluene	1.5	0.00048	U	0.00048	U	0.00047	U	0.00052	U	0.00051	U	0.00048	U	0.00055	UJ	0.00051	U	0.00052	U
Ethyl Benzene	5.5	0.00042	U	0.00042	U	0.00041	U	0.00045	U	0.00044	U	0.00042	U	0.00048	U	0.00045	U	0.00046	U
m/p-Xylenes	1.2	0.001	U	0.001	U	0.001	U	0.0011	U	0.0011	U	0.001	U	0.0012	U	0.0011	U	0.0011	U
o-Xylene	1.2	0.0015	J	0.00045	U	0.00044	U	0.00049	U	0.00048	U	0.00046	U	0.00052	U	0.00049	U	0.0005	U
Styrene	NS	0.00054	U	0.00054	U	0.00053	U	0.00059	U	0.00057	U	0.00055	U	0.00062	U	0.00058	U	0.0006	U
Isopropylbenzene	5	0.00049	U	0.00049	U	0.00048	U	0.00053	U	0.00052	U	0.00049	U	0.00056	U	0.00053	U	0.00054	U
SVOCs																			
Naphthalene	13	0.066	U	0.066	U	0.065	U	0.072	U	0.067	U	0.067	U	0.076	U	0.071	U	0.073	U
1,1-Biphenyl	NA	0.063	U	0.064	U	0.063	U	0.069	U	0.065	U	0.065	U	0.073	U	0.069	U	0.07	U
Fluorene	50	0.065	U	0.066	U	0.064	U	0.071	U	0.066	U	0.066	U	0.075	U	0.07	U	0.072	U
Phenanthrene	50	0.061	U	0.062	U	0.074	J	0.067	U	0.062	U	0.062	U	0.071	U	0.066	U	0.068	U
Anthracene	50	0.058	U	0.059	U	0.057	U	0.063	U	0.059	U	0.059	U	0.067	U	0.063	U	0.064	U
Di-n-butylphthalate	8.1	0.059	U	0.059	U	0.058	U	0.064	U	0.06	U	0.06	U	0.068	U	0.064	U	0.065	U
Fluoranthene	50	0.057	U	0.058	U	0.18	J	0.063	U	0.058	U	0.058	U	0.066	U	0.062	U	0.064	U
Pyrene	50	0.068	U	0.069	U	0.14	J	0.074	U	0.069	U	0.069	U	0.079	U	0.074	U	0.076	U
Benzo(a)anthracene	0.224 or MDL	0.054	U	0.054	U	0.082	J	0.059	U	0.055	U	0.055	U	0.062	U	0.058	U	0.06	U
Chrysene	0.4	0.069	U	0.07	U	0.077	J	0.076	U	0.07	U	0.07	U	0.08	U	0.075	U	0.077	U
bis(2-Ethylhexyl)phthalate	50	0.074	U	0.075	U	0.26	J	0.081	U	0.075	U	0.075	U	0.085	U	0.08	U	0.082	U
Benzo(b)fluoranthene	1.1	0.042	U	0.043	U	0.069	J	0.046	U	0.043	U	0.043	U	0.049	U	0.046	U	0.047	U

Compound	NYSDEC TAGM 4046 RSCOs (mg/kg)*	SB-210 (22-24') mg/kg		CTM-212 (10-12') mg/kg		CTM-214 (2-4') mg/kg		CTM-215 (20-22') mg/kg		CTM-216 (18-20') mg/kg		FD (CTM-215) mg/kg		EQUIPMENT BLANK mg/l		EQUIPMENT BLANK mg/l		TRANSPORT BLANK mg/l	
		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs																			
Acetone	0.2	0.0039	U	0.0038	UJ	0.0038	UJ	0.004	UJ	0.0043	UJ	0.004	UJ	0.0023	U	0.0023	U	0.0023	U
Carbon Disulfide	2.7	0.00043	U	0.00042	UJ	0.00042	UJ	0.00044	UJ	0.00047	UJ	0.00044	UJ	0.0004	UJ	0.0004	UJ	0.0004	UJ
Methylene Chloride	0.1	0.003	UJ	0.0021	UJ	0.0021	U	0.0022	U	0.0023	UJ	0.0022	U	0.00043	U	0.00043	UJ	0.00043	UJ
2-Butanone	0.3	0.0033	U	0.0032	UJ	0.0032	U	0.0034	U	0.0036	U	0.0034	U	0.0011	U	0.0011	U	0.0011	U
Benzene	0.06	0.00046	U	0.00045	UJ	0.053		0.00048	U	0.00051	U	0.00048	U	0.00039	U	0.00039	U	0.00039	U
Toluene	1.5	0.00047	U	0.00046	UJ	0.094		0.00049	U	0.00051	U	0.00049	U	0.00036	U	0.00036	U	0.00036	U
Ethyl Benzene	5.5	0.00041	U	0.0004	UJ	0.027		0.00043	U	0.00045	U	0.00043	U	0.00045	U	0.00045	U	0.00045	U
m/p-Xylenes	1.2	0.001	U	0.00098	UJ	0.036		0.001	U	0.0011	U	0.001	U	0.0012	U	0.0012	U	0.0012	U
o-Xylene	1.2	0.00044	U	0.00043	UJ	0.018		0.00046	U	0.00049	U	0.00046	U	0.00046	U	0.00046	U	0.00046	U
Styrene	NA	0.00053	U	0.00052	UJ	0.0014	J	0.00055	U	0.00058	U	0.00055	U	0.00041	U	0.00041	U	0.00041	U
Isopropylbenzene	5	0.00048	U	0.00047	UJ	0.0029	J	0.0005	U	0.00053	U	0.0005	U	0.00044	U	0.00044	U	0.00044	U
SVOCs																			
Naphthalene	13	0.066	U	0.063	U	0.28	J	0.067	U	0.3	J	0.066	U	0.0013	U	0.0014	U	NA	
1,1-Biphenyl	NA	0.063	U	0.23	U	0.06	U	0.065	U	0.068	U	0.25	U	0.0013	U	0.0014	U	NA	
Fluorene	50	0.065	U	0.062	U	0.2	J	0.066	U	0.22	J	0.065	U	0.0013	U	0.0014	U	NA	
Phenanthrene	50	0.061	U	0.25	J	0.23	UJ	0.062	U	0.28	J	0.062	U	0.0014	U	0.0014	U	NA	
Anthracene	50	0.058	U	0.22	J	0.055	UJ	0.059	U	0.25	J	0.059	U	0.0013	U	0.0014	U	NA	
Di-n-butylphthalate	8.1	0.058	U	0.19	UJ	0.056	UJ	0.21	U	0.062	U	0.2	U	0.0068	JB	0.0013	U	NA	
Fluoranthene	50	0.057	U	0.28	J	0.055	UJ	0.058	U	0.25	J	0.058	U	0.0011	U	0.0012	U	NA	
Pyrene	50	0.068	U	0.096	J	0.065	U	0.069	U	0.073	U	0.069	U	0.0014	U	0.0015	U	NA	
Benzo(a)anthracene	0.224 or MDL	0.054	U	0.076	J	0.051	U	0.055	U	0.057	U	0.054	U	0.0011	U	0.0011	U	NA	
Chrysene	0.4	0.069	U	0.21	J	0.16	J	0.07	U	0.2	J	0.07	U	0.0016	U	0.0017	U	NA	
bis(2-Ethylhexyl)phthalate	50	0.074	U	0.29	U	0.07	U	0.32	U	0.079	U	0.074	U	0.013		0.0016	U	NA	
Benzo(b)fluoranthene	1.1	0.042	U	0.088	J	0.04	U	0.043	U	0.045	U	0.043	U	0.00071	U	0.00076	U	NA	

Qualifiers

U - The compound was not detected at the indicated concentration.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero.
The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

NS- Not Sampled

NA - Not Applicable

mg/kg indicates mlligram per kilogram or parts per million (ppm) and mg/l indicates milligram per liter or parts per million (ppm)

MDL indicates the laboratory's minimum detection limit

* New York State Department of Environmental Conservation Technical and Administrative Guidance
Memorandum (TAGM) #4046 - Recommended Soil Cleanup Objectives (RSCOs)

SB- Site Background

TABLE 4.9.3-1

GROUNDWATER ANALYTICAL SUMMARY RESULTS

(PARCEL 2 SUPPLEMENTAL INVESTIGATION)

TABLE 4.9.3-1: Groundwater Analytical Results Summary
Parcel 2 Supplemental Investigation
VOCs and SVOCs
(Validated Data)
South Troy Industrial Park
C.T. Male Project No. 04.9138

COMPOUND	NYSDEC Groundwater Standard $^{(1)}$ ug/l	CTM-203 ug/L		CTM-208 ug/L		CTM-212 ug/L		CTM-213 ug/L		CTM-214 ug/L		FD (CTM-214) ug/L	
		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs													
Acetone	50 (GV)	7.2	UJ	2.3	UJ	3.5	U	3.5	U	12	UJ	13	UJ
Methylene Chloride	5	4.4	J	**18**		1.8	U	1.8	U	0.43	U	0.43	U
2-Butanone	NA	1.1	U	1.1	U	2.3	U	2.3	U	2.3	U	1.1	U
Chloroform	7	0.33	U	0.33	U	0.61	U	0.61	U	0.33	U	0.33	U
Benzene	1	0.39	U	0.39	U	0.71	U	0.71	U	**23**		**20**	
Bromodichloromethane	50 (GV)	0.33	U	0.33	U	0.73	U	0.73	U	0.33	U	0.33	U
Toluene	5	0.36	U	0.36	U	0.71	U	0.71	U	1.2	J	0.98	J
Ethyl Benzene	5	0.45	U	0.45	U	0.76	U	0.76	U	**15**		**12**	
m&p-Xylenes	5	1.2	U	1.2	U	1.5	U	1.5	U	1.3	J	1.2	UJ
o-Xylene	5	0.46	U	0.46	U	0.72	U	0.72	U	0.69	J	0.61	J
Isopropylbenzene	5	0.44	U	0.44	U	0.75	U	0.75	U	2.2	J	1.6	J
SVOCs													
Naphthalene	10 (GV)	1.4	U	1.4	U	1.4	U	1.4	U	7.3	J	8.0	J
Caprolactam	NA	1.3	UJ	1.3	UJ	8.7	J	11		1.3	UJ	1.3	UJ
2-Methylnaphthalene	NA	1.1	U	1.1	U	1.1	U	1.1	U	16		17	
Acenaphthene	20 (GV)	1.3	U	1.4	U	1.4	U	1.4	U	2.1	J	2.1	J
Phenanthrene	50 (GV)	1.4	U	1.4	U	1.5	U	1.4	UJ	1.4	UJ	1.5	J
Anthracene	50 (GV)	1.4	U	1.4	U	1.5	U	1.4	UJ	1.4	UJ	1.5	J

COMPOUND	NYSDEC Groundwater Standard $^{(1)}$ ug/l	CTM-215 ug/L		CTM-216 ug/L		CTM-8 ug/L		CTM-9 ug/L		EQUIPMENT BLANK ug/L		TRIP BLANK ug/L		TRIP BLANK ug/L	
		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs															
Acetone	50 (GV)	2.3	UJ	3.5	U	3.5	U	3.5	U	3.5	U	3.9	J	39	J
Methylene Chloride	5	2.9	J	1.8	U	1.8	U	1.8	U	250	D	1.8	U	0.43	U
2-Butanone	NA	1.1	U	2.3	U	2.3	U	2.3	U	2.3	U	7.9	J	12	J
Chloroform	7	0.33	U	0.61	U	4.7	J	0.61	U	0.61	U	0.61	U	0.33	U
Benzene	1	0.39	U	0.71	U	0.71	U	0.71	U	0.71	U	0.71	U	0.39	U
Bromodichloromethane	50 (GV)	0.33	U	0.73	U	0.82	J	0.73	U	0.73	U	0.73	U	0.33	U
Toluene	5	0.36	U	0.71	U	0.71	U	0.71	U	0.71	U	0.71	U	0.36	U
Ethyl Benzene	5	0.45	U	0.76	U	0.76	U	0.76	U	0.76	U	0.76	U	0.45	U
m&p-Xylenes	5	1.2	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.2	U
o-Xylene	5	0.46	U	0.72	U	0.72	U	0.72	U	0.72	U	0.72	U	0.46	U
Isopropylbenzene	5	0.44	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.44	U
SVOCs															
Naphthalene	10 (GV)	1.4	U	1.4	UJ	1.4	U	1.4	U	1.4	U	NS		NS	
Caprolactam	NA	1.3	UJ	1.3	UJ	5.2	J	1.3	UJ	1.3	UJ	NS		NS	
2-Methylnaphthalene	NA	1.1	U	1.1	UJ	1.1	U	1.1	U	1.1	U	NS		NS	
Acenaphthene	20 (GV)	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	NS		NS	
Phenanthrene	50 (GV)	1.4	U	1.4	UJ	1.4	U	1.5	UJ	1.5	UJ	NS		NS	
Anthracene	50 (GV)	1.4	U	1.4	UJ	1.4	U	1.4	UJ	1.4	UJ	NS		NS	

(1) TOGS 1.1.1, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, New York State Department of Environmental Conservation, June 1998 and Addendum, April 2000.

Concentrations expressed in ug/l (micrograms per liter) or parts per billion (ppb)

Qualifiers

U - The compound was not detected at the indicated concentration.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

GV - denotes Guidance Value

(ESI) Monitoring Well previously installed by Empire Soils Investigations

NA - Not Applicable

NS - Not Sampled