October 2008
(Revised January 2009)

400 Broadway ERP Site
(ERP Site No. E517007)

Site Investigation Report
(Volume 1 of 3 – Text Body, Tables)

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

400 Broadway
Village of Saranac Lake
Franklin County, New York

Prepared for:

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ENVIRONMENTAL RESTORATION PROJECT
SITE INVESTIGATION REPORT
400 BROADWAY SITE
VILLAGE OF SARANAC LAKE
FRANKLIN COUNTY, NEW YORK

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1.0 INTRODUCTION

The Village of Saranac Lake (the "Village") submitted an application to the New York State Department of Environmental Conservation (DEC) for participation in the NYS Environmental Restoration Program (ERP) in relationship to the property known as the 400 Broadway Site located at 400 Upper Broadway in the Village of Saranac Lake, Franklin County, New York (herein "the Site"). A Site Location Map is presented as Figure 1. NYSDEC subsequently notified the Village of its eligibility to participate in the ERP and the Village executed a State Assistance Contract (SAC) which required the submission, review, approval and implementation of investigative work plans under the ERP. The Draft Remedial Investigation Work Plan was submitted to NYSDEC and NYSDOH for review and comment in March 2007. Regulatory comments to the Work Plan were satisfactorily addressed and the Work Plan was approved in April 2007.

The ERP investigation generally involved a site survey, a private well survey, the collection of surface soil samples, sediment samples, surface water samples, the advancement of test trenches and test pits to examine the extent and composition of soil and fill materials and to aid in the collection of subsurface soil samples, the advancement of soil borings which were converted to monitoring wells to aid in the collection of soil and groundwater samples, and a Fish and Wildlife Impact Analysis (FWIA). An Interim Remedial Measure (IRM) was conducted on the site involving the segregation and off-site disposal of 55-gallon drums and their contents and a tank carcass and its contents. An off-site subsurface investigation was conducted on the site's east adjoining property and consisted of the advancement of soil borings and installation of monitoring wells to aid in the collection of soil and groundwater samples to discern if the off-site property was a potential source for site contaminants.

1.1 Purpose

The purpose of the Site Investigation (SI) is to describe the investigations conducted at the site, and off-site, for defining the nature and extent of contamination in surface soil, subsurface soil, sediment, surface water 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 historical 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 of potential remedial alternatives, which will allow the Department to prepare a Proposed Remedial Action Plan (PRAP) and Record of Decision (ROD) for the site.

1.2 Site Background

The following provides an overview of the site and includes a site description and site history.

1.2.1 Site Description

The Site consists of two contiguous parcels of land that are addressed as 400 Upper Broadway in the Village of Saranac Lake, Franklin County, New York. The northern parcel is approximately 1.388 acres in size and is identified as Village of Saranac Lake Tax Map Parcel I.D. number 446.43, Block 2 Lot 3. The southern parcel is approximately 1.218 acres in size and is identified as Village of Saranac Lake Tax Map Parcel I.D. number 446.43, Block 2 Lot 4. The site as a whole comprises approximately 2.6 acres. The site boundaries are depicted on the SI Sampling Locations Map in Figure 3.

The site is currently vacant undeveloped land. Overall, the topography of the site slopes downward from the east to the west. The Site's southern parcel consists predominantly of mature trees, thickets and grasses with its western portions consisting of Adirondack Park Agency delineated wetlands. The central and eastern portions of the northern parcel are lightly wooded and are at an elevation of approximately 3 to 4 feet above the southern parcel. Wetlands make up western portions of the northern parcel.

The project site is bordered to the north by the First Christian Church; to the east by residential dwellings and Upper Broadway; to the south by wooded, undeveloped land; and to the west by NYS Route 86 (Lake Colby Drive) followed by wooded, undeveloped land and southern portions of an automobile sales and repair facility.

1.2.2 Site History

To evaluate the history of the Site, C.T. Male reviewed publicly available historical aerial photographs, Sanborn Fire Insurance Maps and Historical Documents. Interviews were also conducted with persons familiar with the Site to gain an understanding of the Site's environmental history. The site's history is presented in detail in the April 2007 Remedial Investigation/Alternatives Analysis Work Plan available in the document repositories.

The Site's northern parcel has historically been affiliated with commercial and manufacturing activities that predominantly took place on its eastern adjoining (off-site) property. In c. 1928, Gladd Brothers began the operation of a small automotive repair facility on the Site's eastern adjoining property. As the business expanded into an automobile dealership and repair facility, a two-story structure measuring approximately 150 feet long by 50 feet wide was built into the slope of the hill that adjoins the Site's northern parcel to the east. The building was built such that its upper floor was at grade with Upper Broadway and its lower level was at grade with the grade elevations of the project site. Boat repair was also performed at the facility during this time period. Repairs are believed to have been conducted within the building's lower level, which was accessed via a drive that originated along the western side of Broadway in the vicinity of where the eastern boundary of the Site's northern parcel meets this road.

At the onset of World War II (1940's), operations at the Site's eastern adjoining building were redirected for the manufacturing of war related items reportedly involving aircraft landing gear and land mine fuses. More than 300 people were reportedly employed during this time. An L-shaped structure and masonry oven were erected on eastern portions of the Site's northern parcel at this time. The L-shaped structure was approximately 100 feet long and reportedly consisted of storage buildings atop concrete slabs. The masonry oven was reportedly used for the burning of parts packaging material.

At the close of World War II, the Site's east adjoining building and the Site's storage structures were again used in affiliation with automobile retail sales and repair up until the buildings, land and business were reportedly sold in the 1950's to a private individual who continued operating the business as an automobile sales and repair facility. The business and land were resold to another private entity in the 1960's, which operated the business until it went bankrupt sometime in the 1960's.

Paul Smith's Electric, and later Niagara Mohawk (who acquired Paul Smith's Electric), reportedly occupied the Site's east adjoining building and the Site's northern parcel in the 1960's. The building was reportedly utilized in connection with the storage of utility trucks and equipment. Utility poles were reportedly stored on the Site's northern parcel.

The Site's eastern adjoining building and the Site storage building were reportedly demolished by a private entity in the late 1960's. Thereafter, the Site's northern parcel was reportedly utilized as a disposal area (dump) by various unknown entities for a 5 to 10 year period.

Although public sewer was reportedly available to the Site's east adjoining building as early as the 1920's, the lower level of the building was well below the roadside elevation grade and more than likely utilized a septic system for its discharges.

1.2.3 Historical Chemical Use

Petroleum fuels, solvents, PCBs and heavy metals may have been used in association with past automotive sales and repair and World War II related aircraft parts manufacturing use of the site.

1.3 Report Organization

This SI Report consists of seven sections. Section 1 of the SI 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 and Site history. Section 2 relates to the study area investigation and consists of a description (i.e., dates of completion, number of 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), sediment, surface water 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 SI.

2.0 STUDY AREA INVESTIGATION

2.1 Site Characterization

The site investigations were conducted within the property boundaries of the subject site, with the exception of the collection of subsurface soil and groundwater samples as part of the subsurface investigation conducted on the site's east adjoining property to assess a source area for site contaminants (Figure 3). The SI involved the following specific tasks:

- Site Survey;
- Private Well Survey;
- Surface Soil Sampling;
- Surface Water and Sediment Sampling;
- Exploratory Test Trenching and Test Pitting;
- Test Boring and Monitoring Well Installations;
- Subsurface Soil Sampling;
- Groundwater Sampling;
- Community Dust Monitoring;
- Fish and Wildlife Impact Analysis; and
- Data Usability Summary Report (DUSR).

In addition to the investigative steps listed above, the following non-emergency Interim Remedial Measure (IRM) was undertaken during the course of the SI.

- The removal and off-site disposal of drums and their contents and a tank carcass and its contents.

2.1.1 Summary of Investigative Tasks

Table 2.1.1 presents a summary of the investigative tasks that were carried out as part of the SI. 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

Site Investigation Task	Sample ID	Media	Laboratory Analysis				
			TCL VOCs	TCL SVOCs	TCL PESTs	TCL PCBs	TAL Metals
Site Survey	NA	NA	NA	NA	NA	NA	NA
Private Well Survey	NA	NA	NA	NA	NA	NA	NA
Surface Soil Sampling	SS-1 to SS-24	Surface Soils	X	X	X	X	X
Subsurface Soil Sampling (Test Trenches)	TT-1 to TT-5	Subsurface Soils	X	X	X	X	X
Subsurface Soil Sampling (Test Pits)	TP-1 to TP-6	Subsurface Soils	X	X	X	X	X
Subsurface Soil Sampling (Test Boring)	MW-1 to MW-13	Subsurface Soils	X	X	X	X	X
Groundwater Sampling	MW-1 to MW-12	GW	X	X	X	X	X
Wetland Surface Water Sampling	SW-1 to SW-2	Water	X	X	X	X	X
Wetland Sediment Sampling	WS-1 to WS-3	Sediment	X	X	X	X	X
Community Dust Monitoring	NA	Dust in Air	NA	NA	NA	NA	NA
Fish and Wildlife Impact Analysis	NA	NA	NA	NA	NA	NA	NA
Data Usability Summary Report	NA	NA	NA	NA	NA	NA	NA

2.1.2 Site Survey

The original survey for the site identifying the site's property boundaries is entitled "Map of Survey Prepared for Saranac Lake Volunteer Fire Department", prepared by Geomatics Land Surveying, PC, dated November 1, 2006 (see Figure 2). The survey map was used as a base map by C.T. Male to conduct a Record Survey showing SI sampling locations and existing topography. The record survey was conducted on January 10 and 11, 2008 to determine the site's topography and to locate the test trenches, test pits, soil borings, and monitoring wells, and the surface soil, surface water and sediment sampling locations completed as part of the SI for the project site. Ground surface elevations were also determined at all test boring and monitoring well locations relative to an assumed base, including the top of PVC well casing (monitoring wells). Off-site soil borings and monitoring wells installed after completion of the survey were located by tape measuring their locations to existing features identified in the record survey and the elevations surveyed relative to an assumed base. All sampling locations are shown on the SI Sampling Locations Map in Figure 3.

2.1.3 Private Well Survey

According to Robert Martin, superintendent of the Village of Saranac Lake Department of Public Works, public water is available to residential and commercial entities in the site area with the exception of approximately eight residences located on the western end of Moir Road. Moir Road is located approximately 1,500 to 2,000 feet northwest of the subject site.

2.1.4 Surface Soil Sampling

Twenty-four (24) surface soil samples depicted as SS-1 to SS-24 in Figure 3 were collected for analysis on June 28 and 29, 2007.

The samples were collected across the entire site at both biased and unbiased locations and were analyzed for the TCL volatile and semi-volatile organic compounds, PCBs and pesticides, and TAL metals.

Each surface soil sample was collected from either 0 to 2-inches below the ground surface or the vegetative root zone employing proper sampling protocols.

Two sets 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 duplicate samples were collected from surface soil samples SS-7 and SS-16.
- The equipment blanks were collected as follows: the first equipment blank was collected after the collection of surface soil sample SS-7, but before the collection of surface soil sample SS-8. The second equipment blank was collected after the collection of surface soil sample SS-23, which was the last surface soil sample collected.
- The MS/MSDs were performed on surface soil samples SS-10 and SS-19.

2.1.5 Wetland Surface Water and Sediment Sampling

Two (2) surface water and three (3) sediment samples were collected from the wetland on western portions of the site (Fig. 3). The surface water samples were collected on June 29, 2007. The sediment samples were collected on September 5 and 6, 2007.

The two surface water sampling locations are depicted as SW-1 and SW-2 in Figure 3. The surface water samples were collected employing proper sampling protocols and forwarded to the laboratory for analysis for the full TCL/TAL groups of compounds and analytes.

One set of QA/QC samples were collected during the surface water sampling event, as follows:

- The duplicate sample was collected from surface water sample SW-1.
- The equipment blank was collected after the collection of surface water sample SW-2, which was the last surface water sample collected.
- The MS/MSD was performed on surface water sample SW-2.

The three sediment sampling locations are depicted as WS-1 through WS-3 in Figure 3. The sediment samples were collected employing proper sampling protocols and were subjected to laboratory analysis for the full TCL/TAL groups of compounds and analytes.

One set of QA/QC samples were collected during the sediment sampling event, as follows:

- The duplicate sample was collected from sediment sample WS-1.
- The equipment blank was collected after the collection of sediment sample WS-2, but before the collection of sediment sample WS-3.
- The MS/MSD was performed on sediment sample WS-2.

2.1.6 Exploratory Test Trenching and Test Pitting

A total of five (5) exploratory test trenches and six (6) exploratory test pits were completed on the project site from August 16 to September 7, 2007 and are depicted as Test Trenches TT-1 to TT-5 and Test Pits TP-1 to TP-6 in Figure 3.

Excavated soils were visually classified and logged vertically and horizontally by a C.T. Male representative and are presented in the Test Trench and Test Pit Logs in Appendix A. 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 Trench and Test Pit Organic Vapor Headspace Analysis Logs in Appendix B. The test trench sampling locations are depicted on the Subsurface Profile Maps in Figures 4, 4A, 4B and 4C. Of the soil samples collected, a total of 24 samples were submitted for laboratory analysis for the full TCL/TAL groups of compounds and analytes. The following Table 2.1.6-1 lists the samples which were submitted for laboratory analysis.

TABLE 2.1.6-1: TEST TRENCH & TEST PIT SAMPLES SUBMITTED FOR LABORATORY ANALYSIS

Test Trench/Test Pit Identification	Sample Number	Depth Interval (feet bgs)
TT-1	S-1	8
TT-1	S-4	3.5

TABLE 2.1.6-1: TEST TRENCH & TEST PIT SAMPLES SUBMITTED FOR LABORATORY ANALYSIS

Test Trench/Test Pit Identification	Sample Number	Depth Interval (feet bgs)
TT-1	S-8	1
TT-2	S-4	6.5-7.5
TT-2	S-10	2.5
TT-2	S-15	3
TT-2	S-18	9-9.5
TT-3	S-3	5.5
TT-3	S-8	4
TT-3	S-16	1.5
TT-3	S-19	4.5
TT-3	S-20	4
TT-4	S-3	7
TT-4	S-9	7
TT-4	S-14	7
TT-5	S-5	1.5
TT-5	S-7	2.5-3
TT-5	S-23	5
TP-1	S-1	2.5
TP-2	S-1	3

TABLE 2.1.6-1: TEST TRENCH & TEST PIT SAMPLES SUBMITTED FOR LABORATORY ANALYSIS		
Test Trench/Test Pit Identification	Sample Number	Depth Interval (feet bgs)
TP-3	S-1	2
TP-4	S-1	3
TP-5	S-2	6
TP-6	S-1	2

Two sets of QA/QC samples were collected during the test trenching and test pitting sampling event, as follows:

- The duplicate samples were collected from test trench sample TT-2 (S-4) and test pit sample TP-1 (S-1).
- The equipment blanks were collected during excavation of test trench TT-4 and prior to the excavation of test pit TP-6.
- The MS/MSDs were performed on test trench sample TT-1 (S-8) and test pit sample TP-6 (S-1).

2.1.7 Test Borings and Monitoring Well Installations

Sixteen (16) exploratory test borings were completed both on-site and off-site. The borings completed on-site are depicted as MW-1 to MW-7 in Figure 3. The test borings completed off-site are depicted as MW-8 to MW-13, SB-1, SB-2 and SB-3 in Figure 3.

On-Site test borings MW-1 to MW-7 and off-site test borings MW-8 to MW-11 were advanced employing conventional hollow stem auger drilling techniques. Due to auger refusal caused by dense underlying fill material, off-site borings MW-9 to MW-11 could not be completed using conventional drilling techniques. Rather, off-site borings MW-9 to MW-11 and the remaining off-site test borings were advanced employing air rotary drilling techniques. Subsurface soil was collected at continuous 2 foot intervals with a sampling spoon. Each recovered soil sample was screened for the presence of volatile organic compounds with a PID. The subsurface soil profiles are presented on the

Subsurface Exploration Logs in Appendix C. The PID results are presented on the Test Boring Organic Vapor Headspace Analysis Logs in Appendix D.

The test borings were advanced to depths that ranged from 6.2 feet bgs (MW-2) to 21.7 feet bgs (MW-9). A total of 14 soil samples were collected employing proper sampling protocols and forwarded to the laboratory of record for analyses for the full TCL/TAL groups of compounds and analytes. Laboratory analysis for TCL Pesticides and PCBs could not be performed on soil sample MW-11A (S-5) due to an insufficient volume of sampled media.

One set of QA/QC samples were collected during the test boring sampling event, as follows:

- The duplicate sample was collected from test boring sample MW-3 (S-3).
- The equipment blank was collected prior to the advancement of test boring MW-10.
- The MS/MSD was performed on test boring sample MW-12 (S-5).

Twelve (12) of the 16 test borings were converted to 2-inch permanent monitoring wells. Test borings SB-1, SB-2 and SB-3 were not converted to monitoring well as they were exploratory in nature. Test boring MW-13 was not converted to a monitoring well as the boring was installed as an upgradient boring and subjective analysis of recovered soils within the test boring did not reveal evidence of impacts. Each of the on-site monitoring wells (MW-1 to MW-7) was protected with a metal guard pipe with locking hasp. Each of the off-site monitoring wells (MW-8 to MW-12) was protected with a flush mounted curb box with bolted cover. Monitoring well construction logs are provided in Appendix E.

Table 2.1.7-1 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 the depth which a soil sample was collected for laboratory analysis.

TABLE 2.1.7-1: SI Soil Boring and Monitoring Well Summary

Boring/MW ID #	Boring Depth	MW Depth	MW Screened Interval	Soil Sample Depth(1)
MW-1/MW-1	10.1′ bgs	10′ bgs	10 to 3′ bgs	8-10′ bgs
MW-2/MW-2	6.2′ bgs	6′ bgs	6 to 2′ bgs	0-2′ bgs
MW-3/MW-3	9.5′ bgs	9.5′ bgs	9.5 to 2.5′ bgs	4-6′ bgs
MW-4/MW-4	14.5′ bgs	14.5′ bgs	14.5 to 4.5′ bgs	8-10′ bgs
MW-5/MW-5	7.2′ bgs	6.3′ bgs	6.3 to 1.3′ bgs	2-4′ bgs
MW-6/MW-6	14.8′ bgs	14.5′ bgs	14.5 to 4.5′ bgs	4-6′ bgs
MW-7/MW-7	13.6′ bgs	13.3′ bgs	13.3 to 3.3′ bgs	6-8′ bgs
MW-8/MW-8	12.6′ bgs	11.5′ bgs	11.5 to 3.0′ bgs	4-6′ bgs
MW-9/MW-9	21.7′ bgs	21.5′ bgs	21.5 to 11.5′ bgs	14-16′ bgs
MW-10/MW-10	20.7′ bgs	20.5′ bgs	20.5 to 10.5′ bgs	16-18′ bgs, 18-20′ bgs
MW-11/MW-11	18′ bgs	18′ bgs	18 to 5′ bgs	8-10′ bgs
MW-12/MW-12	20.5′ bgs	20′ bgs	20 to 10′ bgs	12-14′ bgs
MW-13/NA	13.8′ bgs	NA	NA	10-12′ bgs
SB-1/NA	10′ bgs	NA	NA	NA
SB-2/NA	10′ bgs	NA	NA	NA
SB-3/NA	10′ bgs	NA	NA	NA

Notes: (1) Sample interval selected for laboratory analysis
bgs denotes below ground surface
NA denotes Not Applicable

2.1.8 Groundwater Sampling

Groundwater samples were collected from the newly installed on-site monitoring wells MW-1 to MW-7 on January 9, 2008 and from the off-site monitoring wells MW-8 to MW-12 on April 11, 2008. Prior to the collection of groundwater samples, each well was developed utilizing a surge block, bailer and peristaltic pump 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 wells were then sampled employing proper sampling techniques and the samples forwarded to the laboratory of record for analyses for the full TCL/TAL groups of compounds and analytes.

Because groundwater sampling was conducted at two different times, two sets of QA/QC samples were collected during the groundwater sampling events, as follows:

- The duplicate samples were collected from groundwater samples MW-7 and MW-11.
- The equipment blanks were collected before the collection of groundwater samples MW-5 and MW-12.
- The MS/MSDs were performed on groundwater samples MW-6 and MW-12.

2.1.9 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 exploratory test trenching and test pitting, soil borings and IRM during periods when it was not raining and/or snowing.

Results of the dust monitoring program are not included within this report, but are retained in the project file for review on request.

2.1.10 Fish and Wildlife Impact Analysis (FWIA)

C.T. Male completed a Fish and Wildlife Impact Analysis (FWIA) (dated March 25, 2008) pursuant to the October 1994 NYSDEC FWIA for Inactive Hazardous Waste Sites.

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 is presented as Exhibit 1.

2.1.11 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 SI 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 2.

2.1.12 Interim Remedial Measure

A non-emergency Interim Remedial Measure (IRM) was conducted during the SI and included the segregation, transportation and off-site disposal of several 55-gallon and 20-gallon drums and their contents and an approximate 1,000-gallon tank carcass and its contents. The IRM work was performed by OP-TECH from August 28 to September 6, 2007.

The majority of the abandoned drums were stockpiled in the vicinity of Test Trench TT-5, as depicted in Figure 3. In addition to the stockpiled drums, an approximate 20-gallon drum containing grease waste and a 55-gallon drum containing sludge were discovered at the ground surface on northern portions of the site. An aboveground tank carcass was discovered at the ground surface on the northern portion of the site.

The stockpiled drums, some of which were partially buried, were either empty or contained a sand-like material. The empty drums, along with other miscellaneous metal strewn over the site, were salvaged off-site at a scrap metal facility. The remaining drums containing the sand-like material were emptied of their contents and the drums salvaged off-site. The sand-like material was staged atop two, 6-mil layers of poly and covered. A representative sample was collected of the sand-like material for laboratory analysis for disposal purposes. The sample was collected on September 8, 2007 by C.T. Male and forwarded to Mitkem Corporation for analysis for the full TCL/TAL groups of compounds and analytes and for TCLP Metals.

The approximate 20-gallon drum containing sludge on the northern portion of the site was placed in an overpack drum and staged atop two, 6-mil layers of poly. A representative sample was collected of the grease waste for laboratory analysis for waste characterization. The sample was collected on September 7, 2007 by OP-TECH and forwarded to Environmental Laboratory Services for analysis for PCBs and Metals by TCLP.

The approximate 55-gallon drum containing sludge on the northern portion of the site was encapsulated in poly and staged atop two, 6-mil layers of poly. The drum was later placed in an overpack drum. A representative sample was collected of the sludge for laboratory analysis for waste characterization. The sample was collected on September 14, 2007 by OP-TECH and forwarded to Environmental Laboratory Services for analysis for PCBs and Metals by TCLP.

The aboveground tank was staged atop two, 6-mil layers of poly and covered. Prior to staging the tank, liquids within the tank were evacuated and containerized in a 55-gallon drum. A sample was then collected of sludge remaining in the tank for laboratory analysis for waste characterization. The sample was collected on September 14, 2007 by OP-TECH and forwarded to Environmental Laboratory Services for analysis for PCBs and Metals by TCLP.

The analytical results for the sampled IRM derived wastes are presented in Appendix F. The bills of lading and waste manifests for the disposed wastes are presented on Appendix G.

2.1.13 SI Derived Wastes

Wastes derived during the SI included two 55-gallon drums of decontamination water and one 55-gallon drum of drill rig soil cuttings. The wastes were transported off-site as non-hazardous waste by OP-TECH to OP-TECH's facility in Waverly, New York. The Straight Bill of Lading for the waste is presented in Appendix G.

2.1.14 Site Restoration

The site's east adjoining property was repaired of any minor damages caused by snow removal and drilling activities which took place during the SI. Minor damage included front-end loader and drill rig track and wheel ruts, indentations to the ground caused by drill rig hydraulic supports, and mounded ground in the vicinity of drilling locations. The damaged areas were restored by OP-TECH on May 21, 2008 and included the leveling of the disturbed areas and the application of topsoil and grass seed to restore the site in-kind.

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 consists of two contiguous parcels of undeveloped land historically associated with automotive repair, maintenance and manufacturing activities, and for uncontrolled dumping (site's northern parcel). Overall, the topography of the site slopes downward from the east to the west (see Fig. 3). The Site's southern parcel consists predominantly of mature trees, thickets and grasses with its western portions consisting of Adirondack Park Agency (APA) delineated wetlands. The central and eastern portions of the northern parcel are lightly wooded and are at an elevation of approximately 3 to 4 feet above the southern parcel, which is attributed to this portion of the site being historically used as an uncontrolled dumping area. Wetlands make up western portions of the north parcel. The property adjacent east of the site slopes steeply upwards in an easterly direction approximately 12 feet above the site's elevation. The site's eastern adjoining property was brought to grade with Upper Broadway through the deposition of fill material in this location.

3.1.2 Surface Water Bodies

A small creek transects southeastern portions of the site. The creek is fed by a culvert pipe within a concrete headwall located along the western side of Upper Broadway. The creek flows into APA delineated wetlands which occupy western portions of the site. The wetlands continue off-site in a general westerly direction and terminate at the shores of Lake Colby, which is located approximately 2,000 feet west of the site.

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 towards the wetlands on western portions of the site. Water within the creek flows in a general westerly direction into the site's wetlands.

3.1.4 Regional Geology

Based on a review of the Surficial Geologic Map of New York, Adirondack Sheet, the surficial geology in the vicinity of the site is mapped as till which indicates a soil of variable texture (e.g. clay, silt-clay, boulder-clay) that was deposited beneath glacial ice.

According to the Geologic Map of New York, Adirondack Sheet, bedrock in the vicinity of the site is mapped as undivided metasedimentary rock and related migmatite.

3.1.5 Site Soils and Bedrock

The site soils were explored through the advancement of test trenches, test pits and soil borings completed for this SI. Subsurface test trench/pit and soil boring logs are included in Appendix A, B and C. The logs summarize and present the classifications of the subsurface soil/fill, moisture content and other pertinent visual observations of the sub-stratum for the site. Subsurface cross-sections (Figures 4, 4A, 4B and 4C in Appendix H) were developed for the site's northern parcel and east adjoining property. The sections were created by extrapolating subsurface data collected from test trenches, test pits and soil borings advanced within these areas.

The site's northern parcel is overlain by fill material generally consisting of sand with varying percentages of cobbles, boulders, wood, brick, C&D debris and organic matter with the exception of the northernmost portion of the site where bedrock was encountered at the site's surface at two locations (Fig. 4B, Appendix H). The fill material is approximately 1 to 8 feet thick and is underlain by a layer of dark brown and black fine sand, silt and organic matter, with the exception of the northern portion of the site where bedrock underlies the majority of the fill material. The silt, sand and organic matter layer ranges from less than one foot to three feet in thickness and is interpreted to represent this portion of the site's original surface grade prior to the deposition of the fill material. The silt, sand and organic matter layer are underlain by glacial till consisting of fine sand and silt with various percentages of clay, gravel and coarse sand with the exception of the Subsurface Profile D-D′ (Test Trench TT-4) location (see Fig. 4C, Appendix H). At this location, the silt, sand and organic matter layer is underlain by clay.

The subsurface profile for the site's southern parcel generally consists of very fine sand and silt with varying percentages of gravel, cobbles and boulders. The cobbles were encountered at test pits TP-2 and TP-6 only, and the boulders encountered at test pit TP-6 only.

Bedrock and/or large boulders were encountered at several locations. Bedrock was encountered from surface grade to approximately 6 feet bgs at Test Trenches TT-1 and TT-2, which are located on northern portions of the site. Based on where the bedrock was encountered, it appears that a tongue of bedrock extends from north to south over the site's northern parcel. Bedrock (or large boulders) was also encountered in all of the soil borings at depths that ranged from 6.2′ bgs (MW-2) to 14.8′ bgs (MW-6) at the on-site test borings and 12.6′ bgs (MW-8) to 21.7′ bgs (MW-9) at the off-site test borings. The depths that bedrock was encountered were extrapolated to create a Bedrock Contour Map, which is presented in Figure 5.

3.1.6 Groundwater Characteristics

According to the map entitled "Unconsolidated Aquifers in Update New York, Adirondack Sheet" (Edward F. Bugliosi and Ruth A. Trudell, 1988`), the subject site is not located within a primary aquifer source.

Groundwater conditions were assessed through the advancement of test borings, test trenches and test pits and the installation of permanent monitoring wells. Static groundwater levels were collected from the site and adjacent off-site wells during the course of the SI. Based on the collected water level data, the water table across the site and east adjoining property ranges in depth from approximately 1.14 to 13.41 feet below the top of the PVC riser for water levels recorded on April 10, 2008 and from approximately 3.19 to 14.30 feet below the top of PVC riser for water levels recorded on May 7, 2008.

Water level measurements obtained on April 10 and May 7, 2008 were used in conjunction with the survey of the site to generate site wide groundwater contour maps which are presented as Figures 6 and 7, respectively. The site-wide contour maps show groundwater to flow generally in a west-southwesterly direction into wetlands comprising western portions of the site.

Field observations and parameters (pH, conductivity, and temperature) were recorded during the groundwater sampling events completed for on-site monitoring wells MW-1 to MW-7 on January 9, 2008 and off-site monitoring wells MW-8 to MW-12 on April 11, 2008 and were recorded on Groundwater Services Field Logs. The pH values for the collected on-site groundwater samples were slightly alkaline with values ranging from 7.54 to 9.11 standard units and less alkaline for the off-site monitoring wells with values ranging from 7.08 to 7.98 standard units. The groundwater temperature upon sample collection ranged from 2.4 to 11.0 degrees Celsius for groundwater collected from the on-site monitoring wells in January 2008 and from 3.9 to 7.1 degrees Celsius for groundwater collected from the off-site wells in April 2008. The conductivity for the groundwater samples ranged from 432 µS to 827 µS. Turbidity values for the groundwater sampling event were monitored prior to collecting the analytical samples. Turbidity values ranged from 4.72 to 62.2 NTUs. Table 3.1.6-1 lists the field parameter values for each well prior to sample collection.

TABLE 3.1.6-1: Summary of Field Observations (9/9/2008 and 4/11/2008)

Well ID	Turbidity[1]	pH & Temp.	Specific Conductance	Well ID	Turbidity	pH & Temp.	Specific Conductance
MW-1	29.3 NTU	7.69 @ 3.8°C	458 µs	MW-7	7.81 NTU	6.78 @ 5.0°C	752µs
MW-2	46.8 NTU	7.54 @ 2.4°C	707 µs	MW-8	8.4 NTU	7.98 @ 3.9°C	739 µs
MW-3	4.72 NTU	8.68 @ 11.0°C	651 µs	MW-9	29 NTU	7.08 @ 7.1°C	827 µs
MW-4	40.3 NTU	9.11 @ 3.3°C	432 µs	MW-10	5.04 NTU	7.16 @ 5.6°C	827 µs
MW-5	12.7 NTU	8.95 @ 2.9°C	700 µs	MW-11	5.07 NTU	7.63 @ 5.5°C	725 µs

TABLE 3.1.6-1: Summary of Field Observations (9/9/2008 and 4/11/2008)							
Well ID	Turbidity[1]	pH & Temp.	Specific Conductance	Well ID	Turbidity	pH & Temp.	Specific Conductance
MW-6	62.2 NTU	7.86 @ 5.1°C	635 μs	MW-12	19.8 NTU	7.66 @ 4.5°C	686 μs

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

4.0 NATURE AND EXTENT OF CONTAMINATION

4.1 Sources

Petroleum fuels, solvents, PCBs and heavy metals may have been used in association with past automotive sales and repair and World War II related aircraft parts manufacturing use of the site's northern parcel, which was also used for uncontrolled dumping. No known historic uses are affiliated with the site's southern parcel.

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

Project SCGs were established for evaluation of analytical results for the four media types that were sampled. The media types included, surface and subsurface soils, groundwater, and surface water and sediments from the on-site wetland.

Laboratory analysis for the surface water and groundwater included TCL volatile and semi-volatile organic compounds, PCBs and Pesticides, and TAL metals. The analytical results were compared to NYSDEC Groundwater Standards and Guidance Values promulgated in the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS).

Laboratory analysis for the sediments included TCL volatile and semi-volatile organic compounds, PCBs and Pesticides, and TAL Metals. The analytical results were compared to the NYSDEC Technical Guidance for Screening Contaminated Sediments, Human Health Bioaccumulation. It should be noted that the SCGs for sediments are divided into two categories; the Lowest Effect Level (LEL) and the Severe Effect Level (SEL). The LEL indicates a level of sediment contamination that can be tolerated by the majority of benthic organisms, but still causes toxicity to a few species. The SEL indicates the concentration at which pronounced disturbance of the sediment dwelling community can be expected.

Laboratory analysis for surface and subsurface soils included TCL volatile and semi-volatile organic compounds, PCBs, Pesticides, and TAL Metals. The analytical results were compared to NYSDEC 6 NYCRR Part 375 Environmental Remediation Programs, Subpart 375-6 Restricted (Restricted Residential) Use Soil Cleanup Objectives and

NYSDEC TAGM 4046 Recommended Soil Cleanup Objectives (RSCOs) for Eastern USA Background guidelines for metals only.

4.3 Background Soils

The SI Work Plan stated that depending on the analytical results of the surface soil sampling, off-site background samples may be collected to aid in determining if elevated contaminant levels are localized to the project site or if they are regional in their extent. Based on consultation with the NYSDEC Project Manager, the collection and laboratory analysis of background soil samples is not required at this time.

4.4 Surface Soils

4.4.1 General

Twenty-four (24) surface soil samples (SS-1 to SS-24 on Fig. 3) were collected across the site and were analyzed for TCL volatile and semi-volatile organic compounds, pesticides and PCBs, and TAL metals.

The full analytical summary table of surface soil sampling results is presented in Table 4.4.1-1. Values on the table which are bolded have exceeded their corresponding SCGs.

4.4.2 Volatile Organic Compounds in Surface Soil

Volatile organic compounds were not detected above the laboratory detection limit.

4.4.3 Semi-Volatile Organic Compounds in Surface Soil

Thirty (30) SVOCs were detected at concentrations exceeding the laboratory detection limit, with 4 SVOCs detected above SCGs. The SVOCs above SCGs were detected at SS-3 (4 SVOCs), SS-13 (1 SVOC) and SS-18 (1 SVOC). The SVOCs above SCGs are identified on the Parameters Exceeding SCGs in Surface Soil Locations Map in Figure 8.

4.4.4 Pesticides and PCBs in Surface Soils

Sixteen (16) Pesticides were detected at concentrations exceeding the laboratory detection limit with none exceeding SCGs.

One PCB (Aroclor-1260) was detected at a concentration exceeding the laboratory detection limit and was detected above its SCG at SS-20. The PCB above its SCG is identified on the Parameters Exceeding SCGs in Surface Soil Locations Map in Figure 8.

4.4.5 Metals in Surface Soils

Twenty-two (22) metals were detected at concentrations above the laboratory detection limit with 6 metals detected at concentrations above SCGs at 6 of 24 sampling locations. The metals included aluminum, arsenic, barium, cadmium, copper and lead. The sampling locations where metal concentrations exceeded SCGs are presented on the Parameters Exceeding SCGs in Surface Soil Locations Map in Figure 8.

It should be noted that all of the metals above SCGs exceeded their corresponding Eastern USA Background values (see Table 4.4.1-1).

4.5 Subsurface Soils

4.5.1 General

Thirty-eight (38) subsurface soil samples were collected from 13 test borings (MW-1 to MW-13), five (5) test trenches (TT-1 to TT-5) and six (6) test pits (TP-1 to TP-6). It should be noted that test borings MW-8 to MW-13 are located off-site.

The full analytical summary results are presented in the following tables.

- Test trench (TT-1 to TT-5) and Test Pit (TP-1 to TP-6) sampling results - Table 4.5.1-1.
- Test boring (MW-1 to MW-13) sampling results - Table 4.5.1-2.

Values on the tables which are bolded have exceeded their corresponding SCGs.

4.5.2 Volatile Organic Compounds in Subsurface Soils

Twenty-one (21) VOCs were detected at concentrations above the laboratory detection limit with none detected above SCGs.

4.5.3 Semi-Volatile Organic Compounds in Subsurface Soils

Twenty-one (21) SVOCs were detected at concentrations exceeding the laboratory detection limit, with 5 SVOCs detected above SCGs. The SVOCs above SCGs were detected at Test Trench TT-3 - sample numbers S-16 (1 SVOC) and S-20 (5 SVOCs), and Test trench TT-5 - sample number S-7 (1 SVOC). The sampling locations where SVOC concentrations exceeded SCGs were confined to the site and are depicted on the Parameters Exceeding SCGs in Subsurface Soil Locations Map in Figure 9.

4.5.4 Pesticides and PCBs in Subsurface Soils

Fifteen (15) Pesticides were detected at concentrations exceeding the laboratory detection limit with none detected above SCGs.

One (1) PCB (Aroclor 1260) was detected at a concentration exceeding both the laboratory detection limit and its SCG at Test Trench TT-5 – sample number S-23. The sampling location where the PCB concentration exceeded its SCG is depicted on the Parameters Exceeding SCGs in Subsurface Soil Locations Map in Figure 9.

4.5.5 Metals in Subsurface Soils

Twenty-three (23) metals were detected at concentrations above the laboratory detection limit, with 3 metals detected above SCGs. The metals above SCGs were detected at on-site sampling locations Test Trench TT-2 – sample number S-10 (cadmium), Test Trench TT-3 – sample number S-16 (copper), Soil Boring MW-1 – sample number S-5 (magnesium), and off-site sampling location Soil Boring MW-12 – sample number S-5 (magnesium). The sampling locations where metals exceeded SCGs are depicted on the Parameters Exceeding SCGs in Subsurface Soil Locations Map in Figure 9.

It should be noted that the metals above SCGs exceeded their corresponding Eastern USA Background values.

4.5.6 Subjective Impacts in Subsurface Soils

Subjective evidence of impacts to subsurface soils was noted at several of the locations explored during advancement of the test pits, test trenches and test borings. Subjective impacts included petroleum and solvent-type odors, staining of soils and elevated PID readings. A description of the subjective impacts noted in the field is presented in the Test Trench and Test Pit, and Subsurface Exploration Logs in Appendices A and C; and the Test Trench and Test Pit, and Test Boring Organic Vapor Headspace Analysis Logs in Appendices B and D. A visual representation of the locations and extent of the impacts are presented in the Subsurface Profiles in Figures 4 to 4C in Appendix H. The approximate extent of subjective impacts to subsurface soils and fill is presented in Figure 9A. A comparison between the subjective impacts and the subsurface soil analytical results suggests the impacts are old in nature and the chemical parameters have "weathered" over time.

As discussed in Section 4.5.2, 21 VOCs were detected above the laboratory detection limit but below SCGs. As depicted on Tables 4.5.1-1 and 4.5.1-2, the detected VOC compounds are typical constituents of petroleum and solvent-type products. Subjective analysis of subsurface soil samples employing organoleptic perception revealed several sampling locations exhibiting petroleum and solvent-type odors and black and metallic staining. Additionally, headspace analysis of the collected soil samples showed elevated PID readings that exceeded the instrument's maximum limit of 9,999 ppm.

4.6 Groundwater

4.6.1 General

Groundwater samples were collected from monitoring wells MW-1 to MW-12 (Figure 3). The samples were analyzed for TCL volatile and semi-volatile organic compounds, pesticides and PCBs, and TAL metals. It should be noted that monitoring wells MW-1 to MW-7 are located on the site while monitoring wells MW-8 to MW-12 are off-site wells.

The full analytical summary table of groundwater sampling results is presented in Table 4.6.1-1. Values on the table which are bolded have exceeded their corresponding SCGs.

4.6.2 Volatile Organic Compounds in Groundwater

Four (4) VOCs were detected above the laboratory detection limit with two (2) VOCs detected above SCGs. 4-Isopropyltoluene was detected above its SCG at on-site monitoring well MW-2. Benzene was detected above its SCG at off-site monitoring well

MW-9. The VOCs above SCGs are depicted on the Parameters Exceeding SCGs in Groundwater Locations Map in Figure 10.

4.6.3 Semi-volatile Organic Compounds in Groundwater

Five (5) SVOCs were detected above the laboratory detection limit with five (5) SVOCs detected at concentrations above SCGs. The SVOCs above SCGs were detected in on-site monitoring wells MW-1 (4 SVOCs), MW-2 (4 SVOCs), MW-4 (3 SVOCs) and in off-site monitoring well MW-9 (1 SVOC) (Fig. 10).

4.6.4 Pesticides and PCBs in Groundwater

Two (2) pesticides were detected at concentrations exceeding the laboratory detection limit with one (1) pesticide detected above its SCG at off-site monitoring well MW-9 (Fig. 10).

PCBs were not detected at concentrations exceeding the laboratory detection limit.

4.6.5 Metals in Groundwater

Eighteen (18) metals were detected at concentrations exceeding the laboratory detection limit with four (4) metals detected at concentrations above SCGs. Iron was detected above SCGs at 12 of 12 monitoring wells, manganese was detected above SCGs at 11 of 12 monitoring wells, sodium was detected above SCGs at 8 of 12 monitoring wells, and selenium was detected above SCGs at 7 of 12 monitoring wells (Fig. 10). The selenium detections above SCGs were confined to the on-site monitoring wells.

4.7 Surface Water

4.7.1 General

Two (2) surface water samples (SW-1 and SW-2) were collected from the on-site wetland. The samples were analyzed for TCL volatile and semi-volatile organic compounds, pesticides and PCBs, and TAL metals.

The full analytical summary table of surface water sampling results is presented in Table 4.7.1-1. Values on the table which are bolded have exceeded their corresponding SCGs.

4.7.2 Volatile Organic Compounds in Surface Water

Two (2) VOCs were detected at concentrations above the laboratory detection limit. The detected VOCs acetone and 4-isopropyltoluene did not have corresponding regulatory SCGs for comparison purposes.

4.7.3 Semi-volatile Organic Compounds in Surface Water

Four (4) SVOCs were detected at concentrations above the laboratory detection limit, but below SCGs.

4.7.4 Pesticides and PCBs in Surface Water

Pesticides and PCBs were not detected at concentrations exceeding the laboratory detection limit.

4.7.5 Metals in Surface Water

Twenty-three (23) metals were detected at concentrations exceeding the laboratory detection limit with two (2) metals detected at concentrations above SCGs. Metals detected above SCGs included Iron (SW-1 and SW-2) and Thallium (SW-1). The sampling locations and metal concentrations are depicted on the Parameters Exceeding SCGs in Wetland Surface Water and Sediments Locations Map in Figure 11.

4.8 Sediments

4.8.1 General

Three (3) sediment samples (WS-1 to WS-3) were collected from the on-site wetland. The samples were analyzed for TCL volatile and semi-volatile organic compounds, pesticides and PCBs, and TAL metals.

The full analytical summary table of sediment sampling results is presented in Table 4.8.1-1. Values on the table which are bolded have exceeded their corresponding SCGs.

4.8.2 Volatile Organic Compounds in Sediment

One (1) VOC was detected at a concentration exceeding the laboratory detection limit, but below its SCG.

4.8.3 Semi-volatile Organic Compounds in Sediment

Three (3) SVOCs were detected at concentrations exceeding the laboratory detection limit, but below their respective SCGs.

4.8.4 Pesticides and PCBs in Sediment

Pesticides and PCBs were not detected at concentrations exceeding the laboratory detection limit.

4.8.5 Metals in Sediment

Twenty (20) metals were detected at concentrations exceeding the laboratory detection limit with three (3) metals detected at concentrations above the LEL SCGs (see Section 4.2 for the definition of LEL and SEL). Metals above the LEL SCGs included Arsenic (WS-1 and WS-3), Cadmium (WS-1 and WS-3) and Zinc (WS-1). The sampling locations and metal concentrations are depicted on the Parameters Exceeding SCGs in Wetland Surface Water and Sediments Locations Map in Figure 11. The detected metals did not exceed the SEL SCGs.

4.9 Private Well Survey

According to Robert Martin, superintendent of the Village of Saranac Lake Department of Public Works, public water is available to residential and commercial entities in the site vicinity with the exception of approximately eight residences located on the western end of Moir Road. Moir Road is located approximately 1,500 to 2,000 feet northwest of the subject site. Because groundwater flow is towards the west-southwest, impacts to the site's groundwater are not anticipated to have any effect on the private wells along Moir Avenue.

4.10 Fish and Wildlife Impact Analysis

C.T. Male completed Step 1 of a Fish and Wildlife Impact Analysis (FWIA) (dated March 25, 2008) pursuant to the October 1994 NYSDEC FWIA for Inactive Hazardous Waste Sites. The FWIA is presented as Exhibit 1. The FWIA report concluded that the value of the fish and wildlife resources on the site and within a 0.5-mile radius of the site is considered moderate and that the covertypes in the study area have been influenced by human activities. Some evidence of stress from potentially contaminated conditions was observed within the project site.

4.11 Data Usability Summary Report

All of the site investigation analytical data has been independently validated and deemed usable 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 2 of this report.

4.12 Interim Remedial Measure

The IRM derived wastes were transported off-site for disposal by OP-TECH on May 21, 2008. The IRM derived waste manifests and bill-of lading are presented in Appendix G. The IRM wastes transported off-site included the following:

- Approximately 23 tons of sand-like material removed from the stacked 55-gallon drums in the vicinity of Test Trench TT-5 (Fig. 3). Analytical results for the sand-like material showed it as hazardous for lead (see App. F). The material was transported to CWM Chemical Services, LLC in Model City, New York for disposal.

- Three, 55-gallon drums of sludge, liquid and PPE for the cleaning and removal of the contents of the 1,000-gallon aboveground tank. Analytical results for the tank contents showed it as hazardous for lead (See App. F). The material was transported to CWM Chemical Services, LLC in Model City, New York for disposal.

- Two, 55-gallon overpack drums containing the 20-gallon drum of grease waste and the 55-gallon drum of sludge discovered at the ground surface on northern portions of the site. Analytical results for the drum contents showed them as non-hazardous (see App. F). The wastes were transported to OP-TECH's Environmental Services facility in Waverly, New York.

4.13 Summary of Extent of Contamination

4.13.1 General Overview

Analytical results for sampled surface and subsurface soils, sediment, surface water, and groundwater were compared to site specific SCGs identified in Section 4.2. The following table (Table 4.13.1-1) lists those compounds and analytes that exceeded project specific SCGs along with the frequency that the applicable SCG was exceeded per analyzed media. Parameters detected above SCGs from off-site locations are identified on the table.

TABLE 4.13.1-1: COMPOUNDS AND ANALYTES EXCEEDING SCGs PER MEDIA TYPE

Media	Class	Contaminant of Concern	Detected Concentration Range	Frequency of Exceeding Standard	Applicable SCG (1)
Surface Soils (mg/kg)	VOCs	None Detected Above SCGs			
	SVOCs	Benzo(a)anthracene	2	1 of 24	1
		Benzo(b)fluoranthene	3.1	1 of 24	1
		Benzo(a)pyrene	2	1 of 24	1
		Indeno(1,2,3-cd)pyrene	0.54 to 1.2	3 of 24	0.5
	PESTs	None Detected Above SCGs			
	PCBs	Aroclor 1260	1.9	1 of 24	1
	Metals	Aluminum	148,000	1 of 24	33,000
		Arsenic	31.4	1 of 24	16
		Barium	886	1 of 24	400
		Cadmium	12	1 of 24	4.3
		Copper	1,360 to 8,240	2 of 24	270
		Lead*	469 to 2,410	4 of 24	400
Subsurface Soils (mg/kg)	VOCs	None Detected Above SCGs			
	SVOCs	Benzo(a)anthracene	1.2 to 1.9	2 of 38	1
		Benzo(b)fluoranthene	1.1 to 4.3	2 of 38	1
		Benzo(a)pyrene	2	1 of 38	1
		Indeno(1,2,3-cd)pyrene	1.4	1 of 38	0.5
		Dibenzo(a,h)anthracene	0.37	1 of 38	0.33
	PESTs	None Detected Above SCGs			
	PCBs	Aroclor 1260	8.8	1 of 38	1
	Metals	Cadmium	6	1 of 38	4.3
		Copper	294	1 of 38	270
		Magnesium	6,670 to 8,150	2 of 38	5,000
Ground Water (ug/l)	VOCs	Benzene	200	1 of 12 (off-site)(2)	1
		4-Isopropyltoluene	7	1 of 12	5
	SVOCs	Phenol	5 to 30	4 of 12 (1 off-site)(3)	1
		2-Methylphenol	11 to 31	3 of 12	1

TABLE 4.13.1-1: COMPOUNDS AND ANALYTES EXCEEDING SCGs PER MEDIA TYPE						
Media	**Class**	**Contaminant of Concern**	**Detected Concentration Range**	**Frequency of Exceeding Standard**	**Applicable SCG (1)**	
Ground Water (ug/l)	**SVOCs**	4-Methylphenol	21 to 140	3 of 12	1	
		Pentachlorophenol	5	1 of 12	1	
		Bis(2-Ethylhexyl)phthalate	7	1 of 12	5	
	PESTs	Alpha-Chlordane	0.052	1 of 12 (off-site)(4)	0.05	
	PCBs	None Detected Above the Laboratory Detection Limit				
	Metals	Iron	673 to 25,800	12 of 12(5)	300	
		Manganese	376 to 10,400	11 of 12 (4 off-site)(6)	300	
		Selenium	11.2 to 26.3	7 of 12	10	
		Sodium	24,300 to 80,100	8 of 12 (3 off-site)(7)	20,000	
Surface Water (ug/l)	**VOCs**	None Detected Above SCGs				
	SVOCs	None Detected Above SCGs				
	PESTs	None Detected Above the Laboratory Detection Limit				
	PCBs	None Detected Above the Laboratory Detection Limit				
	Metals	Iron	64,500 to 671,000	2 of 2	300	
		Thallium	71	1 of 2	20	
Sediments (mg/kg)	**VOCs**	None Detected Above SCGs				
	SVOCs	None Detected Above SCGs				
	PESTs	None Detected Above the Laboratory Detection Limit				
	PCBs	None Detected Above the Laboratory Detection Limit				
	Metals				**LEL**	**SEL**
		Arsenic	9.2 to 14.4	2 of 3	6	33
		Cadmium	1.4(2)	2 of 3	0.6	9
		Zinc	171	1 of 3	120	270

Table Notes:

(1) NYSDEC 6 NYCRR Part 375 Environmental Remediation Programs, Subpart 375-6 Restricted (Restricted Residential) Use Soil Cleanup Objectives for soils. NYSDEC Technical Guidance for Screening Contaminated Sediments, Human Health Bioaccumulation for sediments. NYSDEC Division of Water Technical and Operational Guidance Series (1.1.1), Ambient Water Quality Standards and Guidance Values and Effluent Limitations, June 1998 for groundwater and surface water.

(2) Detected at off-site monitoring well MW-9.

(3) Detected at off-site monitoring well MW-9.

(4) Detected at off-site monitoring well MW-9.

(5) Detected at all of the off-site monitoring wells.

(6) Detected at off-site monitoring wells MW-8, MW-9, MW-11 and MW-12.

(7) Detected at off-site monitoring wells MW-8, MW-11 and MW-12.

* Background levels for lead vary widely. Average background levels in metropolitan areas near highways are much higher and typically range from 200 to 500 mg/kg or ppm. The EPA's Interim Lead Hazard Guidance (7/14/94) establishes a residential screening level of 400 mg/kg or ppm.

4.15.2 SVOCs, PCBs and Metals in Surface and Subsurface Soils

Five (5) SVOCs, one (1) PCB and six (6) metals were detected above SCGs in surface and subsurface soils (Figs. 8 and 9). The SVOCs were detected at concentrations slightly exceeding their corresponding SCGs and were confined to 3 surface soil sampling locations and 3 subsurface soil sampling locations. The single PCB above SCGs was detected at 1 surface soil sampling location and 1 subsurface soil sampling location. The 6 metals were detected above SCGs at 5 surface soil sampling locations and 4 subsurface soil sampling locations.

Subjective impacts to the site's subsurface soils were noted at several locations during the SI. A comparison between the subjective impacts and the subsurface soil analytical results suggests that the impacts are old in nature and that the chemical wastes have "weathered" over time.

4.15.3 VOCs, SVOCs, Pesticides and Metals in Groundwater

Two (2) VOCs, five (5) SVOCs, one (1) pesticide and four (4) metals were detected in groundwater at concentrations exceeding SCGs (Fig. 10).

The VOC benzene was detected at off-site monitoring well MW-9 and was not detected in the on-site monitoring wells. 4-Isopropyltoluene was detected slightly above its SCG at on-site monitoring well MW-2, which is located in the vicinity of Test Trench TT-2.

The five (5) SVOCs were detected at various frequencies in on-site monitoring wells MW-1, MW-2 and MW-4 only, with phenol also detected in off-site monitoring well MW-9. The VOC benzene was also detected above SCGs at MW-9.

The pesticide alpha-chlordane was detected slightly above its SCG at off-site monitoring well MW-9 only.

The metals iron, manganese and sodium were detected above SCGs at varying frequencies in both the on-site and off-site monitoring wells. Selenium was only detected above its SCG in all the on-site monitoring wells.

4.15.4 Metals in Surface Water

Two (2) metals were detected at concentrations above SCGs in surface water sampled from the wetland (Fig. 11). Iron was detected above its SCG at both surface water sampling locations. Thallium was detected above its SCG at SW-1 only, which is located on the southwestern portion of the site.

4.15.5 Metals in Sediments

Three (3) metals were detected above SCGs in sediments sampled from the wetland (Fig. 11). Arsenic, Cadmium and Zinc were detected at concentrations above the LEL SCGs but below the SEL SCGs (see Section 4.2 for SCG detail). Arsenic and chromium were detected above the LEL SCGs at WS-1 and WS-3 only. Zinc was detected above its LEL SCG at WS-1 only. Metals were not detected above SCGs at WS-2.

5.0 CONTAMINANT FATE AND TRANSPORT

5.1 General Overview

The site related contaminants include SVOCs, PCBs and metals in soils; VOCs, SVOCs, pesticides and metals in groundwater; metals in surface water; and metals in sediment. Compounds and analytes detected above SCGs in surface and subsurface soils, groundwater, surface water, and sediment are presented in Table 4.13.1-1 in Section 4.13.1. 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 analytes 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 surface water, groundwater and soil vapor, and the fate of the contaminants in terms of transformation and degradation.

Due to their composition (VOCs, SVOCs, PCBs, pesticides and metals), 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.

5.2 Specific Gravity

Table 5.2-1 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. Semi-volatile organic compounds and metals generally have a specific gravity value greater than 1. Therefore, semi-volatile organic compounds and metals would tend to migrate vertically downward. None of the SVOCs found at the site are present at levels that would suggest a separate phase of contaminant.

TABLE 5.2-1: Physical and Chemical Properties of Site Contaminants					
Compound	**Density**	**Kow(1)**	**Koc(2)**	**Water Solubility(3)**	**Henry's Law Constant(4)**
Volatile Organic Compounds					
Benzene(5)	0.879	2.12	83	1.75E+06	5.59E-03
4-Isopropyltoluene	0.85	4.10	4050	23.4	11E-03
Semi-Volatile Organic Compounds:					
Benzo(a)anthracene	1.274	5.61	645,654	1.00E-02	8.0E-06
Benzo(a)pyrene	1.351	5.99	891,250	3.80E-03	3.36E-07
Benzo(b)fluoranthene	NDA	5.78	5,011,872	1.20E-03	5.03E-07
Dibenz(a,h)anthracene	1.282	6.50	6.22	2.49E-03	1.70E-06
Indeno(1,2,3-cd)pyrene	NDA	5.97	8,511,380	6.2E-02	1.78E-07
Phenol	-1.0571	1.39	52.48	84,120	3.937E-07
2-Methylphenol	1.0273	1.93	1.70	26,800	1.20E-06
4-Methylphenol	1.0178	1.67	1.69	22,000	7.69E-07
Pentachlorophenol	1.978	5.86	2.95	9.59	2.8E-07
Bis(2-Ethylhexyl)phthalate	0.9873	4.65	5.00	3.00E-01	1.10E-05
Pesticides					
Alpha-Chlordane(5)	1.59-1.63	6.00	5.15	1.85	4.8E-05
PCBs					
Aroclor 1260	1.58	6.91	6.42	0.0144	1.7E-04
Metals(6):					
Aluminum	7.7	NDA	NA	NDA	NDA
Arsenic	5.73	NA	NA	0.3	NA
Barium	3.5	NDA	NDA	NDA	NDA
Cadmium	8.65	NDA	NA	NDA	NDA
Copper	8.94	NA	NA	0.12	NA
Iron	7.86	NA	NA	NDA	NA
Lead	11.35	NA	NA	0.001	NA
Magnesium	1.74	NDA	NDA	NDA	NDA
Manganese	7.43	NA	NA	NDA	NA
Selenium	4.79	NA	NA	NDA	NA
Sodium	0.97	NA	NA	Soluble	NA
Thallium	11.71	NDA	NDA	Insoluble	NDA
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; Groundwater Chemicals Desk Reference, Fourth Edition, 2007, Montgomery, John H.

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) Detected at off-site monitoring well location only.
(6) The solubility of metals is highly dependent on the form of the metal compound present.

5.3 Contaminant Persistence

The organic carbon/water partition coefficient (Koc) indicates the tendency of an organic contaminant (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 or sediment gives the estimated absorption partition coefficient (K_d) for that soil or sediment. 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 or sediment are used up, mobility in the water column and groundwater 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. The SVOCs have a wide range of organic carbon partition coefficients, from 8,511,380 for Indeno(1,2,3-cd)pyrene, indicating medium to high sorption and low to medium mobility in soil, to 6.22 for Dibenz(a,h)anthracene, 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 dissolved form of the metal, thus a change toward reducing conditions would make the metals more soluble and possibly more mobile.

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 semi-volatile organic contaminants in groundwater vary, but are on the order of 0.003 for bis(2-ethylhexyl)phthalate to 84,120 mg/l for phenol (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, Copper, Lead, Sodium 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 and PCBs, which will volatilize to some degree when unsaturated vapor, such as soil gas or the open atmosphere, are present. SVOCs and PCBs above SCGs were identified in the site's surface and subsurface soils. The density of the SVOCs and PCBs is typically heavier than water (with the exception of phenol and bis(2-ethylhexyl)phthalate in groundwater), and so these compounds typically migrate vertically downwards within the aquifer. In the subsurface soils, these compounds may dissolve in the groundwater in the saturated and vadose zone.

Due to the chemical composition of metals, they do not typically biodegrade. SVOCs biodegrade at a decelerated rate, primarily under anaerobic conditions. Biodegradation of SVOCs in soil/groundwater has been found to occur under anaerobic and to a lesser extent aerobic conditions, such as occurs in groundwater. The presence of acclimatized microbes, which are likely to occur within the site, enhances biodegration of the 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 would be expected to increase the rate of biotic degradation.

5.4 Contaminant Migration

The potential routes of contaminant migration are through surface water, groundwater and the atmosphere. Depending on their solubility, contaminants could dissolve in surface water and groundwater and be transported in the direction of surface water and groundwater flow. The PCB, metal and SVOC contaminants present in surface soils could be transported to the atmosphere as dust should this media be disturbed or through displacement of this media by excessive winds.

5.4.1 Surface Water Migration

The metals in surface water will tend to migrate in the direction of surface water flow, which is generally towards the west-southwest. Metals in the wetland sediments may be suspended in the surface water column should this material be subject to natural disturbances (i.e., precipitation events causing increased flow velocities) and/or man-made disturbances (disturbance of the wetland bottom).

5.4.2 Groundwater Migration

The site's groundwater contains VOCs, SVOCs, pesticides and metals. The VOCs, two SVOCs (phenol and bis(2-ethylhexyl)phthalate) and one metal (sodium) have densities that are less than water. The remaining parameters have densities greater than water. It is expected that the parameters with densities less than water would migrate in the direction of the groundwater flow, but could also be influenced by the fracture and joint patterns within the underlying bedrock. The parameters having densities greater than water would be expected to migrate vertically downwards to the bottom of the aquifer and would tend to migrate in the direction of an underlying impermeable boundary. The detected metals for the most part are insoluble in water (except sodium) and would tend to adsorb and absorb to soil 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 west-southwesterly direction towards Route 86.

Generally, groundwater contamination consists of low level VOCs (2 total, with benzene detected in the off-site monitoring well), SVOCs (five total) that were detected at three on-site and one off-site sampling locations and the metals Iron, Manganese, Selenium and Sodium. Based on groundwater flow direction, the contaminants will likely migrate towards Route 86.

5.4.3 Atmospheric Migration

The VOCs, SVOCs and PCB in the soil vapor may 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 readily 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, SVOC and PCB 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 Part 375 soil cleanup objectives for restricted residential use sites, the NYSDEC Technical Guidance for Screening Contaminated Sediments, Human Health Bioaccumulation, 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 4.13.1-1.

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:

- inhalation, dermal contact and/or ingestion of contaminated soil on-site;
- dermal contact and/or ingestion of contaminated groundwater on-site;
- dermal contact and/or ingestion of contaminated surface water and sediments on-site;

The potential impacted populations at the site and vicinity include residents in the neighboring community, site visitors and trespassers on the site, and workers which may be engaged in subsurface excavation during any future site development.

Five (5) SVOCs, one (1) PCB and seven (7) metals were detected above SCGs in surface and subsurface soils (Figs. 8 and 9). The concentrations of these contaminants of concern may warrant remedial action in portions of the site identified, as they are present within soil that is readily accessible to dermal contact and ingestion. Furthermore, disturbance of these soils could create airborne contaminants that may be inhaled. The potential for dermal contact (including ingestion and inhalation) with exposure to the impacted soil and the associated impact is, therefore, anticipated to be high.

Elevated organic vapors (as measured with a PID), solvent and petroleum-type odors, and black and metallic staining of subsurface soils and fill were encountered at several locations during the SI. Potential exposure to these contaminants includes dermal contact (including ingestion and inhalation) during ground intrusive activities that may occur should the site be developed, and vapor inhalation for occupants of any future buildings constructed on the site. Presently, the potential for dermal contact is anticipated to be low as the impacts are confined to the subsurface. However, the potential for dermal contact during subsurface disturbances and occupation of future buildings is anticipated to be high.

Groundwater impacts consisted of two (2) VOCs, five (5) SVOCs, one (1) Pesticide and four (4) Metals. The VOC benzene and the pesticide alpha-chlordane were detected in the off-site monitoring wells. The remaining contaminants were detected at varying frequencies from the on-site monitoring wells. Groundwater on the site is as shallow as 1.14 feet bgs. However, the site vicinity is served by public water provided by the Village of Saranac Lake and Town of Harrietstown. Because residents in the site vicinity do not depend on private wells as a potable water source, the potential for dermal contact through exposure to groundwater in the area of the VOC, SVOC and metal detections and the associated impact is anticipated to be low.

Surface water impacts consist of two metals in the wetland. The wetland is contiguous to larger wetlands along the eastern side of Lake Colby and is not located near residential development. Conversely, there exists a low potential for off-site human exposure to the surface water through dermal contact and ingestion.

Sediments in the on-site wetland are impacted by three (3) metals. There exists the potential for the sediment to become suspended in the water column and be carried off-site towards larger wetlands located along the eastern shores of Lake Colby. The potential for the ingestion/dermal contact by human populations of the sediment contaminants is considered to be low.

7.0 SUMMARY AND CONCLUSIONS

7.1 Summary

The site investigation work tasks have been completed in substantial conformance with the Final Remedial Investigation Work Plan dated April 2007. Any deviations to the final approved work plan have been described within the body of this report. The following provides an overview of the SI of the project site.

7.1.1 Site Background

The Site consists of two contiguous parcels of land that are addressed as 400 Upper Broadway in the Village of Saranac Lake, Franklin County, New York. The northern parcel is approximately 1.388 acres in size. The southern parcel is approximately 1.218 acres in. The site as a whole comprises approximately 2.6 acres.

The site is currently vacant undeveloped land. The Site's southern parcel consists predominantly of mature trees, thickets and grasses with its western portions consisting of Adirondack Park Agency delineated wetlands. The central and eastern portions of the northern parcel are lightly wooded and are at an elevation of approximately 3 to 4 feet above the southern parcel. Wetlands make up western portions of the parcel.

The Site's northern parcel has historically been affiliated with commercial and manufacturing activities that predominantly took place on its eastern adjoining (off-site) property. These activities included automobile sales and repair, manufacturing of aircraft landing gear and land mine fuses during World War II, utility truck and equipment storage, and as an uncontrolled dumping area. No commercial use has been affiliated with the site's southern parcel.

Petroleum fuels, solvents, PCBs and heavy metals may have been used in association with past automotive sales and repair and World War II related aircraft parts manufacturing use of the site.

7.1.2 Physical Characteristics of the Project Site

The site consists of undeveloped land that slopes downward from the east to the west. A drainage creek is located on the southeastern portion of the site and discharges into wetlands making up western portions of the site. The wetlands continue off-site in a general westerly direction and terminate at the shores of Lake Colby. The site's soils on its northern parcel generally consist of fill material (1 to 8 feet in thickness) with the exception of northern areas of the parcel where bedrock was encountered at the surface. The fill material is underlain by sand, silt and organic matter (1 to 3 feet thick), and bedrock that is interpreted to represent this portion of the site's original surface grade prior to the deposition of the fill material. Glacial till or clay underlies the sand, silt and organic matter. The site's soils on its southern parcel consists of sand and silt with varying percentages of gravel, cobbles and boulders.

Bedrock was encountered at depths ranging from the site surface (northern portion of the site) to 21.7' bgs on the property adjoining the site to the east. An extrapolation of bedrock depth data depicts a tongue of bedrock extending from north to south over the site's northern parcel.

The water table across the site and its east adjoining property ranges in depth from approximately 1.14 to 13.41 feet below existing site grades. The inferred groundwater flow direction across the site is towards the west-southwest.

7.1.3 Survey of Public and Private Wells

The project area is served with public water with the exception of approximately 8 residences located along the western end of Moir Road. Moir Road is located approximately 1,500 to 2,000 feet northwest of the subject site.

7.1.4 Fish and Wildlife Impact Analysis (FWIA)

C.T. Male completed Step 1 of a Fish and Wildlife Impact Analysis (FWIA) (dated March 25, 2008) 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.

7.1.5 Interim Remedial Measure

Stockpiled drums and their contents and a tank carcass and its contents were properly disposed of off-site by instituting a non-emergency IRM.

7.1.6 Nature and Extent of Contamination

The primary contaminants of concern at the site are SVOCs, PCBs and metals in surface and subsurface soils; VOCs, SVOCs, pesticides and metals in groundwater; metals in surface water; and metals in sediments. The following summarizes the nature and extent of contamination for the project site.

SVOCs, PCBs and Metals in Surface and Subsurface Soils

The five (5) SVOCs, one (1) PCB and six (6) metals detected above SCGs in surface and subsurface soils were confined to 3 surface soil sampling locations and 3 subsurface soil sampling locations. The single PCB above SCGs was detected at 1 surface soil sampling location and 1 subsurface soil sampling location. The 6 metals were detected above SCGs at 5 surface soil sampling locations and 4 subsurface soil sampling locations. The locations where the compounds and analytes were detected above SCGs are presented in Figures 4, 4A, 4B, 4C (Appendix H), and Figures 8 and 9.

Subjective impacts to the site's subsurface soils were noted at several locations during advancement of the test trenches, test pits and test borings. A comparison between the subjective impacts and the subsurface soil analytical data suggests that the impacts are old in nature and that the chemical parameters have "weathered" over time. Headspace analysis of soil samples showed PID readings in excess of 9,999 ppm with petroleum and solvent-type odors and staining. Subjectively impacted samples submitted for laboratory analysis showed 21 VOCs at concentrations exceeding the laboratory detection limit, but below SCGs. The detected VOCs are typical petroleum and solvent-type compounds.

VOCs, SVOCs, Pesticides and Metals in Groundwater

Two (2) VOCs, five (5) SVOCs, one (1) pesticide and four (4) metals were detected in groundwater at concentrations exceeding SCGs. The VOC benzene and pesticide alpha-chlordane were detected at off-site monitoring well MW-9 only. The VOC 4-Isopropyltoluene was detected slightly above its SCG at on-site monitoring well MW-2 only.

The five (5) SVOCs were detected at various frequencies in on-site monitoring wells MW-1, MW-2 and MW-4 only, with phenol also detected in off-site monitoring well MW-9.

The metals iron, manganese and sodium were detected above SCGs at varying frequencies in both the on-site and off-site monitoring wells. Selenium was detected above its SCG in all the on-site monitoring wells only.

The locations where the compounds and analytes were detected above SCGs is presented in Figure 10.

Metals in Surface Water

Two (2) metals were detected at concentrations above SCGs in surface water sampled from the wetland. Iron was detected above its SCG at both surface water sampling locations. Thallium was detected above its SCG at SW-1 only, which is located on the southwestern portion of the site.

The locations where the metals were detected above SCGs is presented in Figure 11.

Metals in Sediments

Three (3) metals were detected above SCGs in sediments sampled from the wetland. Arsenic, Cadmium and Zinc were detected at concentrations above the LEL SCGs but below the SEL SCGs. Arsenic and chromium were detected above the LEL SCGs at WS-1 and WS-3 only. Zinc was detected above its LEL SCG at WS-1 only. Metals were not detected above SCGs at WS-2.

The locations where the metals were detected above SCGs is presented in Figure 11.

7.1.7 Fate and Transport

The site contaminants are predominantly SVOCs, PCBs and metals in surface and subsurface soils; VOCs, SVOCs, pesticides and metals in groundwater; and metals in wetland surface water and sediment. Subjective (PID headspace analysis and organoleptic perception) evidence of impacts to subsurface soils and fill was noted at several of the sampling locations. Subjective impacts included elevated PID readings, petroleum and solvent-type odors, and black and metallic-type staining.

The SVOCs, PCBs and metals in surface and subsurface soils will tend to adhere to surrounding soil and fill particles and not migrate into underlying groundwater. This is exemplified by the fact that the SVOCs, PCBs and 2 of the 7 metals (arsenic and cadmium) were not detected in groundwater at concentrations exceeding the laboratory detection limit. The 5 remaining metals (aluminum, barium, copper, lead and magnesium) were detected at concentrations well below their respective SCGs. The SVOCs, PCBs and metals in surface and subsurface soil are not anticipated to volatilize to the open atmosphere, but may become airborne along with dust should the soils be disturbed.

The VOCs and SVOCs in groundwater are in a dissolved phase and will tend to migrate with groundwater flow direction towards Route 86. 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, with the exception of sodium, which is highly soluble in water.

The metals in the wetland surface water column will not volatilize, but will migrate in the direction of the wetland flow and/or precipitate downwards and settle within the bottom sediments.

The metals in wetland sediment should not migrate unless natural and/or man-made actions cause the sediments to become suspended in the water column, where they may migrate with the wetland flow direction.

7.2 Conclusions

Based upon the findings and conclusion of this SI, additional investigative activities are not warranted at this time. The SI 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 2 of this report.

8.0 SIGNATURES

This Site Investigation Report of the 400 Broadway ERP Site has been prepared for the Village of Saranac Lake as part of its inclusion in the NYS Department of Environmental Conservation Environmental Restoration Program.

C.T. MALE ASSOCIATES, P.C.

Stephen Bieber
Environmental Scientist

Reviewed and Approved By:

Kirk Moline
Managing Geologist

TABLES

TABLE 4.4.1-1

Surface Soils Analytical Results Summary

FIGURE 4.4.1-1: SURFACE SOIL ANALYTICAL RESULTS SUMMARY
400 BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	Part 375 Restricted Residential Use SCOs(1) (mg/kg)	Eastern USA Background(2) (mg/kg)	SS-1 (mg/kg)		SS-2 (mg/kg)		SS-3 (mg/kg)		SS-4 (mg/kg)		SS-5 (mg/kg)		SS-6 (mg/kg)		SS-7 (mg/kg)	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's (None Detected Above The Laboratory Detection Limit)																
SVOC's																
4-Methylphenol	NS	NA	0.38	U	0.41	U	0.36	U	0.67	U	0.55	U	0.38	U	0.37	U
1,2,4-Trichlorobenzene	NS	NA	0.38	U	0.41	U	0.36	U	0.67	U	0.55	U	0.38	U	0.37	U
Naphthalene	100	NA	0.38	U	0.054	J	0.36	U	0.67	U	0.55	U	0.38	U	0.37	U
2-Methylnaphthalene	NS	NA	0.38	U	0.1	J	0.037	J	0.67	U	0.55	U	0.38	U	0.37	U
2,4,6-Trichlorophenol	NS	NA	0.38	U	0.41	U	0.36	U	0.67	U	0.55	U	0.38	U	0.37	U
2-Nitroaniline	NS	NA	0.78	U	0.84	U	0.72	U	1.4	U	1.1	U	0.77	U	0.75	U
Acenaphthylene	100	NA	0.38	U	0.084	J	0.14	J	0.67	U	0.065	J	0.38	U	0.37	U
2,6-Dinitrotoluene	NS	NA	0.38	U	0.41	U	0.36	U	0.67	U	0.55	U	0.38	U	0.37	U
Acenaphthene	100	NA	0.38	U	0.41	U	0.053	J	0.67	U	0.55	U	0.38	U	0.37	U
2,4-Dinitrophenol	NS	NA	0.78	U(J)	0.84	U(J)	0.72	U(J)	1.4	U(J)	1.1	U(J)	0.77	U(J)	0.75	U(J)
4-Nitrophenol	NS	NA	0.78	U	0.84	U	0.72	U	1.4	U	1.1	U	0.77	U	0.75	U
Dibenzofuran	NS	NA	0.38	U	0.41	U	0.36	U	0.67	U	0.55	U	0.38	U	0.37	U
Fluorene	100	NA	0.38	U	0.41	U	0.075	J	0.67	U	0.55	U	0.38	U	0.37	U
Phenanthrene	100	NA	0.49	J	0.32	J	1.3		0.67	U	0.11	J	0.078	J	0.37	U
Anthracene	100	NA	0.38	U	0.09	J	0.43		0.67	U	0.55	U	0.38	U	0.37	U
Carbazole	NS	NA	0.38	U	0.048	J	0.16	J	0.67	U	0.55	U	0.38	U	0.37	U
Di-n-butylphthalate	NS	NA	0.38	U	0.11	J	0.22	J	0.67	U	0.55	U	0.38	U	0.37	U
Fluoranthene	100	NA	0.11	J	0.6		0.47		0.11	J	0.38	J	0.15	J	0.066	J
Pyrene	100	NA	0.11	J	0.51		3.2		0.092	J	0.29	J	0.15	J	0.062	J
Butylbenzylphthalate	NS	NA	0.38	U	0.41	U	0.36	U	0.67	U	0.55	U	0.38	U	0.37	U
Benzo(a)anthracene	1	NA	0.06	J	0.24	J	**2**		0.67	U	0.22	J	0.094	J	0.047	J
Chrysene	3.9	NA	0.08	J	0.36	J	2		0.068	J	0.22	J	0.1	J	0.044	J
bis(2-Ethylhexyl)phthalate	NS	NA	0.38	U	0.41	U	0.049	J	0.67	U	0.55	U	0.38	U	0.37	U
Di-n-octylphthalate	NS	NA	0.38	U	0.41	U	0.36	U	0.67	U	0.55	U	0.38	U	0.37	U
Benzo(b)fluoranthene	1	NA	0.077	J	0.41	J	**3.1**		0.1	J	0.32	J	0.13	J	0.053	J
Benzo(k)fluoranthene	3.9	NA	0.059	J	0.2	J	0.97		0.67	U	0.13	J	0.045	J	0.37	U
Benzo(a)pyrene	1	NA	0.063	J	0.27	J	**2**		0.071	J	0.22	J	0.09	J	0.046	J
Indeno(1,2,3-cd)pyrene	0.5	NA	0.047	J	0.21	J	**1.2**		0.67	U	0.15	J	0.059	J	0.37	U
Dibenzo(a,h)anthracene	0.33	NA	0.38	U	0.053	J	0.3	J	0.67	U	0.55	U	0.38	U	0.37	U
Benzo(g,h,i)perylene	100	NA	0.051	J	0.24	J	1.3		0.67	U	0.14	J	0.07	J	0.37	U

(1) NYSDEC 6 NYCRR PART 375 Environmental Remediation Programs, Subpart 375-6, Dated December 14, 2006
(2) NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 Determination of Soil Cleanup Objectives, Eastern USA or NYS Background, Dated Jan. 24, 1994.
Concentrations denoted in mg/kg or parts per million (ppm)
U indicates that the compound was analyzed but not detected
J indicates and estimated value
N indicates presumptive evidence of a compound
R indicates that the analytical results have been rejected due to matrix interference
Qualifiers in parantheses reflect ammendments made by the data validator
NS denotes "No Standard"
NA denotes "Not Applicable"
* Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4 to 61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200 to 500 ppm.

FIGURE 4.4.1-1: SURFACE SOIL ANALYTICAL RESULTS SUMMARY
400 BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	Part 375 Restricted Residential Use SCOs(1) (mg/kg)	Eastern USA Background(2) (mg/kg)	Duplicate (SS-7) (mg/kg)		SS-8 (mg/kg)		SS-9 (mg/kg)		SS-10 (mg/kg)		SS-11 (mg/kg)		SS-12 (mg/kg)		SS-13 (mg/kg)	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's (None Detected Above The Laboratory Detection Limit)																
SVOC's																
4-Methylphenol	NS	NA	0.39	U	0.39	U	0.38	U	0.35	U	0.36	U	0.36	U	1.1	U
1,2,4-Trichlorobenzene	NS	NA	0.39	U	0.39	U	0.38	U	0.35	U	0.36	U	0.36	U	1.1	U
Naphthalene	100	NA	0.39	U	0.39	U	0.38	U	0.35	U	0.36	U	0.36	U	1.1	U
2-Methylnaphthalene	NS	NA	0.39	U	0.39	U	0.38	U	0.35	U	0.36	U	0.36	U	1.1	U
2,4,6-Trichlorophenol	NS	NA	0.39	U	0.39	U	0.38	U	0.35	U	0.36	U	0.36	U	1.1	U
2-Nitroaniline	NS	NA	0.78	U	0.8	U	0.76	U	0.72	U	0.73	U	0.73	U	2.2	U
Acenaphthylene	100	NA	0.39	U	0.39	U	0.38	U	0.35	U	0.36	U	0.36	U	0.02	J
2,6-Dinitrotoluene	NS	NA	0.39	U	0.39	U	0.38	U	0.35	U	0.36	U	0.36	U	1.1	U
Acenaphthene	100	NA	0.39	U	0.39	U	0.38	U	0.35	U	0.36	U	0.36	U	1.1	U
2,4-Dinitrophenol	NS	NA	0.78	U(J)	0.8	U(J)	0.76	U(J)	0.72	U(J)	0.73	U(J)	0.73	U(J)	2.2	U(J)
4-Nitrophenol	NS	NA	0.78	U	0.8	U	0.76	U	0.72	U	0.73	U	0.73	U	2.2	U
Dibenzofuran	NS	NA	0.39	U	0.39	U	0.38	U	0.35	U	0.36	U	0.36	U	1.1	U
Fluorene	100	NA	0.39	U	0.39	U	0.38	U	0.35	U	0.36	U	0.36	U	1.1	U
Phenanthrene	100	NA	0.39	U	0.12	J	0.039	J	0.35	U	0.36	U	0.36	U	0.65	J
Anthracene	100	NA	0.39	U	0.043	J	0.38	U	0.35	U	0.36	U	0.36	U	0.28	J
Carbazole	NS	NA	0.39	U	0.39	U	0.38	U	0.35	U	0.36	U	0.36	U	0.11	J
Di-n-butylphthalate	NS	NA	0.39	U	0.74		0.38	U	0.35	U	0.36	U	0.36	U	1.1	U
Fluoranthene	100	NA	0.049	J	0.31	J	0.21	J	0.35	U	0.36	U	0.056	J	1.6	
Pyrene	100	NA	0.054	J	0.29	J	0.22	J	0.35	U	0.36	U	0.056	J	1.3	
Butylbenzylphthalate	NS	NA	0.39	U	0.39	U	0.38	U	0.35	U	0.36	U	0.36	U	1.1	U
Benzo(a)anthracene	1	NA	0.042	J	0.18	J	0.16	J	0.35	U	0.36	U	0.046	J	0.84	J
Chrysene	3.9	NA	0.042	J	0.18	J	0.14	J	0.35	U	0.36	U	0.039	J	0.8	J
bis(2-Ethylhexyl)phthalate	NS	NA	0.39	U	0.22	J	0.38	U	0.35	U	0.044	J	0.36	U	1.1	U
Di-n-octylphthalate	NS	NA	0.39	U	0.39	U	0.38	U	0.35	U	0.36	U	0.36	U	1.1	U
Benzo(b)fluoranthene	1	NA	0.058	J	0.28	J	0.2	J	0.35	U	0.36	U	0.043	J	0.97	J
Benzo(k)fluoranthene	3.9	NA	0.39	U	0.11	J	0.092	J	0.35	U	0.36	U	0.36	U	0.52	J
Benzo(a)pyrene	1	NA	0.04	J	0.17	J	0.14	J	0.35	U	0.36	U	0.36	U	0.79	J
Indeno(1,2,3-cd)pyrene	0.5	NA	0.39	U	0.13	J	0.084	J	0.35	U	0.36	U	0.36	U	**0.54**	J
Dibenzo(a,h)anthracene	0.33	NA	0.39	U	0.39	U	0.38	U	0.35	U	0.36	U	0.36	U	0.14	J
Benzo(g,h,i)perylene	100	NA	0.39	U	0.15	J	0.1	J	0.35	U	0.36	U	0.36	U	0.68	J

(1) NYSDEC 6 NYCRR PART 375 Environmental Remediation Programs, Subpart 375-6, Dated December 14, 2006
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U indicates that the compound was analyzed but not detected
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* Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4 to 61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200 to 500 ppm.

FIGURE 4.4.1-1: SURFACE SOIL ANALYTICAL RESULTS SUMMARY
400 BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	Part 375 Restricted Residential Use SCOs(1) (mg/kg)	Eastern USA Background(2) (mg/kg)	SS-14 (mg/kg)		SS-15 (mg/kg)		SS-16 (mg/kg)		Duplicate (SS-16) (mg/kg)		SS-17 (mg/kg)		SS-18 (mg/kg)		SS-19 (mg/kg)	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's (None Detected Above The Laboratory Detection Limit)																
SVOC's																
4-Methylphenol	NS	NA	1.2	U	0.49	U	0.43	U	0.44	U	0.12	J	0.38	U	0.061	J
1,2,4-Trichlorobenzene	NS	NA	1.2	U	0.49	U	0.43	U	0.44	U	0.48	U	0.38	U	0.11	J
Naphthalene	100	NA	1.2	U	0.49	U	0.43	U	0.44	U	0.064	J	0.08	J	0.23	J
2-Methylnaphthalene	NS	NA	1.2	U	0.49	U	0.43	U	0.44	U	0.096	J	0.092	J	0.28	J
2,4,6-Trichlorophenol	NS	NA	1.2	U	0.49	U	0.43	U	0.44	U	0.48	U	0.38	U	0.36	U
2-Nitroaniline	NS	NA	2.5	U	9.9	U	0.88	U	0.89	U	0.96	U	0.77	U	0.74	U
Acenaphthylene	100	NA	1.2	U	0.49	U	0.43	U	0.44	U	0.1	J	0.25	J	0.59	
2,6-Dinitrotoluene	NS	NA	1.2	U	0.49	U	0.43	U	0.44	U	0.48	U	0.38	U	0.36	U
Acenaphthene	100	NA	1.2	U	0.49	U	0.43	U	0.44	U	0.48	U	0.38	U	0.36	U
2,4-Dinitrophenol	NS	NA	2.5	U(J)	0.99	U(J)	0.88	U(J)	0.89	U(J)	0.96	U(J)	0.77	U(J)	0.74	U(J)
4-Nitrophenol	NS	NA	2.5	U	0.99	U	0.88	U	0.89	U	0.96	U	0.77	U	0.74	U
Dibenzofuran	NS	NA	1.2	U	0.49	U	0.43	U	0.44	U	0.48	U	0.38	U	0.36	U
Fluorene	100	NA	1.2	U	0.49	U	0.43	U	0.44	U	0.48	U	0.041	J	0.11	J
Phenanthrene	100	NA	0.2	J	0.49	U	0.43	U	0.44	U	0.18	J	0.16	J	0.2	J
Anthracene	100	NA	0.15	J	0.49	U	0.43	U	0.44	U	0.1	J	0.14	J	0.26	J
Carbazole	NS	NA	1.2	U	0.49	U	0.43	U	0.44	U	0.48	J	0.38	U	0.36	U
Di-n-butylphthalate	NS	NA	1.2	U	0.49	U	0.43	U	0.44	U	0.14	J	0.38	U	0.36	U
Fluoranthene	100	NA	0.82	J	0.49	U	0.43	U	0.44	U	0.69		0.47		0.4	U(J)
Pyrene	100	NA	0.7	J	0.49	U	0.43	U	0.44	U	0.31	J	0.73		0.35	J
Butylbenzylphthalate	NS	NA	1.2	U	0.49	U	0.43	U	0.058	J	0.48	U	0.38	U	0.36	U
Benzo(a)anthracene	1	NA	0.55	J	0.49	U	0.43	U	0.44	U	0.2	J	0.23	J	0.15	J
Chrysene	3.9	NA	0.61	J	0.49	U	0.43	U	0.44	U	0.32	J	0.27	J	0.43	
bis(2-Ethylhexyl)phthalate	NS	NA	1.2	U	0.49	U	0.43	U	0.44	U	0.48	U	0.38	U	0.36	U
Di-n-octylphthalate	NS	NA	1.2	U	0.49	U	0.43	U	0.44	U	0.48	U	0.38	U	0.36	U(J)
Benzo(b)fluoranthene	1	NA	0.85	J	0.49	U	0.43	U	0.44	U	0.28	J	0.49		0.38	U(J)
Benzo(k)fluoranthene	3.9	NA	0.36	J	0.49	U	0.43	U	0.44	U	0.27	J	0.21	J	0.3	J
Benzo(a)pyrene	1	NA	0.63	J	0.49	U	0.43	U	0.44	U	0.32	J	0.38		0.43	U(J)
Indeno(1,2,3-cd)pyrene	0.5	NA	0.45	J	0.49	U	0.43	U	0.44	U	0.32	J	**0.56**		0.36	J
Dibenzo(a,h)anthracene	0.33	NA	0.15	J	0.49	U	0.43	U	0.44	U	0.066	J	0.064	J	0.067	J
Benzo(g,h,i)perylene	100	NA	0.58	J	0.49	U	0.43	U	0.44	U	0.41	J	1.3		0.52	U(J)

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FIGURE 4.4.1-1: SURFACE SOIL ANALYTICAL RESULTS SUMMARY
400 BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	Part 375 Restricted Residential Use SCOs[1] (mg/kg)	Eastern USA Background[2] (mg/kg)	SS-20 (mg/kg)		SS-21 (mg/kg)		SS-22 (mg/kg)		SS-23 (mg/kg)		SS-24 (mg/kg)		Equipment Blank 1 ug/L		Equipment Blank 2 ug/L	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's (None Detected Above The Laboratory Detection Limit)																
SVOC's																
4-Methylphenol	NS	NA	0.068	J	0.35	U	0.39	U	0.39	U	0.4	U	10	U	10	U
1,2,4-Trichlorobenzene	NS	NA	0.36	U	0.35	U	0.39	U	0.39	U	0.4	U	10	U	10	U
Naphthalene	100	NA	0.22	J	0.35	U	0.39	U	0.39	U	0.4	U	10	U	10	U
2-Methylnaphthalene	NS	NA	0.4		0.35	U	0.39	U	0.39	U	0.4	U	10	U	10	U
2,4,6-Trichlorophenol	NS	NA	0.36	U	0.35	U	0.39	U	0.39	U	0.4	U	10	U	10	U
2-Nitroaniline	NS	NA	0.74	U	0.72	U	0.8	U	0.8	U	0.82	U	20	U	20	U
Acenaphthylene	100	NA	0.088	J	0.35	U	0.067	J	0.39	U	0.4	U	10	U	10	U
2,6-Dinitrotoluene	NS	NA	0.36	U	0.35	U	0.39	U	0.39	U	0.4	U	10	U	10	U
Acenaphthene	100	NA	0.044	J	0.35	U	0.39	U	0.39	U	0.4	U	10	U	10	U
2,4-Dinitrophenol	NS	NA	0.74	U(J)	0.72	U(J)	0.8	U(J)	0.8	U(J)	0.82	U(J)	20	U	20	U
4-Nitrophenol	NS	NA	0.74	U	0.72	U	0.8	U	0.8	U	0.82	U	20	U	20	U
Dibenzofuran	NS	NA	0.72	J	0.35	U	0.39	U	0.39	U	0.4	U	10	U	10	U
Fluorene	100	NA	0.7	J	0.35	U	0.39	U	0.39	U	0.4	U	10	U	10	U
Phenanthrene	100	NA	0.86		0.35	U	0.14	J	0.39	U	0.4	U	10	U	10	U
Anthracene	100	NA	0.22	J	0.35	U	0.067	J	0.39	U	0.4	U	10	U	10	U
Carbazole	NS	NA	0.068	J	0.35	U	0.39	U	0.39	U	0.4	U	10	U	10	U
Di-n-butylphthalate	NS	NA	0.36	U	0.35	U	0.39	U	0.39	U	0.4	U	10	U	10	U
Fluoranthene	100	NA	2.3		0.045	J	0.35	J	0.39	U	0.075	J	10	U	10	U
Pyrene	100	NA	0.91		0.35	U	0.28	J	0.39	U	0.058	J	10	U	10	U
Butylbenzylphthalate	NS	NA	0.36	U	0.35	U	0.39	U	0.39	U	0.4	U	10	U	10	U
Benzo(a)anthracene	1	NA	0.77		0.35	U	0.19	J	0.39	U	0.044	J	10	U	10	U
Chrysene	3.9	NA	0.89		0.35	U	0.19	J	0.39	U	0.4	U	10	U	10	U
bis(2-Ethylhexyl)phthalate	NS	NA	0.36	U	0.35	U	0.39	U	0.39	U	0.4	U	10	U	10	U
Di-n-octylphthalate	NS	NA	0.36	U	0.35	U	0.39	U	0.39	U	0.4	U	10	U	10	U
Benzo(b)fluoranthene	1	NA	1		0.35	U	0.2	J	0.39	U	0.053	J	10	U	10	U
Benzo(k)fluoranthene	3.9	NA	0.42		0.35	U	0.11	J	0.39	U	0.4	U	10	U	10	U
Benzo(a)pyrene	1	NA	0.69		0.35	U	0.18	J	0.39	U	0.4	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	0.5	NA	0.39		0.35	U	0.12	J	0.39	U	0.4	U	10	U	10	U
Dibenzo(a,h)anthracene	0.33	NA	0.11	J	0.35	U	0.041	J	0.39	U	0.4	U	10	U	10	U
Benzo(g,h,i)perylene	100	NA	0.43		0.35	U	0.14	J	0.39	U	0.4	U	10	U	10	U

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FIGURE 4.4.1-1: SURFACE SOIL ANALYTICAL RESULTS SUMMARY
400 BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	Part 375 Restricted Residential Use SCOs(1) (mg/kg)	Eastern USA Background(2) (mg/kg)	SS-1 (mg/kg)		SS-2 (mg/kg)		SS-3 (mg/kg)		SS-4 (mg/kg)		SS-5 (mg/kg)		SS-6 (mg/kg)		SS-7 (mg/kg)	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Pesticides																
alpha-BHC	0.48	NA	0.002	U	0.0022	U	0.0018	U	0.0034	U	0.0029	U	0.002	U	0.0019	U
beta-BHC	0.36	NA	0.002	U	0.0022	U	0.0018	U	0.0034	U	0.0029	U	0.002	U	0.0019	U
delta-BHC	100	NA	0.002	U	0.0022	U	0.0018	U	0.0034	U	0.0029	U	0.002	U	0.0019	U
Heptachlor	2.1	NA	0.002	U	0.0022	U	0.0018	U	0.0034	U	0.0029	U	0.002	U	0.0019	U
Aldrin	0.097	NA	0.002	U	0.0022	U	0.0018	U	0.0034	U	0.0029	U	0.002	U	0.0019	U
Heptachlor epoxide	NS	NA	0.002	U	0.0022	U	0.0018	U	0.0034	U	0.0029	U	0.002	U	0.0019	U
Dieldrin	0.2	NA	0.0038	U	0.013	(J)	0.0089	(J)	0.0067	U	0.0056	U	0.0038	U	0.0037	U
4,4-DDE	8.9	NA	0.0038	U	0.0042	U	0.0036	U	0.0067	U	0.0056	U	0.0038	U	0.0037	U
Endrin	11	NA	0.0038	U	0.0042	U	0.0036	U	0.0067	U	0.0056	U	0.0038	U	0.0037	U
Endosulfan II	24	NA	0.0038	U	0.0082	(J)	0.0057	(J)	0.0067	U	0.0056	U	0.0038	U	0.0037	U
4,4-DDD	13	NA	0.0038	U	0.0042	U	0.0042		0.0067	U	0.0056	U	0.0038	U	0.0037	U
Endosulfan sulfate	24	NA	0.0038	U	0.0042	U	0.013	(J)	0.0067	U	0.0056	U	0.0038	U	0.0037	U
4,4-DDT	7.9	NA	0.0038	U	0.027		0.025		0.0067	U	0.0056	U	0.0038	U	0.0037	U
Endrin aldehyde	NS	NA	0.0038	U	0.039		0.0036	U	0.0067	U	0.0056	U	0.0038	U	0.0037	U
gamma-Chlordane	NS	NA	0.002	U	0.0022	U	0.0018	U	0.0034	U	0.0029	U	0.002	U	0.0019	U
Toxaphene	NS	NA	0.2	U	0.22	U	0.18	U	0.34	U	0.29	U	0.2	U	0.19	U
PCBs																
Aroclor-1260	0.1	NA	0.038	U	0.32	(J)	0.23	(J)	0.067	U	0.056	U	0.049		0.037	U
Metals																
Aluminum	NS	33,000	6,430		4130		3600		5450		8750		8070		7160	(J)
Antimony	NS	NA	0.12	(U)	0.61	(U)	2.1		0.24	(U)	0.15	(U)	0.39	(U)	0.11	(U)
Arsenic	16	3-12	0.22		2.9		3.3		0.84		0.96		0.85		0.86	(J)
Barium	400	15-600	29.5		29.3		80.4		34.9		42.1		46.5		105	
Beryllium	72	0-1.75	0.65		0.34		0.56		0.64		2.0		0.67		0.34	
Cadmium	4.3	0.1-1	0.23		1.2		2.0		1.0		0.55		0.75		0.43	
Calcium	NS	130-35,000	2190		1740		3480		4610		2280		2860		3930	
Chromium	180	1.5-40	6.5		46.5		9.4		4.1		8.4		14.7		3.7	
Cobalt	NS	2.5-60	3.8		2.6		2.8		7.2		6.4		4.0		3.7	
Copper	270	1-50	1.4		19.4		160		5.6		6.7		13.3		4.9	
Iron	NS	2,000-550,000	11,700		8720		9390		12800		17200		12200		12000	
Lead	400	NA	12.7		163		**469**		40.0		38.7		124		**1310**	(J)
Magnesium	NS	100-5,000	1560		941		2320		702		1500		1560		1590	
Manganese	2,000	50-5,000	189		293		112		1060		643		223		154	
Mercury	0.81	0.001-0.2	0.13		0.026	(U)	0.23		0.37		0.19		0.14		0.14	(J)
Nickel	310	0.5-25	3.5		4.7		6.1		3.1		7.7		4.0		3.0	
Potassium	NS	8,500-43,000	319		227		308		305		289		309		281	
Selenium	180	0.1-3.9	1.7	(U)	1.7	(U)	1.4	(U)	1.9	(U)	2.4	(U)	1.6	(U)	1.3	(U)
Sodium	NS	6,000-8,000	203		101		130		130		117		131		177	
Thallium	NS	NA	1.5		0.54		1.5		0.16	U	0.90		1.2		1.7	
Vanadium	NS	1-300	16.2		8.2		8.2		16.9		19.0		11.3		10.1	
Zinc	10,000	9-50	59.1		77.4		110		71.8		215		236		196	(J)

Notes:
(1) NYSDEC 6 NYCRR PART 375 Environmental Remediation Programs, Subpart 375-6, Dated December 14, 2006
(2) NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 Determination of Soil Cleanup Objectives, Eastern USA or NYS Background, Dated Jan. 24, 1994.
Concentrations denoted in mg/kg or parts per million (ppm)
U indicates that the compound was analyzed but not detected
J indicates and estimated value
N indicates presumptive evidence of a compound
R indicates that the analytical results have been rejected due to matrix interference
Qualifiers in parantheses reflect ammendments made by the data validator
NS denotes "No Standard"
NA denotes "Not Applicable"
* Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4 to 61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200 to 500 ppm.

FIGURE 4.4.1-1: SURFACE SOIL ANALYTICAL RESULTS SUMMARY
400 BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	Part 375 Restricted Residential Use SCOs[1] (mg/kg)	Eastern USA Background[2] (mg/kg)	Duplicate (SS-7) (mg/kg)		SS-8 (mg/kg)		SS-9 (mg/kg)		SS-10 (mg/kg)		SS-11 (mg/kg)		SS-12 (mg/kg)		SS-13 (mg/kg)	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Pesticides																
alpha-BHC	0.48	NA	0.002	U	0.002	U	0.0019	U	0.0018	U	0.0019	U	0.0018	U	0.0019	U
beta-BHC	0.36	NA	0.002	U	0.002	U	0.0019	U	0.0018	U	0.0019	U	0.0018	U	0.0019	U
delta-BHC	100	NA	0.002	U	0.002	U	0.0019	U	0.0018	U	0.0019	U	0.0018	U	0.0019	U
Heptachlor	2.1	NA	0.002	U	0.002	U	0.0019	U	0.0018	U	0.0019	U	0.0018	U	0.0019	U
Aldrin	0.097	NA	0.002	U	0.002	U	0.0019	U	0.0018	U	0.0019	U	0.0018	U	0.0019	U
Heptachlor epoxide	NS	NA	0.002	U	0.002	U	0.0019	U	0.0018	U	0.0019	U	0.0018	U	0.0019	U
Dieldrin	0.2	NA	0.0039	U	0.0039	U	0.0038	U	0.0035	U	0.0037	U	0.0036	U	0.07	(J)
4,4-DDE	8.9	NA	0.0039	U	0.0039	U	0.0038	U	0.0035	U	0.0037	U	0.0036	U	0.0038	U
Endrin	11	NA	0.0039	U	0.0039	U	0.0038	U	0.0035	U	0.0037	U	0.0036	U	0.0038	U
Endosulfan II	24	NA	0.0039	U	0.0039	U	0.0038	U	0.0035	U	0.0037	U	0.0036	U	0.0038	U
4,4-DDD	13	NA	0.0039	U	0.0039	U	0.0038	U	0.0035	U	0.0037	U	0.0036	U	0.0038	U
Endosulfan sulfate	24	NA	0.0039	U	0.0039	U	0.0038	U	0.0035	U	0.0037	U	0.0036	U	0.0038	U
4,4-DDT	7.9	NA	0.0039	U	0.016		0.0038	U	0.0035	U	0.0037	U	0.0036	U	0.022	(J)
Endrin aldehyde	NS	NA	0.0039	U	0.0039	U	0.0038	U	0.0035	U	0.0037	U	0.0036	U	0.0038	U
gamma-Chlordane	NS	NA	0.002	U	0.002	U	0.0019	U	0.0018	U	0.0019	U	0.0018	U	0.0019	U
Toxaphene	NS	NA	0.002	U	0.2	U	0.19	U	0.018	U	0.19	U	0.18	U	0.19	U
PCBs																
Aroclor-1260	0.1	NA	0.039	U	0.085	(J)	0.038	U	0.035	U	0.037	U	0.036	U	0.16	(J)
Metals																
Aluminum	NS	33,000	5260	(J)	8500		7130		2860		2700		7640		5400	
Antimony	NS	NA	0.053	U	9.9		0.064	U	0.050	U	0.22	(U)	0.054	U	0.69	(U)
Arsenic	16	3-12	0.90		1.6		0.17		0.33		0.53		0.073	U	5.6	
Barium	400	15-600	57.5	(J)	113		29.6		10.4		18.7		13.0		**886**	
Beryllium	72	0-1.75	0.28		1.7		0.65		0.22		0.25		0.89		0.60	
Cadmium	4.3	0.1-1	0.36		1.3		0.28		0.065		0.21		0.44		2.1	
Calcium	NS	130-35,000	3390		2730		2090		1210		1620		2570		11600	
Chromium	180	1.5-40	2.9		11.0		3.1		2.0		1.8		1.4		11.8	
Cobalt	NS	2.5-60	3.2		4.6		2.8		1.8		1.8		3.6		3.5	
Copper	270	1-50	3.8		20.0		4.0		0.67		1.5		0.20	U	30.9	
Iron	NS	2,000-550,000	10900		14000		16100		6400		7250		30700		15000	
Lead	400	NA	115	(J)	**960**		89.5		4.2	(J)	5.7		7.7		142	
Magnesium	NS	100-5,000	1380		2280		2530		854		934		3480		2410	
Manganese	2,000	50-5,000	135		211		237		91.7		465		446		190	
Mercury	0.81	0.001-0.2	0.077	(UJ)	0.50		0.37		0.11	(U)	0.10		0.13		0.16	
Nickel	310	0.5-25	2.5		7.3		2.4		1.7		2.2		1.5		8.0	
Potassium	NS	8,500-43,000	330		555		271		162		210		354		409	
Selenium	180	0.1-3.9	1.2		1.8	(U)	1.8	(U)	1.0	(U)	0.91	(U)	1.7		1.0	(U)
Sodium	NS	6,000-8,000	138		177		110		51.7		68.2		104		128	
Thallium	NS	NA	1.7		1.7		2.3		1.0		0.086	U	3.1		2.3	
Vanadium	NS	1-300	9.2		13.3		8.6		5.1		5.2		6.4		12.7	
Zinc	10,000	9-50	104	(J)	163		64.5		16.3	(J)	57.1		57.6		616	

Notes:
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R indicates that the analytical results have been rejected due to matrix interference
Qualifiers in parantheses reflect ammendments made by the data validator
NS denotes "No Standard"
NA denotes "Not Applicable"
* Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4 to 61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200 to 500 ppm.

FIGURE 4.4.1-1: SURFACE SOIL ANALYTICAL RESULTS SUMMARY
400 BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	Part 375 Restricted Residential Use SCOs[1] (mg/kg)	Eastern USA Background[2] (mg/kg)	SS-14 (mg/kg)		SS-15 (mg/kg)		SS-16 (mg/kg)		Duplicate (SS-16) (mg/kg)		SS-17 (mg/kg)		SS-18 (mg/kg)		SS-19 (mg/kg)	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Pesticides																
alpha-BHC	0.48	NA	0.0021	U	0.0025	U	0.0022	U	0.0023	U	0.0025	U	0.0019	U	0.02	(J)
beta-BHC	0.36	NA	0.0023	R	0.0025	U	0.0022	U	0.0023	U	0.0025	U	0.0019	U	0.0019	U
delta-BHC	100	NA	0.0021	U	0.0025	U	0.0022	U	0.0023	U	0.0025	U	0.0019	U	0.014	(NJ)
Heptachlor	2.1	NA	0.0021	U	0.0025	U	0.0022	U	0.0023	U	0.0025	U	0.0019	U	0.14	(J)
Aldrin	0.097	NA	0.0021	U	0.0025	U	0.0022	U	0.0023	U	0.0038	(J)	0.0019	U	0.01	R
Heptachlor epoxide	NS	NA	0.0021	U	0.0025	U	0.0022	U	0.0023	U	0.0025	U	0.0019	U	0.0077	R
Dieldrin	0.2	NA	0.0092	R	0.0049	U	0.0043	U	0.0044	U	0.0048	U	0.01	R	0.016	R
4,4-DDE	8.9	NA	0.0041	U	0.0049	U	0.0043	U	0.0044	U	0.0048	U	0.0038	U	0.014	R
Endrin	11	NA	0.0041	U	0.0049	U	0.0043	U	0.0044	U	0.0048	U	0.01	(J)	0.0037	U
Endosulfan II	24	NA	0.011	N	0.0049	U	0.0043	U	0.0044	U	0.0048	U	0.0038	U	0.0037	U
4,4-DDD	13	NA	0.0041	U	0.0049	U	0.0043	U	0.0044	U	0.0068		0.026	(J)	0.0037	U
Endosulfan sulfate	24	NA	0.0041	U	0.0049	U	0.0043	U	0.0044	U	0.0048	U	0.0038	U	0.0037	U(J)
4,4-DDT	7.9	NA	0.02	R	0.0049	U	0.0043	U	0.0044	U	0.039		0.045		1.8	(J)
Endrin aldehyde	NS	NA	0.0041	U	0.0049	U	0.0043	U	0.0044	U	0.041	(J)	0.0038	U	1.6	(J)
gamma-Chlordane	NS	NA	0.0021	U	0.0025	U	0.0022	U	0.0023	U	0.0025	U	0.0019	U	0.029	R
Toxaphene	NS	NA	0.21	U	0.25	U	0.22	U	0.23	U	0.25	U	0.19	U	0.19	U
PCBs																
Aroclor-1260	0.1	NA	0.2	(J)	0.049	U	0.043	U	0.044	U	0.17	(J)	0.25	(J)	2.5	R
Metals																
Aluminum	NS	33,000	4730		13000		1490		1300		**148000**		7430		8000	
Antimony	NS	NA	3.0		0.067	U	0.11	(U)	0.063	U	8.3		0.75	(U)	0.47	(U)
Arsenic	16	3-12	6.7		0.64		0.083	U	0.086	U	9.0		**31.4**		3.5	
Barium	400	15-600	261		40.5		11.3		13.1		221		51.8		68.9	
Beryllium	72	0-1.75	0.74		0.78		0.077		0.083		3.8		1.2		1.0	
Cadmium	4.3	0.1-1	1.8		0.39		0.13		0.13		**12.0**		2.8		3.0	
Calcium	NS	130-35,000	19500		2120		90.7	(UJ)	193	J	3390		2990		2770	
Chromium	180	1.5-40	34.8		6.8		2.2		2.1		39.1		9.0		65.9	
Cobalt	NS	2.5-60	3.0		2.3		0.65		0.71		3.3		5.5		5.6	(J)
Copper	270	1-50	35.1		3.3		0.23	U	0.24	U	**8240**		**1360**		48.5	
Iron	NS	2,000-550,000	20200		17000		6740		6910		14600		23300		16500	(J)
Lead	400	NA	305		24.4		5.6		4.8		**2410**		98.2		170	(J)
Magnesium	NS	100-5,000	1750		1830		77.1		77.0		1680		1850		2030	
Manganese	2,000	50-5,000	167		132		21.3		20.7		901		353		254	
Mercury	0.81	0.001-0.2	0.25		0.12	(U)	0.010	(U)	0.030	U	0.077	(U)	0.093		0.064	(U)
Nickel	310	0.5-25	8.8		4.7		0.41		0.82		56.3		12.3		65.0	
Potassium	NS	8,500-43,000	346		363		96.7		108		382		361		250	
Selenium	180	0.1-3.9	0.41	(U)	2.3		0.97	(U)	0.85	U	4.5		2.8		2.2	
Sodium	NS	6,000-8,000	129		108		13.6	(U)	18.5	U	126		109		94.3	
Thallium	NS	NA	2.6		2.5		1.6		1.5		0.11	U	2.3		2.3	
Vanadium	NS	1-300	12.3		19.5		17.3		18.4		14.3		15.7		15.6	
Zinc	10,000	9-50	387		84.8		13.3		13.5		2450		429		167	(J)

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

FIGURE 4.4.1-1: SURFACE SOIL ANALYTICAL RESULTS SUMMARY
400 BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	Part 375 Restricted Residential Use SCOs[1] (mg/kg)	Eastern USA Background[2] (mg/kg)	SS-20 (mg/kg)		SS-21 (mg/kg)		SS-22 (mg/kg)		SS-23 (mg/kg)		SS-24 (mg/kg)		Equipment Blank 1 ug/L		Equipment Blank 2 ug/L	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Pesticides																
alpha-BHC	0.48	NA	0.0092	U	0.0018	U	0.002	U	0.002	U	0.0021	U	0.050	U	0.050	U
beta-BHC	0.36	NA	0.0092	U	0.0018	U	0.002	U	0.002	U	0.0021	U	0.050	U	0.050	U
delta-BHC	100	NA	0.0092	U	0.0018	U	0.002	U	0.002	U	0.0021	U	0.050	U	0.050	U
Heptachlor	2.1	NA	0.0092	U	0.0018	U	0.002	U	0.002	U	0.0021	U	0.050	U	0.050	U
Aldrin	0.097	NA	0.0092	U	0.0018	U	0.002	U	0.002	U	0.0021	U	0.050	U	0.050	U
Heptachlor epoxide	NS	NA	0.0092	U	0.0018	U	0.002	U	0.002	U	0.0021	U	0.050	U	0.050	U
Dieldrin	0.2	NA	0.046		0.0035	U	0.039	U	0.039	U	0.004	U	0.10	U	0.10	U
4,4-DDE	8.9	NA	0.018	U	0.0035	U	0.039	U	0.039	U	0.004	U	0.10	U	0.10	U
Endrin	11	NA	0.018	U	0.0035	U	0.039	U	0.039	U	0.004	U	0.10	U	0.10	U
Endosulfan II	24	NA	0.018	U	0.0035	U	0.039	U	0.039	U	0.004	U	0.10	U	0.10	U
4,4-DDD	13	NA	0.018	U	0.0035	U	0.039	U	0.039	U	0.004	U	0.10	U	0.10	U
Endosulfan sulfate	24	NA	0.018	U	0.0035	U	0.039	U	0.039	U	0.004	U	0.10	U	0.10	U
4,4-DDT	7.9	NA	0.018	U	0.0067	(J)	0.039	U	0.012		0.004	U	0.10	U	0.10	U
Endrin aldehyde	NS	NA	0.095		0.0035	U	0.039	U	0.039	U	0.004	U	0.10	U	0.10	U
gamma-Chlordane	NS	NA	0.0092	U	0.0018	U	0.002	U	0.002	U	0.0021	U	0.050	U	0.050	U
Toxaphene	NS	NA	0.92	U	0.18	U	0.2	U	0.2	U	0.21	U	5.0	U	5.0	U
PCBs																
Aroclor-1260	0.1	NA	**1.9**	(J)	0.067	(J)	0.039	U	0.14		0.04	U	1.0	U	1.0	U
Metals																
Aluminum	NS	33,000	4040		2200		4770		6790		9810		19.8		14.0	U
Antimony	NS	NA	1.6		0.15	(U)	0.093	(U)	0.064	U	0.060	U	1.2	U	1.2	U
Arsenic	16	3-12	9.4		1.8		0.37		0.087	U	0.081	U	1.6	U	1.6	U
Barium	400	15-600	127		57.1		31.2		30.1		36.6		2.1	U	2.1	U
Beryllium	72	0-1.75	0.45		0.24		1.1		0.81		2.2		0.15	U	0.15	U
Cadmium	4.3	0.1-1	2.9		1.1		0.63		0.66		0.99		0.10	U	0.10	U
Calcium	NS	130-35,000	8570		748		2440		2530		2500		67.9		49.3	
Chromium	180	1.5-40	24.8		3.0		4.9		5.4		8.8		0.38	U	2.0	
Cobalt	NS	2.5-60	3.7		2.5		3.8		2.3		8.9		0.15	U	0.36	
Copper	270	1-50	130		11.6		6.6		1.9		6.1		6.3	U	6.3	U
Iron	NS	2,000-550,000	13200		9880		12600		14300		28600		195		944	
Lead	400	NA	284		16.0		40.0		24.1		33.4		0.46	U	2.1	
Magnesium	NS	100-5,000	4940		608		1530		1970		1970		20.0	U	20.0	U
Manganese	2,000	50-5,000	93.9		55.6		603		133		597		1.8	U	7.3	
Mercury	0.81	0.001-0.2	0.20		0.0088		0.028	(U)	0.0081	U	0.035	U	0.050		0.076	
Nickel	310	0.5-25	12.1		6.6		5.1		3.7		9.1		0.59	U	0.59	U
Potassium	NS	8,500-43,000	130		191	(U)	254		303		305		160	U	160	U
Selenium	180	0.1-3.9	2.1		1.2		1.6	(U)	2.1		2.1		6.9		1.4	
Sodium	NS	6,000-8,000	52.4		27.1		73.7		93.8		55.3		130	U	130	U
Thallium	NS	NA	2.3		1.9		0.13		2.3		2.1		1.4		1.5	
Vanadium	NS	1-300	10.6		7.6		11.3		22.1		22.4		0.47	U	0.47	U
Zinc	10,000	9-50	276		34.5		178		93.4		321		18.4		19.0	

Notes:
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N indicates presumptive evidence of a compound
R indicates that the analytical results have been rejected due to matrix interference
Qualifiers in parantheses reflect ammendments made by the data validator
NS denotes "No Standard"
NA denotes "Not Applicable"
* Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4 to 61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200 to 500 ppm.

TABLE 4.5.1-1

Subsurface Soils (Test Trenches/Pits) Analytical Results Summary

Table 4.5.1-1: SUBSURFACE SOILS (TEST TRENCHES/PITS) ANALYTICAL RESULTS SUMMARY
400 UPPER BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	Part 375 Restricted Residential Use SCOs[1] (mg/kg)	Eastern USA Background[2] (mg/kg)	TT-1 S-1 (8') mg/kg		TT-1 S-4 (3.5') mg/kg		TT-1 S-8 (1') mg/kg		TT-2 S-4 (6.5'-7.5') mg/kg		TT-2 S-4 (Duplicate) mg/kg		TT-2 S-10 (2.5') mg/kg		TT-2 S-15 (3') mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's																
Acetone	100	N/A	0.051	(J)	0.02	(J)	0.006	U(J)	0.006	U(J)	0.011	U(J)	0.1	(J)	0.054	(J)
Carbon Disulfide	NS	N/A	0.006	U	0.008	U	0.006	U	0.006	U	0.011	U	0.008	U	0.007	U
Methylene Chloride	100	N/A	0.006	U	0.008	U	0.006	U(J)	0.006	U	0.011	U	0.008	U	0.007	U
2-Butanone	NS	N/A	0.006	U	0.008	U	0.006	U(J)	0.006	U(J)	0.011	U(J)	0.019	(J)	0.007	U(J)
m,p-Xylene	100	N/A	0.006		0.008	U	0.006	U(J)	0.006	U	0.011	U	0.008	U	0.007	U
o-Xylene	100	N/A	0.006	U	0.008	U	0.006	U(J)	0.006	U	0.011	U	0.008	U	0.007	U
Xylene (Total)	100	N/A	0.006	(J)	0.008	U(J)	0.006	U(J)	0.006	U	0.011	U	0.008	U	0.007	U
Isopropylbenzene	NS	N/A	0.002	J	0.008	U	0.006	U(J)	0.006	U	0.011	U	0.005	J	0.007	U
n-Propylbenzene	100	N/A	0.006	U	0.008	U	0.006	U(J)	0.006	U	0.011	U	0.008	U	0.007	U
2-Chlorotoluene	NS	N/A	0.006	U	0.008	U	0.006	U(J)	0.006	U	0.011	U	0.008	U	0.007	U
1,3,5-Trimethylbenzene	52	N/A	0.014		0.008	U	0.006	U(J)	0.006	U	0.011	U	0.004	J	0.007	U
1,2,4-Trimethylbenzene	52	N/A	0.023		0.008	U	0.006	U(J)	0.006	U	0.011	U	0.008	U	0.007	U
sec-Butylbenzene	100	N/A	0.001	J	0.008	U	0.006	U(J)	0.006	U	0.011	U	0.007	J	0.007	U
4-Isopropyltoluene	NS	N/A	0.008	(J)	0.008	U(J)	0.006	U(J)	0.006	U	0.011	U	0.038		0.007	U
n-Butylbenzene	NS	N/A	0.006	U	0.008	U	0.006	U(J)	0.006	U	0.011	U	0.008	U	0.007	U
Naphthalene	100	N/A	0.023		0.003	(U)	0.003	(UJ)	0.006	U	0.011	U	0.008	U	0.007	U
1,2,3-Trichlorobenzene	NS	N/A	0.006	U	0.008	U	0.001	J	0.006	U	0.011	U	0.008	U	0.007	U
SVOC's																
Naphthalene	100	N/A	0.11	J	0.53	U	0.42	U	0.38	U	0.41	U	0.46	U	0.93	U
2-Methylnaphthalene	NS	N/A	0.27	J	0.53	U	0.42	U	0.38	U	0.41	U	0.052	J	0.93	U
Acenaphthylene	100	N/A	0.38	U	0.53	U	0.42	U	0.38	U	0.41	U	0.08	J	0.13	J
Acenaphthene	100	N/A	0.38	U	0.53	U	0.42	U	0.38	U	0.41	U	0.46	U	0.93	U
Dibenzofuran	NS	N/A	0.38	U	0.53	U	0.42	U	0.38	U	0.41	U	0.46	U	0.93	U
Fluorene	100	N/A	0.38	U	0.53	U	0.42	U	0.38	U	0.41	U	0.058	J	0.11	J
Phenanthrene	100	N/A	0.1	J	0.53	U	0.42	U	0.38	U	0.41	U	0.28	J	0.14	J
Anthracene	100	N/A	0.38	U	0.53	U	0.42	U	0.38	U	0.41	U	0.09	J	0.11	J
Carbazole	NS	N/A	0.38	U	0.53	U	0.42	U	0.38	U	0.41	U	0.46	U	0.93	U
Fluoranthene	100	N/A	0.16	J	0.062	J	0.42	U	0.055	J	0.042	J	0.33	J	0.27	J
Pyrene	100	N/A	0.13	J	0.077	J	0.42	U	0.093	J	0.068	J	0.34	J	0.25	J
Benzo(a)anthracene	1	N/A	0.055	J	0.53	U	0.42	U	0.082	J	0.059	J	0.17	J	0.13	J
Chrysene	3.9	N/A	0.075	J	0.53	U	0.42	U	0.042	J	0.41	U(J)	0.26	J	0.13	J
bis(2-Ethylhexyl)phthalate	NS	N/A	0.057	J	0.096	J	0.42	U	0.38	U(J)	0.15	J	0.13	J	0.098	J
Benzo(b)fluoranthene	1	N/A	0.075	J	0.53	U	0.42	U	0.38	U	0.41	U	0.12	J	0.19	J
Benzo(k)fluoranthene	3.9	N/A	0.38	U	0.53	U	0.42	U	0.38	U	0.41	U	0.15	J	0.93	U
Benzo(a)pyrene	1	N/A	0.044	J	0.53	U	0.42	U	0.38	U	0.41	U	0.16	J	0.15	J
Indeno(1,2,3-cd)pyrene	0.5	N/A	0.38	U	0.53	U	0.42	U	0.38	U	0.41	U	0.12	J	0.93	U
Dibenzo(a,h)anthracene	0.33	N/A	0.38	U	0.53	U	0.42	U	0.38	U	0.41	U	0.048	J	0.93	U
Benzo(g,h,i)perylene	100	N/A	0.38	U	0.53	U	0.42	U	0.38	U	0.41	U	0.16	J	0.93	U

Qualifiers and Notes
(1) NYSDEC 6 NYCRR PART 375 Environmental Remediation Programs, Subpart 375-6, Dated December 14, 2006
(2) NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 Determination of Soil Cleanup Objectives, Eastern USA or NYS Background, Dated Jan. 24, 1994.
Concentrations denoted in mg/kg or parts per million (ppm)
U indicates that the compound was analyzed but not detected
J indicates and estimated value
N indicates presumptive evidence of a compound
R indicates that the analytical results have been rejected due to matrix interference
Qualifiers in parantheses reflect ammendments made by the data validator
NS denotes "No Standard"
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* Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4 to 61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200 to 500 ppm.

Table 4.5.1-1: SUBSURFACE SOILS (TEST TRENCHES/PITS) ANALYTICAL RESULTS SUMMARY
400 UPPER BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	Part 375 Restricted Residential Use SCOs[1] (mg/kg)	Eastern USA Background[2] (mg/kg)	TT-2 S-18 (9'-9.5') mg/kg		TT-3 S-3 (5.5') mg/kg		TT-3 S-8 (4') mg/kg		TT-3 S-16 (1.5') mg/kg		TT-3 S-19 (4.5') mg/kg		TT-3 S-20 (4') mg/kg		TT-4 S-3 (7') mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's																
Acetone	100	N/A	0.2	(J)	0.006	U(J)	0.1	(J)	0.006	U(J)	0.006	U(J)	0.069	(J)	0.008	U(J)
Carbon Disulfide	NS	N/A	0.002	J	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U(J)	0.008	U
Methylene Chloride	100	N/A	0.011	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U(J)	0.008	U
2-Butanone	NS	N/A	0.059		0.006	U(J)	0.006	U(J)	0.006	U(J)	0.006	U(J)	0.005	U(J)	0.008	U(J)
m,p-Xylene	100	N/A	0.011	U	0.006	U	0.005	J	0.006	U	0.006	U	0.005	U(J)	0.008	U
o-Xylene	100	N/A	0.011	U	0.006	U	0.005	J	0.006	U	0.006	U	0.005	U(J)	0.008	U
Xylene (Total)	100	N/A	0.011	U(J)	0.006	U	0.011		0.006	U	0.006	U	0.005	U(J)	0.008	U
Isopropylbenzene	NS	N/A	0.003	J	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U(J)	0.008	U
n-Propylbenzene	100	N/A	0.007	J	0.006	U	0.002	J	0.006	U	0.006	U	0.005	U(J)	0.008	U
2-Chlorotoluene	NS	N/A	0.011	U	0.006	U	0.008		0.006	U	0.006	U	0.005	U(J)	0.008	U
1,3,5-Trimethylbenzene	52	N/A	0.011	U	0.006	U	0.018		0.006	U	0.006	U	0.005	U(J)	0.008	U
1,2,4-Trimethylbenzene	52	N/A	0.011	U	0.006	U	0.023		0.006	U	0.006	U	0.005	U(J)	0.008	U
sec-Butylbenzene	100	N/A	0.023		0.006	U	0.006	U	0.002	J	0.006	U	0.005	U(J)	0.008	U
4-Isopropyltoluene	NS	N/A	0.011	U(J)	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U(J)	0.008	U
n-Butylbenzene	NS	N/A	0.014		0.006	U	0.006	U	0.006	U	0.006	U	0.005	U(J)	0.008	U
Naphthalene	100	N/A	0.008	(U)	0.006	U	0.013		0.006	U	0.006	U	0.005	U(J)	0.008	U
1,2,3-Trichlorobenzene	NS	N/A	0.011	U	0.006	U	0.006	U	0.006	U	0.006	U	0.005	U(J)	0.008	U
SVOC's																
Naphthalene	100	N/A	0.14	J	0.39	U	0.42	U	0.4	U	0.41	U	0.63	J	0.53	U
2-Methylnaphthalene	NS	N/A	0.12	J	0.39	U	0.1	J	0.4	U	0.41	U	0.95		0.53	U
Acenaphthylene	100	N/A	0.072	J	0.39	U	0.42	U	0.4		0.051	J	2.1		0.53	U
Acenaphthene	100	N/A	0.055	J	0.39	U	0.42	U	0.46		0.63		1.3		0.53	U
Dibenzofuran	NS	N/A	0.046	J	0.39	U	0.42	U	0.25	J	0.05	J	0.24	J	0.53	U
Fluorene	100	N/A	0.16	J	0.39	U	0.42	U	0.98		0.085	J	1.3		0.53	U
Phenanthrene	100	N/A	0.13	J	0.39	U	0.42	U	3		0.41	U	2.2		0.53	U
Anthracene	100	N/A	0.08	J	0.39	U	0.42	U	0.86		0.41	U	1.2		0.53	U
Carbazole	NS	N/A	0.39	U	0.39	U	0.42	U	0.4	U	0.41	U	0.2	J	0.53	U
Fluoranthene	100	N/A	0.28	J	0.14	J	0.07	J	3.6		0.47		5.4		0.53	U
Pyrene	100	N/A	0.2	J	0.31	J	0.1	J	3.1		0.64		8.4		0.53	U
Benzo(a)anthracene	1	N/A	0.11	J	0.15	J	0.42	U	**1.2**		0.31	J	**1.9**		0.53	U
Chrysene	3.9	N/A	0.35	J	0.18	J	0.1	J	1.3		0.34	J	3.5		0.53	U
bis(2-Ethylhexyl)phthalate	NS	N/A	0.39	U	0.39	U	0.42	U	0.4	U	0.41	U	0.75	U	0.53	U
Benzo(b)fluoranthene	1	N/A	0.068	J	0.054	J	0.05	J	0.74		0.13	J	**4.3**		0.53	U
Benzo(k)fluoranthene	3.9	N/A	0.075	J	0.052	J	0.42	U	0.73		0.085	J	1.5		0.53	U
Benzo(a)pyrene	1	N/A	0.07	J	0.042	J	0.42	U	0.77		0.1	J	**2**		0.53	U
Indeno(1,2,3-cd)pyrene	0.5	N/A	0.04	J	0.39	U	0.42	U	0.43		0.042	J	**1.4**		0.53	U
Dibenzo(a,h)anthracene	0.33	N/A	0.39	U	0.39	U	0.42	U	0.12	J	0.41	U	**0.37**	J	0.53	U
Benzo(g,h,i)perylene	100	N/A	0.042	J	0.39	U	0.42	U	0.47		0.06	J	1.6		0.53	U

Qualifiers and Notes
(1) NYSDEC 6 NYCRR PART 375 Environmental Remediation Programs, Subpart 375-6, Dated December 14, 2006
(2) NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 Determination of Soil Cleanup Objectives, Eastern USA or NYS Background, Dated Jan. 24, 1994.
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NS denotes "No Standard"
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* Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4 to 61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200 to 500 ppm.

Table 4.5.1-1: SUBSURFACE SOILS (TEST TRENCHES/PITS) ANALYTICAL RESULTS SUMMARY
400 UPPER BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	Part 375 Restricted Residential Use SCOs[1] (mg/kg)	Eastern USA Background[2] (mg/kg)	TT-4 S-9 (7') mg/kg		TT-4 S-14 (7') mg/kg		TT-5 S-5 (1.5') mg/kg		TT-5 S-7 (2.5'-3') mg/kg		TT-5 S-23 (5') mg/kg		TP-1 S-1 (2.5') mg/kg		TP-1 S-1 (Duplicate) mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's																
Acetone	100	N/A	0.06	U(J)	0.064	U(J)	0.006	U(J)	0.11	(J)	0.048		0.055	(J)	0.029	U(J)
Carbon Disulfide	NS	N/A	0.06	U	0.064	U	0.006	U	0.012	U	0.006	U	0.014	U	0.029	U
Methylene Chloride	100	N/A	0.06	U	0.064	U	0.006	U	0.012	U	0.006	U	0.014	U	0.029	U
2-Butanone	NS	N/A	0.06	U(J)	0.064	U(J)	0.006	U(J)	0.04	(J)	0.006	U	0.014	U(J)	0.029	U(J)
m,p-Xylene	100	N/A	0.06	U	0.16		0.006	U	0.012	U	0.002	J	0.014	U	0.029	U
o-Xylene	100	N/A	0.06	U	0.04	J	0.006	U	0.012	U	0.001	J	0.014	U	0.029	U
Xylene (Total)	100	N/A	0.06	U	0.2		0.006	U	0.012	U	0.003	J	0.014	U	0.029	U
Isopropylbenzene	NS	N/A	0.06	U	0.09		0.006	U	0.012	U	0.003	J	0.016	(J)	0.051	(J)
n-Propylbenzene	100	N/A	0.06	U	0.18		0.006	U	0.012	U	0.002	J	0.014	U	0.029	U
2-Chlorotoluene	NS	N/A	0.06	U	0.064	U	0.006	U	0.012	U	0.006	U	0.014	U	0.029	U
1,3,5-Trimethylbenzene	52	N/A	0.06	U	0.8		0.006	U	0.012	U	0.005	J	0.014	U	0.029	U
1,2,4-Trimethylbenzene	52	N/A	0.06	U	1.4		0.006	U	0.012	U	0.005	J	0.014	U	0.029	U
sec-Butylbenzene	100	N/A	0.06	U	0.11		0.006	U	0.012	U	0.005	J	0.014	U(J)	0.14	J
4-Isopropyltoluene	NS	N/A	0.06	U	0.33		0.006	U	0.012	U	0.006	U	0.014	U	0.029	U
n-Butylbenzene	NS	N/A	0.06	U	0.064	U	0.006	U	0.012	U	0.014		0.014	U(J)	0.3	J
Naphthalene	100	N/A	0.06	U	0.74		0.006	U	0.003	(U)	0.002	(U)	0.014	U	0.029	U
1,2,3-Trichlorobenzene	NS	N/A	0.06	U	0.064	U	0.006	U	0.012	U	0.006	U	0.014	U	0.029	U
SVOC's																
Naphthalene	100	N/A	0.48	U	0.41	J	0.4	U	4	U	0.37	U	0.37	U	0.46	U
2-Methylnaphthalene	NS	N/A	0.48	U	0.58		0.4	U	4	U	0.37	U	0.37	U	0.46	U
Acenaphthylene	100	N/A	0.48	U	0.11	J	0.4	U	4	U	0.37	U	0.37	U	0.46	U
Acenaphthene	100	N/A	0.48	U	0.06	J	0.4	U	4	U	0.37	U	0.37	U	0.46	U
Dibenzofuran	NS	N/A	0.48	U	0.42	U	0.4	U	4	U	0.37	U	0.37	U	0.46	U
Fluorene	100	N/A	0.48	U	0.18	J	0.4	U	4	U	0.37	U	0.37	U	0.46	U
Phenanthrene	100	N/A	0.069	J	0.5		0.4	U	0.54	J	0.37	U	0.37	U	0.46	U
Anthracene	100	N/A	0.48	U	0.091	J	0.4	U	0.42	J	0.37	U	0.37	U	0.46	U
Carbazole	NS	N/A	0.48	U	0.42	U	0.4	U	4	U	0.37	U	0.37	U	0.46	U
Fluoranthene	100	N/A	0.17	J	0.47		0.06	J	1.3	J	0.37	U	0.065	J	0.13	J
Pyrene	100	N/A	0.17	J	1		0.053	J	2.5	J	0.37	U	0.064	J	0.12	J
Benzo(a)anthracene	1	N/A	0.074	J	0.48		0.042	J	0.66	J	0.37	U	0.042	J	0.055	J
Chrysene	3.9	N/A	0.14	J	0.59		0.4	U	2.6	J	0.37	U	0.083	J	0.15	J
bis(2-Ethylhexyl)phthalate	NS	N/A	0.48	U	0.42	U	0.05	J	4	U	0.37	U	0.37	U	0.46	U
Benzo(b)fluoranthene	1	N/A	0.12	J	0.12	J	0.05	J	**1.1**	J	0.37	U	0.37	U	0.46	U
Benzo(k)fluoranthene	3.9	N/A	0.056	J	0.14	J	0.4	U	0.42	J	0.37	U	0.37	U	0.46	U
Benzo(a)pyrene	1	N/A	0.073	J	0.11	J	0.4	U	0.82	J	0.37	U	0.37	U	0.46	U
Indeno(1,2,3-cd)pyrene	0.5	N/A	0.056	J	0.11	J	0.4	U	0.44	J	0.37	U	0.37	U	0.46	U
Dibenzo(a,h)anthracene	0.33	N/A	0.48	U	0.42	U	0.4	U	4	U	0.37	U	0.37	U	0.46	U
Benzo(g,h,i)perylene	100	N/A	0.069	J	0.22	J	0.4	U	0.71	J	0.37	U	0.37	U	0.46	U

Qualifiers and Notes
(1) NYSDEC 6 NYCRR PART 375 Environmental Remediation Programs, Subpart 375-6, Dated December 14, 2006
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400 UPPER BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	Part 375 Restricted Residential Use SCOs(1) (mg/kg)	Eastern USA Background(2) (mg/kg)	TP-2 S-1 (3') mg/kg		TP-3 S-1 (2') mg/kg		TP-4 S-1 (3') mg/kg		TP-5 S-2 (6') mg/kg		TP-6 S-1 (2') mg/kg		Test Trench Eq. Bl. ug/l		Test Pit Eq. Bl. ug/l	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's																
Acetone	100	N/A	0.005	U	0.005	U	0.006	U	0.006	U	0.052		0.005	U(J)	0.005	U(J)
Carbon Disulfide	NS	N/A	0.005	U	0.005	U	0.006	U	0.006	U	0.009	U	0.005	U(J)	0.005	U
Methylene Chloride	100	N/A	0.005	U	0.005	U	0.006	U	0.006	U	0.003	J	0.005	U	0.005	U
2-Butanone	NS	N/A	0.005	U	0.005	U	0.006	U	0.006	U	0.013		0.005	U	0.005	U(J)
m,p-Xylene	100	N/A	0.005	U	0.005	U	0.006	U	0.006	U	0.009	U(J)	0.005	U	0.005	U
o-Xylene	100	N/A	0.005	U	0.005	U	0.006	U	0.006	U	0.009	U(J)	0.005	U	0.005	U
Xylene (Total)	100	N/A	0.005	U	0.005	U	0.006	U	0.006	U	0.009	U(J)	0.005	U	0.005	U
Isopropylbenzene	NS	N/A	0.005	U	0.005	U	0.006	U	0.006	U	0.009	U(J)	0.005	U	0.005	U
n-Propylbenzene	100	N/A	0.005	U	0.005	U	0.006	U	0.006	U	0.009	U(J)	0.005	U	0.005	U
2-Chlorotoluene	NS	N/A	0.005	U	0.005	U	0.006	U	0.006	U	0.009	U(J)	0.005	U	0.005	U
1,3,5-Trimethylbenzene	52	N/A	0.005	U	0.005	U	0.006	U	0.006	U	0.009	U(J)	0.005	U	0.005	U
1,2,4-Trimethylbenzene	52	N/A	0.005	U	0.005	U	0.006	U	0.006	U	0.009	U(J)	0.005	U	0.005	U
sec-Butylbenzene	100	N/A	0.005	U	0.005	U	0.006	U	0.006	U	0.009	U(J)	0.005	U	0.005	U
4-Isopropyltoluene	NS	N/A	0.005	U	0.005	U	0.006	U	0.006	U	0.009	U(J)	0.005	U	0.005	U
n-Butylbenzene	NS	N/A	0.005	U	0.005	U	0.006	U	0.006	U	0.009	U(J)	0.005	U	0.005	U
Naphthalene	100	N/A	0.005	U	0.005	U	0.006	U	0.006	U	0.004	(UJ)	0.005	U	0.005	U
1,2,3-Trichlorobenzene	NS	N/A	0.005	U	0.005	U	0.006	U	0.006	U	0.009	U(J)	0.005	U	0.005	U
SVOC's																
Naphthalene	100	N/A	0.37	U	0.36	U	0.4	U	0.37	U	0.55	U	0.01	U	0.01	U
2-Methylnaphthalene	NS	N/A	0.37	U	0.36	U	0.4	U	0.37	U	0.55	U	0.01	U	0.01	U
Acenaphthylene	100	N/A	0.37	U	0.36	U	0.4	U	0.37	U	0.55	U	0.01	U	0.01	U
Acenaphthene	100	N/A	0.37	U	0.36	U	0.4	U	0.37	U	0.55	U	0.01	U	0.01	U
Dibenzofuran	NS	N/A	0.37	U	0.36	U	0.4	U	0.37	U	0.55	U	0.01	U	0.01	U
Fluorene	100	N/A	0.37	U	0.36	U	0.4	U	0.37	U	0.55	U	0.01	U	0.01	U
Phenanthrene	100	N/A	0.37	U	0.36	U	0.4	U	0.37	U	0.1	J	0.01	U	0.01	U
Anthracene	100	N/A	0.37	U	0.36	U	0.4	U	0.37	U	0.55	U	0.01	U	0.01	U
Carbazole	NS	N/A	0.37	U	0.36	U	0.4	U	0.37	U	0.55	U	0.01	U	0.01	U
Fluoranthene	100	N/A	0.37	U	0.36	U	0.4	U	0.37	U	0.3	J	0.01	U	0.01	U
Pyrene	100	N/A	0.37	U	0.36	U	0.4	U	0.37	U	0.22	J	0.01	U	0.01	U
Benzo(a)anthracene	1	N/A	0.37	U	0.36	U	0.4	U	0.37	U	0.16	J	0.01	U	0.01	U
Chrysene	3.9	N/A	0.37	U	0.36	U	0.4	U	0.37	U	0.17	J	0.01	U	0.01	U
bis(2-Ethylhexyl)phthalate	NS	N/A	0.33	J	0.32	J	0.99		0.15	J	0.47	J	0.01	U	0.01	U
Benzo(b)fluoranthene	1	N/A	0.37	U	0.36	U	0.4	U	0.37	U	0.2	J	0.01	U	0.01	U
Benzo(k)fluoranthene	3.9	N/A	0.37	U	0.36	U	0.4	U	0.37	U	0.082	J	0.01	U	0.01	U
Benzo(a)pyrene	1	N/A	0.37	U	0.36	U	0.4	U	0.37	U	0.14	J	0.01	U	0.01	U
Indeno(1,2,3-cd)pyrene	0.5	N/A	0.37	U	0.36	U	0.4	U	0.37	U	0.098	J	0.01	U	0.01	U
Dibenzo(a,h)anthracene	0.33	N/A	0.37	U	0.36	U	0.4	U	0.37	U	0.55	U	0.01	U	0.01	U
Benzo(g,h,i)perylene	100	N/A	0.37	U	0.36	U	0.4	U	0.37	U	0.11	J	0.01	U	0.01	U

Qualifiers and Notes
(1) NYSDEC 6 NYCRR PART 375 Environmental Remediation Programs, Subpart 375-6, Dated December 14, 2006
(2) NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 Determination of Soil Cleanup Objectives, Eastern USA or NYS Background, Dated Jan. 24, 1994.
Concentrations denoted in mg/kg or parts per million (ppm)
U indicates that the compound was analyzed but not detected
J indicates and estimated value
N indicates presumptive evidence of a compound
R indicates that the analytical results have been rejected due to matrix interference
Qualifiers in parantheses reflect ammendments made by the data validator
NS denotes "No Standard"
NA denotes "Not Applicable"
* Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4 to 61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200 to 500 ppm.

Table 4.5.1-1: SUBSURFACE SOILS (TEST TRENCHES/PITS) ANALYTICAL RESULTS SUMMARY
400 UPPER BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	Part 375 Restricted Residential Use SCOs[1] (mg/kg)	Eastern USA Background[2] (mg/kg)	TT-1 S-1 (8') mg/kg		TT-1 S-4 (3.5') mg/kg		TT-1 S-8 (1') mg/kg		TT-2 S-4 (6.5'-7.5') mg/kg		TT-2 S-4 (Duplicate) mg/kg		TT-2 S-10 (2.5') mg/kg		TT-2 S-15 (3') mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Pesticides																
alpha-BHC	0.48	N/A	0.2		0.0027	U	0.0021	U	0.002	U	0.0021	U	0.0024	U	0.0024	U
beta-BHC	0.36	N/A	0.019	U	0.0027	U	0.0021	U	0.002	U	0.0021	U	0.0041	(R)	0.0024	U
Heptachlor	2.1	N/A	0.019	U	0.0027	U	0.0021	U	0.002	U	0.0021	U	0.0024	U	0.0024	(NJ)
Heptachlor epoxide	NS	N/A	0.019	U	0.0027	U	0.0021	U	0.002	U	0.0021	U	0.0024	U	0.0024	U
Dieldrin	0.2	N/A	0.037	U	0.0053	U	0.0042	U	0.0039	U	0.004	U	0.012	(R)	0.0074	(NJ)
4,4-DDE	8.9	N/A	0.037	U	0.0053	U	0.0042	U	0.0039	U	0.004	U	0.0046	U	0.0046	U
Endrin	11	N/A	0.037	U	0.0053	U	0.0042	U(J)	0.0039	U	0.004	U	0.0046	U	0.0046	U
Endosulfan II	24	N/A	0.037	U	0.0053	U	0.0042	U	0.0039	U	0.004	U	0.0046	U	0.0046	U
4,4-DDD	13	N/A	0.037	U	0.0053	U	0.0042	U	0.0039	U	0.004	U	0.0063	(R)	0.0046	U
Endosulfan sulfate	24	N/A	0.037	U	0.0053	U	0.0042	U	0.0039	U	0.004	U	0.0046	U	0.0084	(NJ)
4,4-DDT	7.9	N/A	0.037	U	0.0053	U	0.0042	U	0.008	(J)	0.008	(J)	0.029	(J)	0.034	(J)
Methoxychlor	NS	N/A	0.19	U	0.027	U	0.021	U	0.02	U	0.021	U	0.024	U	0.024	U
Endrin ketone	NS	N/A	0.037	U	0.0053	U	0.0042	U	0.006	(J)	0.004	U	0.021	(NJ)	0.0046	U
Endrin aldehyde	NS	N/A	0.037	U	0.014		0.0042	U	0.0039	U	0.0096	(R)	0.0046	U	0.048	
gamma-Chlordane	NS	N/A	0.019	U	0.0027	U	0.0021	U	0.002	U	0.0021	U	0.0024	U	0.0024	U
PCBs																
Aroclor-1260	1	N/A	0.13	(J)	0.1	(NJ)	0.042	U	0.072	(J)	0.063	(J)	0.23	(J)	0.24	(J)
Metals																
Aluminum	NS	33,000	7330		14,900		11,400		7860		9080		10,800		8910	
Antimony	NS	N/A	0.63	(U)	0.76	(U)	0.7	(U)	1.3	(U)	0.97	(U)	0.81	(U)	0.84	(U)
Arsenic	16	3 - 12	0.83		2.5		0.17	U(J)	0.084	U	0.081	U	1.9		2.8	
Barium	400	15 - 1600	61		106		28.2		41.7		43		94.4		45.7	
Beryllium	72	0 - 1.75	0.86		1.4		0.3	(J)	1.1		1.3		0.79		1.1	
Cadmium	4.3	0.1 - 1	2.8		2.8		0.64		0.56		0.52		6		2.8	
Calcium	NS	130 - 35,000	3100		6660		647	(J)	2110		2670	(J)	3720		4570	
Chromium	180	1.5 - 40	9.8		10.9		4.8		2.8		4.6		9.6		11.6	
Cobalt	NS	2.5 - 60	6		14.1		1.4	(J)	5.7		6.6		9.2		6.2	
Copper	270	1 - 50	28.5		28.7		0.24	(U)	0.23	U(J)	2.3	(J)	33.3		31.1	
Iron	NS	2000 - 550,000	14,400		18,200		18,200	(J)	31,800		28,400		15,600		21,000	
Lead	400	N/A	52.5		66.1		13.3	(J)	15.5		13.7		285		70.3	
Magnesium	NS	100 - 5000	2880		1910		735	(J)	3990		3630		1580		2350	
Manganese	2,000	50 - 5000	203		193		65.6		294	(J)	364	(J)	280		216	
Mercury	0.81	0.001 - 0.2	0.06		0.15		0.059		0.0072	U	0.0085	U	0.11		0.14	
Nickel	310	0.5 - 25	8.2		11.7		3.2	(J)	1.6	(J)	3.3	(J)	7.9		8.5	
Potassium	NS	8500 - 43,000	747		557		194	(J)	282		540		317		693	
Selenium	180	0.1 - 3.9	2.4		3.4		2.5		3		3.1		2.5		2.7	
Sodium	NS	6000 - 8000	280		226		34.4		102		176		123		192	
Thallium	NS	N/A	1.5		1.7		3		3.4		2.3		1.3		2.2	
Vanadium	NS	1 - 300	17.4		22.1		22.3		7	(J)	11.3	(J)	18.1		19.4	
Zinc	10,000	9 - 50	121		246		45.5	(J)	155		129		278		192	

Qualifiers and Notes
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Qualifiers in parantheses reflect ammendments made by the data validator
NS denotes "No Standard"
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* Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4 to 61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200 to 500 ppm.

Table 4.5.1-1: SUBSURFACE SOILS (TEST TRENCHES/PITS) ANALYTICAL RESULTS SUMMARY
400 UPPER BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	Part 375 Restricted Residential Use SCOs(1) (mg/kg)	Eastern USA Background(2) (mg/kg)	TT-2 S-18 (9'-9.5') mg/kg		TT-3 S-3 (5.5') mg/kg		TT-3 S-8 (4') mg/kg		TT-3 S-16 (1.5') mg/kg		TT-3 S-19 (4.5') mg/kg		TT-3 S-20 (4') mg/kg		TT-4 S-3 (7') mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Pesticides																
alpha-BHC	0.48	N/A	0.002	U	0.0057		0.0021	U	0.027		0.0021	U	0.002	U	0.0028	U
beta-BHC	0.36	N/A	0.002	U	0.002	U	0.0021	U	0.006		0.0021	U	0.002	U	0.0028	U
Heptachlor	2.1	N/A	0.002	U	0.002	U	0.0021	U	0.0021	U	0.0021	U	0.002	U	0.0028	U
Heptachlor epoxide	NS	N/A	0.002	U	0.007	(J)	0.0021	U	0.0021	U	0.0021	U	0.002	U	0.0028	U
Dieldrin	0.2	N/A	0.0038	U	0.0039	U	0.0089	(NJ)	0.0056	(R)	0.0041	U	0.0098	(R)	0.0054	U
4,4-DDE	8.9	N/A	0.0038	U	0.0039	U	0.0041	U	0.0065	(R)	0.0041	U	0.0074	(R)	0.0054	U
Endrin	11	N/A	0.0038	U	0.0039	U	0.0041	U(J)	0.004	U	0.0041	U	0.0038	U	0.0054	U
Endosulfan II	24	N/A	0.0038	U	0.0039	U	0.0063	(R)	0.004	U	0.0041	U	0.0051	(R)	0.0054	U
4,4-DDD	13	N/A	0.0038	U	0.045		0.029	(J)	0.004	U	0.0041	U	0.011	(R)	0.0054	U
Endosulfan sulfate	24	N/A	0.0038	U	0.0039	U	0.0041	U	0.004	U	0.0041	U	0.021	(NJ)	0.0054	U
4,4-DDT	7.9	N/A	0.0038	U	0.038	(NJ)	0.037	(J)	0.14		0.0041	U	0.064	(NJ)	0.0054	U
Methoxychlor	NS	N/A	0.02	U	0.038	(R)	0.054	(R)	0.021	U	0.021	U	0.02	U	0.028	U
Endrin ketone	NS	N/A	0.0078	(NJ)	0.045	(J)	0.055	(J)	0.029		0.0041	U	0.0038	U	0.0054	U
Endrin aldehyde	NS	N/A	0.0038	U	0.028	(R)	0.042	(NJ)	0.004	U	0.0041	U	0.04	(R)	0.0054	U
gamma-Chlordane	NS	N/A	0.002	U	0.002	U	0.0021	U	0.0021	U	0.0021	U	0.0087	(J)	0.0028	U
PCBs																
Aroclor-1260	1	N/A	0.1	(NJ)	0.34	(NJ)	0.32	(NJ)	0.2	(J)	0.069	(J)	0.24	(J)	0.054	U
Metals																
Aluminum	NS	33,000	7830		4200		10,600		7740		10,600		5270		10,200	
Antimony	NS	N/A	0.98	(U)	0.53	(U)	0.32	(U)	1.2		0.058	U	0.14	U	0.77	(U)
Arsenic	16	3 - 12	1.9		0.68		1		0.82		1		5.6		1.5	
Barium	400	15 - 1600	30.8		19		53.9		71.6		41.1		37.3		58.3	
Beryllium	72	0 - 1.75	0.61		0.2		0.6		1		0.94		0.56		0.56	
Cadmium	4.3	0.1 - 1	2.4		0.33		0.74		2.4		0.64		2.9		0.86	
Calcium	NS	130 - 35,000	3290		4480		2040		2700		2260		6710		5210	(J)
Chromium	180	1.5 - 40	10.9		1.4		6.3		13.1		48.9		70.8		13.6	(J)
Cobalt	NS	2.5 - 60	5.2		4.2		4.1		5		5.7		7.9		5	(J)
Copper	270	1 - 50	61.8		3.7		5.2		**294**		2		106		4.7	
Iron	NS	2000 - 550,000	20,000		9760		11,600		16,100		22,200		24,600		8950	(J)
Lead	400	N/A	237		12.1		38		241		16.3		178		24.7	
Magnesium	NS	100 - 5000	1690		1400		1610		2160		3160		1800		1530	
Manganese	2,000	50 - 5000	142		51.4		266		352		231		273		150	
Mercury	0.81	0.001 - 0.2	0.13		0.012		0.029		0.07		0.015		0.35		0.059	
Nickel	310	0.5 - 25	18.6		1.8		4.8		6.4		6		224		4.7	(J)
Potassium	NS	8500 - 43,000	342		187		307		491		329		443		399	
Selenium	180	0.1 - 3.9	2.3		1.6		2.4		2.1		2.5		2.7		2.6	
Sodium	NS	6000 - 8000	106		134		92		149		131		132		125	
Thallium	NS	N/A	2.4		1.9		0.95	(U)	0.48		2.2		2.4		0.82	(U)
Vanadium	NS	1 - 300	13.6		6.5		15.3		15.8		19.2		19.2		14.9	
Zinc	10,000	9 - 50	87.4		82.2		102		143		96.3		121		96.3	(J)

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

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400 UPPER BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	Part 375 Restricted Residential Use SCOs[1] (mg/kg)	Eastern USA Background[2] (mg/kg)	TT-4 S-9 (7') mg/kg		TT-4 S-14 (7') mg/kg		TT-5 S-5 (1.5') mg/kg		TT-5 S-7 (2.5'-3') mg/kg		TT-5 S-23 (5') mg/kg		TP-1 S-1 (2.5') mg/kg		TP-1 S-1 (Duplicate) mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Pesticides																
alpha-BHC	0.48	N/A	0.0024	U	0.0022	U	0.0021	U	0.0041	U	0.02		0.0019	U	0.0024	U
beta-BHC	0.36	N/A	0.0024	U	0.0022	U	0.0021	U	0.0041	U	0.019	U	0.0019	U	0.0024	U
Heptachlor	2.1	N/A	0.0024	U	0.0022	U	0.0021	U	0.0041	U(J)	0.04		0.0019	U	0.0024	U
Heptachlor epoxide	NS	N/A	0.0024	U	0.0022	U	0.0021	U	0.0041	U(J)	0.019	U	0.0019	U	0.0024	U
Dieldrin	0.2	N/A	0.0047	U	0.0042	U	0.0041	U	0.008	U(J)	0.036	U	0.0038	U	0.0046	U
4,4-DDE	8.9	N/A	0.0047	U	0.0042	U	0.0041	U	0.008	U(J)	0.036	U	0.0038	U	0.0046	U
Endrin	11	N/A	0.0054		0.0042	U	0.0041	U	0.008	U(J)	0.036	U	0.0038	U	0.0046	U
Endosulfan II	24	N/A	0.0047	U	0.0042	U	0.0041	U	0.008	U(J)	0.036	U	0.0038	U	0.0046	U
4,4-DDD	13	N/A	0.0047	U	0.0042	U	0.0041	U	0.008	U(J)	0.036	U	0.0038	U	0.0046	U
Endosulfan sulfate	24	N/A	0.0047	U	0.0042	U	0.0041	U	0.008	U(J)	0.036	U	0.0038	U	0.0046	U
4,4-DDT	7.9	N/A	0.014	(J)	0.0042	U	0.005		0.023	(J)	0.3	(J)	0.0038	U	0.0046	U
Methoxychlor	NS	N/A	0.024	U	0.022	U	0.021	U	0.041	U	0.19	U	0.019	U	0.024	U
Endrin ketone	NS	N/A	0.0047	U	0.0042	U	0.0041	U	0.008	U	0.036	U	0.0038	U	0.0046	U
Endrin aldehyde	NS	N/A	0.0047	U	0.0042	U	0.0046		0.008	U	0.54		0.0038	U	0.0046	U
gamma-Chlordane	NS	N/A	0.0024	U	0.0022	U	0.0021	U	0.0041	U(J)	0.02	(J)	0.0019	U	0.0024	U
PCBs																
Aroclor-1260	1	N/A	0.12	(NJ)	0.042	U	0.085		0.082	(NJ)	**8.8**		0.038	U	0.046	U
Metals																
Aluminum	NS	33,000	18,200		10,900		8330		11,600		7150		7810	(J)	9940	(J)
Antimony	NS	N/A	0.3	(U)	0.46	(U)	5.5		5		0.13	U	0.48	(U)	0.41	(U)
Arsenic	16	3 - 12	0.42		0.48		10.1		11.6		9.8		0.76		0.87	
Barium	400	15 - 1600	116		25.9		33		77.8		23		41.8		45	
Beryllium	72	0 - 1.75	1.5		1		2		1.1		1.2		0.73		0.85	
Cadmium	4.3	0.1 - 1	1.2		0.29		1.5		2.8		1		0.27		0.23	
Calcium	NS	130 - 35,000	3250		2160		1980		8750		1710		2110		2560	
Chromium	180	1.5 - 40	19.4		5.7		6.5		37.4		5.7		4.5		5.3	
Cobalt	NS	2.5 - 60	16.3		3		5.7		12		6.2		3.1		3.4	
Copper	270	1 - 50	4.3		3.1		19.3		15.8		4.6		3.7		2.1	
Iron	NS	2000 - 550,000	28,900		11,500		13,600		15,800		14,800		9830		10,700	
Lead	400	N/A	64.3		18.8		41		64.9		4.9		12.4		9.8	
Magnesium	NS	100 - 5000	3900		2380		2550		1800		2010		1940	(J)	2510	(J)
Manganese	2,000	50 - 5000	864		95.8		114		665		105		69.6		79.6	
Mercury	0.81	0.001 - 0.2	0.076		0.025		0.038		0.2		0.0055	U	0.0085		0.016	
Nickel	310	0.5 - 25	9.1		6.4		6.5		6.8		4.9		5.7		6.3	
Potassium	NS	8500 - 43,000	479		344		617		381		491		424		494	
Selenium	180	0.1 - 3.9	3.4		2.1		0.16	U	0.35	U	0.13	U	2.3		2.1	
Sodium	NS	6000 - 8000	157		133		203		176		153		172		216	
Thallium	NS	N/A	0.073	U	1.6		1.6		1.5	(U)	1.2		1.5	(U)	1.6	(U)
Vanadium	NS	1 - 300	30.4		13.6		13.1		17.6		13.7		11.1		11.6	
Zinc	10,000	9 - 50	218		60.2		111		181		54.1		49.8		56.4	

Qualifiers and Notes
(1) NYSDEC 6 NYCRR PART 375 Environmental Remediation Programs, Subpart 375-6, Dated December 14, 2006
(2) NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 Determination of Soil Cleanup Objectives, Eastern USA or NYS Background, Dated Jan. 24, 1994.
Concentrations denoted in mg/kg or parts per million (ppm)
U indicates that the compound was analyzed but not detected
J indicates and estimated value
N indicates presumptive evidence of a compound
R indicates that the analytical results have been rejected due to matrix interference
Qualifiers in parantheses reflect ammendments made by the data validator
NS denotes "No Standard"
NA denotes "Not Applicable"
* Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4 to 61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200 to 500 ppm.

Table 4.5.1-1: SUBSURFACE SOILS (TEST TRENCHES/PITS) ANALYTICAL RESULTS SUMMARY
400 UPPER BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	Part 375 Restricted Residential Use SCOs[1] (mg/kg)	Eastern USA Background[2] (mg/kg)	TP-2 S-1 (3') mg/kg		TP-3 S-1 (2') mg/kg		TP-4 S-1 (3') mg/kg		TP-5 S-2 (6') mg/kg		TP-6 S-1 (2') mg/kg		Test Trench Eq. Bl.		Test Pit Eq. Bl.	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Pesticides																
alpha-BHC	0.48	N/A	0.002	U	0.0019	U	0.002	U	0.0019	U	0.0028	U	0.00005	U	0.00005	U
beta-BHC	0.36	N/A	0.002	U	0.0019	U	0.002	U	0.0019	U	0.0028	U	0.00005	U	0.00005	U
Heptachlor	2.1	N/A	0.002	U	0.0019	U	0.002	U	0.0019	U	0.0028	U	0.00005	U	0.00005	U
Heptachlor epoxide	NS	N/A	0.002	U	0.0019	U	0.002	U	0.0019	U	0.0028	U(J)	0.00005	U	0.00005	U
Dieldrin	0.2	N/A	0.0038	U	0.0036	U	0.004	U	0.0037	U	0.0055	U(J)	0.0001	U	0.0001	U
4,4-DDE	8.9	N/A	0.0038	U	0.0036	U	0.004	U	0.0037	U	0.0055	U(J)	0.0001	U	0.0001	U
Endrin	11	N/A	0.0038	U	0.0036	U	0.004	U	0.0037	U	0.0055	U	0.0001	U	0.0001	U
Endosulfan II	24	N/A	0.0038	U	0.0036	U	0.004	U	0.0037	U	0.0055	U(J)	0.0001	U	0.0001	U
4,4-DDD	13	N/A	0.0038	U	0.0036	U	0.004	U	0.0037	U	0.0055	U	0.0001	U	0.0001	U
Endosulfan sulfate	24	N/A	0.0038	U	0.0036	U	0.004	U	0.0037	U	0.0055	U	0.0001	U	0.0001	U
4,4-DDT	7.9	N/A	0.0038	U	0.0036	U	0.004	U	0.0037	U	0.0055	U	0.0001	U	0.0001	U
Methoxychlor	NS	N/A	0.02	U	0.019	U	0.02	U	0.019	U	0.028	U	0.0005	U	0.0005	U
Endrin ketone	NS	N/A	0.0038	U	0.0036	U	0.004	U	0.0037	U	0.0055	U(J)	0.0001	U	0.0001	U
Endrin aldehyde	NS	N/A	0.0038	U	0.0036	U	0.004	U	0.0037	U	0.0055	U(J)	0.0001	U	0.0001	U
gamma-Chlordane	NS	N/A	0.002	U	0.0019	U	0.002	U	0.0019	U	0.0028	U(J)	0.00005	U	0.00005	U
PCBs																
Aroclor-1260	1	N/A	0.038	U	0.036	U	0.04	U	0.037	U	0.055	U	0.001	U	0.001	U
Metals																
Aluminum	NS	33,000	4920		4780		10,400		9440		8090		14	U	37	U
Antimony	NS	N/A	0.13	U	0.15	U	0.12	U	0.14	U	0.2	U(J)	3.7		4.4	U
Arsenic	16	3 - 12	10.2		9.1		12.5		8.9		8.8		1.6	U	2.7	
Barium	400	15 - 1600	17.9		20		41.8		25.5		37.4		2.1	U	11	U
Beryllium	72	0 - 1.75	1.3		0.66		0.92		1.1		1.8		0.15	U	0.058	
Cadmium	4.3	0.1 - 1	1.2		0.91		1.4		1.2		1.9		0.1	U	0.11	U
Calcium	NS	130 - 35,000	2550		1700		1380		3030		6700		33	U	99	U
Chromium	180	1.5 - 40	3.7		6		12		6.7		10.8		1.2		0.43	
Cobalt	NS	2.5 - 60	6.2		3.9		6.3		6.5		3.7	(J)	0.15	U	0.46	
Copper	270	1 - 50	5.2		5.3		8.4		10.1		25.5		6.3	U	3.1	
Iron	NS	2000 - 550,000	14,800		11,200		19,400		13,900		10,900		19	U	89	U
Lead	400	N/A	7.1		3.4		6		6.7		20.5		1		1.7	
Magnesium	NS	100 - 5000	2810		1480		2290		2890		2000		20	U	17.8	
Manganese	2,000	50 - 5000	177		151		142		217		189		1.8	U	2.1	
Mercury	0.81	0.001 - 0.2	0.0056	U	0.0049	U	0.0055		0.0049	U	0.048		0.047	U	0.11	U
Nickel	310	0.5 - 25	6.4		3.7		7		6.8		4.6	(J)	0.59	U	0.93	
Potassium	NS	8500 - 43,000	264		299		353		749		267		160	U	36	U
Selenium	180	0.1 - 3.9	0.13	U	0.15	U	0.12	U	0.14	U	0.7		0.98	U	5.2	U
Sodium	NS	6000 - 8000	103		144		69.5		353		123		130	U	64	U
Thallium	NS	N/A	1.1		0.99	(U)	0.92		1.3		0.76	(U)	1.5		2.8	U
Vanadium	NS	1 - 300	11.1		16.3		28.5		14.3		10.9		0.47	U	0.4	U
Zinc	10,000	9 - 50	85.7		43.8		74.4		100		147		18.2		27.3	

Qualifiers and Notes
(1) NYSDEC 6 NYCRR PART 375 Environmental Remediation Programs, Subpart 375-6, Dated December 14, 2006
(2) NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 Determination of Soil Cleanup Objectives, Eastern USA or NYS Background, Dated Jan. 24, 1994.
Concentrations denoted in mg/kg or parts per million (ppm)
U indicates that the compound was analyzed but not detected
J indicates and estimated value
N indicates presumptive evidence of a compound
R indicates that the analytical results have been rejected due to matrix interference
Qualifiers in parantheses reflect ammendments made by the data validator
NS denotes "No Standard"
NA denotes "Not Applicable"
* Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4 to 61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200 to 500 ppm.

TABLE 4.5.1-2

Subsurface Soils (Test Borings) Analytical Results Summary

TABLE 4.5.1-2: SUBSURFACE SOILS (TEST BORINGS) ANALYTICAL RESULTS SUMMARY
400 UPPER BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	Part 375 Restricted Residential Use SCOs(1) (mg/kg)	Eastern USA Background(2) (mg/kg)	MW-1 (S-5) mg/kg		MW-2 (S-1) mg/kg		MW-3 (S-3) mg/kg		Field Duplicate (MW-3) mg/kg		MW-4 (S-5) mg/kg		MW-5 (S-2) mg/kg		MW-6 (S-3) mg/kg		MW-7 (S-4) mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Volatile Organic Compounds																		
Acetone	100	NA	0.006	U(J)	0.1	(J)	0.03	(J)	0.039	(J)	0.043	(J)	0.005	U(J)	0.006	U(J)	0.007	(J)
Methylene Chloride	100	NA	0.006	U	0.032	U	0.006	U	0.006	U	0.006	U	0.005	U	0.006	U	0.006	U
2-Butanone	NS	NA	0.006	U(J)	0.032	U(J)	0.009	(J)	0.006	U(J)	0.006	U	0.005	U(J)	0.006	U(J)	0.006	U(J)
Toluene	100	NA	0.006	U	0.032	U(J)	0.004	J	0.001	J	0.003	J	0.005	U	0.002	J	0.006	U
Tetrachloroethene	19	NA	0.006	U	0.032	U(J)	0.002	J	0.006	U(J)	0.006	U	0.005	U	0.006	U	0.006	U
2-Hexanone	NS	NA	0.006	U(J)	0.032	U(J)	0.006	U	0.006	U(J)	0.006	U(J)	0.005	U(J)	0.006	U(J)	0.002	J
Ethylbenzene	41	NA	0.006	U	0.02	J	0.006	U	0.006	U	0.006	U	0.005	U	0.006	U	0.006	U
m,p-Xylene	100	NA	0.006	U	0.042	(J)	0.001	J	0.006	U(J)	0.006	U	0.005	U	0.006	U	0.006	U
o-Xylene	100	NA	0.006	U	0.11	(J)	0.006	U	0.006	U	0.006	U	0.005	U	0.006	U	0.006	U
Xylene (Total)	100	NA	0.006	U	0.16	(J)	0.001	J	0.006	U(J)	0.006	U	0.005	U	0.006	U	0.006	U
Isopropylbenzene	NS	NA	0.006	U	0.021	J	0.006	U	0.006	U	0.006	U	0.005	U	0.006	U	0.006	U
n-Propylbenzene	100	NA	0.006	U	0.044	(J)	0.006	U	0.006	U	0.006	U	0.005	U	0.006	U	0.006	U
1,3,5-Trimethylbenzene	52	NA	0.006	U	0.51	(J)	0.006	U	0.006	U	0.006	U	0.005	U	0.006	U	0.006	U
1,2,4-Trimethylbenzene	52	NA	0.006	U	0.44	(J)	0.006	U	0.006	U	0.006	U	0.005	U	0.006	U	0.006	U
sec-Butylbenzene	100	NA	0.006	U	0.067	(J)	0.006	U	0.006	U	0.006	U	0.005	U	0.006	U	0.006	U
4-Isopropyltoluene	NS	NA	0.006	U	0.2	(J)	0.006	U	0.006	U	0.006	U	0.005	U	0.006	U	0.006	U
Naphthalene	100	NA	0.005	(U)	0.045	(J)	0.006	U	0.001	U	0.001	(U)	0.005	U	0.006	U	0.002	(U)
Semi-Volatile Organic Compounds																		
4-Methylphenol	NS	NA	0.38	U	0.15	J	0.38	U	0.36	U	0.42	U	0.37	U	0.41	U	0.37	U
Naphthalene	100	NA	0.38	U	0.089	J	0.38	U	0.36	U	0.42	U	0.37	U	0.41	U	0.37	U
2-Methylnaphthalene	NS	NA	0.38	U	0.058	J	0.38	U	0.36	U	0.42	U	0.37	U	0.41	U	0.37	U
Fluorene	100	NA	0.38	U	0.42	U	0.38	U	0.36	U	0.42	U	0.37	U	0.41	U	0.37	U
Phenanthrene	100	NA	0.38	U	0.42	U	0.38	U	0.36	U	0.42	U	0.37	U	0.41	U	0.37	U
Anthracene	100	NA	0.38	U	0.42	U	0.38	U	0.36	U	0.42	U	0.37	U	0.41	U	0.37	U
Fluoranthene	100	NA	0.38	U	0.085	J	0.38	U	0.36	U	0.42	U	0.043	J	0.41	U	0.37	U
Pyrene	100	NA	0.38	U	0.13	J	0.38	U	0.36	U	0.42	U	0.37	U	0.41	U	0.37	U
Benzo(a)anthracene	1	NA	0.38	U	0.044	J	0.38	U	0.36	U	0.42	U	0.37	U	0.41	U	0.37	U
Chrysene	3.9	NA	0.38	U	0.084	J	0.38	U	0.36	U	0.42	U	0.37	U	0.41	U	0.37	U
bis(2-Ethylhexyl)phthalate	NS	NA	0.42		0.31	J	0.061	J	0.092	J	0.14	J	0.073	J	0.41	U	0.37	U
Benzo(b)fluoranthene	1	NA	0.38	U	0.11	J	0.38	U	0.36	U	0.42	U	0.37	U	0.41	U	0.37	U
Benzo(k)fluoranthene	3.9	NA	0.38	U	0.066	J	0.38	U	0.36	U	0.42	U	0.37	U	0.41	U	0.37	U
Benzo(a)pyrene	1	NA	0.38	U	0.084	J	0.38	U	0.36	U	0.42	U	0.37	U	0.41	U	0.37	U
Indeno(1,2,3-cd)pyrene	0.5	NA	0.38	U	0.42	U	0.38	U	0.36	U	0.42	U	0.37	U	0.41	U	0.37	U
Benzo(g,h,i)perylene	100	NA	0.38	U	0.049	J	0.38	U	0.36	U	0.42	U	0.37	U	0.41	U	0.37	U

Qualifiers and Notes
(1) NYSDEC 6 NYCRR PART 375 Environmental Remediation Programs, Subpart 375-6, Dated December 14, 2006
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NS denotes "No Standard"
NA denotes "Not Applicable"
* Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4 to 61 ppm. Average
background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200 to 500 ppm.

TABLE 4.5.1-2: SUBSURFACE SOILS (TEST BORINGS) ANALYTICAL RESULTS SUMMARY
400 UPPER BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	Part 375 Restricted Residential Use SCOs(1) (mg/kg)	Eastern USA Background(2) (mg/kg)	MW-8 (S-3) mg/kg		MW-9 (S-8) mg/kg		MW-10 (S-9) mg/kg		MW-10B (18-20") mg/kg		MW-11A S-5 mg/kg		MW-12 S-5 mg/kg		MW-13 S-6 mg/kg		EQUIPMENT BLANK ug/l	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Volatile Organic Compounds																		
Acetone	100	NA	0.016	(J)	0.006	(U)J	0.032	(J)	0.0056	U	0.0053	U	0.0098		0.0053	U	5	U(J)
Methylene Chloride	100	NA	0.006	U	0.006	U	0.029	U	0.0056	U	0.0053	U	0.0015	J	0.0014	J	1	J
2-Butanone	NS	NA	0.006	U(J)	0.006	U(J)	0.029	U(J)	0.0056	U	0.0053	U	0.0054	U	0.0053	U	5	U(J)
Toluene	100	NA	0.006	U	0.002	J	0.029	U	0.0056	U	0.0053	U	0.0032	J	0.002	J	5	U
Tetrachloroethene	19	NA	0.006	U	0.002	J	0.022	J	0.0056	U	0.0053	U	0.0054	U	0.0053	U	5	U
2-Hexanone	NS	NA	0.006	U(J)	0.006	U(J)	0.029	U	0.0056	U	0.0053	U	0.0054	U	0.0053	U	5	U(J)
Ethylbenzene	41	NA	0.006	U	0.006	U	0.83	(J)	0.0056	U	0.0053	U	0.0054	U	0.0053	U	5	U
m,p-Xylene	100	NA	0.006	U	0.006	U	2.1	(J)	0.0056	U	0.0053	U	0.0054	U	0.0053	U	5	U
o-Xylene	100	NA	0.006	U	0.006	U	0.4	(J)	0.0056	U	0.0053	U	0.0054	U	0.0053	U	5	U
Xylene (Total)	100	NA	0.006	U	0.006	U	2.5	(J)	0.0056	U	0.0053	U	0.0054	U	0.0053	U	5	U
Isopropylbenzene	NS	NA	0.006	U	0.006	U	0.84	(J)	0.0056	U	0.0053	U	0.0054	U	0.0053	U	5	U
n-Propylbenzene	100	NA	0.006	U	0.006	U	1.1	(J)	0.0056	U	0.0053	U	0.0054	U	0.0053	U	5	U
1,3,5-Trimethylbenzene	52	NA	0.006	U	0.006	U	0.99	(J)	0.0056	U	0.0053	U	0.0054	U	0.0053	U	5	U
1,2,4-Trimethylbenzene	52	NA	0.006	U	0.006	U	2.6	(J)	0.0056	U	0.0053	U	0.0054	U	0.0053	U	5	U
sec-Butylbenzene	100	NA	0.006	U	0.006	U	0.65	(J)	0.0056	U	0.0053	U	0.0054	U	0.0053	U	5	U
4-Isopropyltoluene	NS	NA	0.006	U	0.006	U	0.97	(J)	0.0056	U	0.0053	U	0.0054	U	0.0053	U	5	U
Naphthalene	100	NA	0.006	U	0.006	U	0.4	(J)	0.0056	U	0.0053	U	0.0054	U	0.0053	U	5	U
Semi-Volatile Organic Compounds																		
4-Methylphenol	NS	NA	0.37	U	0.39	U	0.38	U	0.36	U	0.36	U	0.37	U	0.37	U	10	U
Naphthalene	100	NA	0.37	U(J)	0.39	U	0.043	J	0.36	U	0.36	U	0.37	U	0.37	U	10	U
2-Methylnaphthalene	NS	NA	0.37	U	0.39	U	0.1	J	0.36	U	0.36	U	0.37	U	0.37	U	10	U
Fluorene	100	NA	0.37	U	0.39	U	0.38	U	0.36	U	0.36	U	0.37	U	0.043	J	10	U
Phenanthrene	100	NA	0.37	U	0.39	U	0.092	J	0.36	U	0.04	J	0.37	U	0.31	J	10	U
Anthracene	100	NA	0.37	U	0.39	U	0.38	U	0.36	U	0.36	U	0.37	U	0.1	J	10	U
Fluoranthene	100	NA	0.37	U	0.39	U	0.38	U	0.36	U	0.061	J	0.37	U	0.38		10	U
Pyrene	100	NA	0.37	U	0.39	U	0.38	U	0.36	U	0.058	J	0.37	U	0.29	J	10	U
Benzo(a)anthracene	1	NA	0.37	U	0.39	U	0.38	U	0.36	U	0.36	U	0.37	U	0.15	J	10	U
Chrysene	3.9	NA	0.37	U	0.39	U	0.38	U	0.36	U	0.04	J	0.37	U	0.14	J	10	U
bis(2-Ethylhexyl)phthalate	NS	NA	0.094	J	0.19	J	0.058	J	0.11	U	0.99		0.37	U	0.37	U	10	U
Benzo(b)fluoranthene	1	NA	0.37	U	0.39	U	0.38	U	0.36	U	0.043	J	0.37	U	0.13	J	10	U
Benzo(k)fluoranthene	3.9	NA	0.37	U	0.39	U	0.38	U	0.36	U	0.36	U	0.37	U	0.089	J	10	U
Benzo(a)pyrene	1	NA	0.37	U	0.39	U	0.38	U	0.36	U	0.036	J	0.37	U	0.11	J	10	U
Indeno(1,2,3-cd)pyrene	0.5	NA	0.37	U	0.39	U	0.38	U	0.36	U	0.36	U	0.36	U	0.064	J	10	U
Benzo(g,h,i)perylene	100	NA	0.37	U	0.39	U	0.38	U	0.36	U	0.05	J	0.37	U	0.066	J	10	U

Qualifiers and Notes
(1) NYSDEC 6 NYCRR PART 375 Environmental Remediation Programs, Subpart 375-6, Dated December 14, 2006
(2) NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 Determination of Soil Cleanup Objectives, Eastern USA or NYS Background, Dated Jan. 24, 1994.
Concentrations denoted in mg/kg or parts per million (ppm)
U indicates that the compound was analyzed but not detected
J indicates and estimated value
N indicates presumptive evidence of a compound
R indicates that the analytical results have been rejected due to matrix interference
Qualifiers in parantheses reflect ammendments made by the data validator
NS denotes "No Standard"
NA denotes "Not Applicable"
* Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4 to 61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200 to 500 ppm.

TABLE 4.5.1-2: SUBSURFACE SOILS (TEST BORINGS) ANALYTICAL RESULTS SUMMARY
400 UPPER BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	Part 375 Restricted Residential Use SCOs[1] (mg/kg)	Eastern USA Background[2] (mg/kg)	MW-1 (S-5) mg/kg		MW-2 (S-1) mg/kg		MW-3 (S-3) mg/kg		Field Duplicate (MW-3) mg/kg		MW-4 (S-5) mg/kg		MW-5 S-2 mg/kg		MW-6 (S-3) mg/kg		MW-7 (S-4) mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Pesticides																		
beta-BHC	0.36	NA	0.002	U	0.0058		0.002	U	0.0019	U	0.0022	U	0.0019	U	0.0021	U	0.0019	U
Heptachlor	2.1	NA	0.002	U	0.0024	(J)	0.002	U	0.0019	U	0.0022	U	0.0019	U	0.0021	U	0.0019	U
Endosulfan II	24	NA	0.0038	U	0.0052		0.0038	U	0.0036	U	0.0042	U	0.0038	U	0.0041	U	0.0037	U
4,4-DDT	7.9	NA	0.0038	U	0.045		0.0038	U	0.0036	U	0.0042	U	0.0038	U	0.0041	U	0.0037	U
Endrin ketone	11	NA	0.0038	U	0.03	(J)	0.0038	U(J)	0.0039	(J)	0.0042	U	0.0038	U	0.0041	U	0.0037	U
Endrin aldehyde	11	NA	0.0038	U	0.057	(J)	0.0038	U	0.0036	U	0.0042	U	0.0038	U	0.0041	U	0.0037	U(J)
gamma-Chlordane	NS	NA	0.002	U	0.0031	(J)	0.002	U	0.0019	U	0.0022	U	0.0019	U	0.0021	U	0.0019	U
PCBs																		
Aroclor-1260	1	NA	0.038	U	0.74	(J)	0.038	U	0.036	U	0.042	U	0.038	U	0.041	U	0.037	U
Metals																		
Aluminum	NS	33,000	8390		7240		6640	(J)	5250	(J)	4460		3460		6920		5180	(J)
Antimony	NS	NA	1.9		2.7		2.1	(J)	1.6	(J)	1.4		1.4		2.7		0.23	
Arsenic	16	3 - 12	0.083	U(J)	0.1	U	0.087	U	0.078	U	0.15	U	0.089	U	0.11	U	1.2	
Barium	400	15 - 1600	30.4	(J)	111		42.1	(J)	28.9	(J)	20.6		12.3		30.8		19.1	
Beryllium	72	0 - 1.75	0.61		0.33		0.22		0.37		0.071		0.17		0.0011	U	0.42	(J)
Cadmium	4.3	0.1 - 1	0.54	(J)	2.8		0.4		0.19		0.06		0.056		0.11		0.23	
Calcium	NS	130 - 35,000	4300	(J)	6410		4010	(J)	2830	(J)	3550		2720		2770		2230	(J)
Chromium	180	1.5 - 40	2.7		12.8		6.1		5.1		5.1		4.8		6.1		4.5	(J)
Cobalt	NS	2.5 - 60	0.79	(J)	8.1		3.9		4.4		2.5		1.8		1.9		5.6	(J)
Copper	270	1 - 50	1.1	(J)	22.2		4.9	(J)	2.4	(J)	3		3.5		0.8		6.8	(J)
Iron	NS	2000 - 550,000	50100		33300		13200	(J)	17000	(J)	11000		7650		17400		11900	(J)
Lead	400	NA	86.2	(J)	166		16.2	(J)	9	(J)	8.1		9.7		8.9		5.2	(J)
Magnesium	NS	100 - 5000	**6670**	(J)	2410		1870		2140		1840		1370		2050		1750	(J)
Manganese	2,000	50 - 5000	510	(J)	603		132		152		80.3		118		99.7		257	(J)
Mercury	0.81	0.001 - 0.2	0.0051	U	0.08		0.022	(J)	0.0055	U(J)	0.0063	U	0.0054		0.0063		0.0051	U
Nickel	310	0.5 - 25	1.7	(J)	9.5		4.2		3.8		2.7		2.7		3.5		4.3	(J)
Potassium	NS	8500 - 43,000	485		541		510		488		488		315		738		668	
Selenium	180	0.1 - 3.9	0.089	U(J)	0.11	U	0.57	(J)	0.084	U(J)	0.16	U	0.096	U	0.11	U	0.12	U
Silver	180	NA	15.9	(J)	15.1		6.1		6.9		6.9		4.7		8.4		2.3	(J)
Sodium	NS	6000 - 8000	186		166		177		174		135		199		130		180	
Thallium	NS	NA	0.59	(J)	0.17		0.6		0.44		0.63		0.31		0.43		0.084	U
Vanadium	NS	1 - 300	4.2		14.5		12.9		10.9		11.7		8.5		18.4		8.4	(J)
Zinc	10,000	9 - 50	430	(J)	245		92.8	(J)	64.7	(J)	52.2		44.5		47.6		41.6	(J)

Qualifiers and Notes
(1) NYSDEC 6 NYCRR PART 375 Environmental Remediation Programs, Subpart 375-6, Dated December 14, 2006
(2) NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 Determination of Soil Cleanup Objectives, Eastern USA or NYS Background, Dated Jan. 24, 1994.
Concentrations denoted in mg/kg or parts per million (ppm)
U indicates that the compound was analyzed but not detected
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NS denotes "No Standard"
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* Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4 to 61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200 to 500 ppm.

TABLE 4.5.1-2: SUBSURFACE SOILS (TEST BORINGS) ANALYTICAL RESULTS SUMMARY
400 UPPER BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	Part 375 Restricted Residential Use SCOs[1] (mg/kg)	Eastern USA Background[2] (mg/kg)	MW-8 (S-3) mg/kg		MW-9 (S-8) mg/kg		MW-10 (S-9) mg/kg		MW-10B (18-20") mg/kg		MW-11A S-5 mg/kg		MW-12 S-5 mg/kg		MW-13 S-6 mg/kg		EQUIPMENT BLANK ug/l	
			Result	Qualifier	Result	Qualifier	Result		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Pesticides																		
beta-BHC	0.36	NA	0.0019	U	0.002	U	0.002	U	0.0019	U	Not Analyzed		0.0019	U	0.0019	U	0.050	U
Heptachlor	2.1	NA	0.0019	U	0.002	U	0.002	U	0.0019	U	Not Analyzed		0.0019	U	0.0019	U	0.050	U
Endosulfan II	24	NA	0.0037	U	0.0039	U	0.0038	U	0.0037	U	Not Analyzed		0.0037	U	0.0037	U	0.10	U
4,4-DDT	7.9	NA	0.0037	U	0.0039	U	0.0038	U	0.0037	U	Not Analyzed		0.0037	U	0.0037	U	0.10	U
Endrin ketone	11	NA	0.0037	U	0.0039	U	0.0038	U	0.0037	U	Not Analyzed		0.0037	U	0.0037	U	0.10	U
Endrin aldehyde	11	NA	0.0037	U(J)	0.0039	U(J)	0.0038	U(J)	0.0037	U	Not Analyzed		0.0037	U	0.0037	U	0.10	U
gamma-Chlordane	NS	NA	0.0019	U	0.002	U	0.002	U	0.0019	U	Not Analyzed		0.0019	U	0.0019	U	0.050	U
PCBs																		
Aroclor-1260	1	NA	0.037	U	0.039	U	0.038	U	0.037	U	Not Analyzed		0.037	U	0.037	U	1.0	U
Metals																		
Aluminum	NS	33,000	7680		6160		7330		5910		3960		7880	(J)	4980		37.0	U
Antimony	NS	NA	0.36		0.29		0.40		0.094	U	0.088	U	0.89	U(J)	0.087	U	4.4	U
Arsenic	16	3 - 12	1.7		1.9		2.3		1.5		1.1		1		1.4		2.5	U
Barium	400	15 - 1600	22.7		29.5		24.7		19.9		17.8		33.5	(J)	14.9		11.0	U
Beryllium	72	0 - 1.75	0.99		0.14		0.22		0.59		0.23		0.00083	U(J)	0.5		0.051	U
Cadmium	4.3	0.1 - 1	0.28		0.39		0.43		0.44		0.045		0.27	(J)	0.082		0.11	U
Calcium	NS	130 - 35,000	2770		2960		3430		3630		2350		2050	(J)	1900		167	
Chromium	180	1.5 - 40	5.2		6.0		8.1		5.5		7.9		14	(J)	4.6		0.41	
Cobalt	NS	2.5 - 60	5.6		5.2		6.7		7.1		2.6		11.2	(J)	3.6		0.11	
Copper	270	1 - 50	11.3		6.6		12.6		11.6		5.1		17		6.5		1.7	U
Iron	NS	2000 - 550,000	15800		16000		23100		17,300		12,100		31,400		15,000		210	
Lead	400	NA	6.7		11.9		12.3		10		10		8.8	(J)	4.9		1.2	U
Magnesium	NS	100 - 5000	2150		1790		2740		3010		1760		**8150**	(J)	1540		19.7	
Manganese	2,000	50 - 5000	245		201		161		177		108		203	(J)	249		4.0	
Mercury	0.81	0.001 - 0.2	0.0056	U	0.0062		0.0056	U	0.005	U	0.0048	U	0.0052	U	0.0051	U	0.11	U
Nickel	310	0.5 - 25	5.9		4.5		6.8		6		3.9		3.9	(J)	3.8		0.27	
Potassium	NS	8500 - 43,000	553		389		718		751		475		4060		406		36.0	U
Selenium	180	0.1 - 3.9	0.12		0.13	U	0.096	U	0.094	U	0.088	U	0.089	U	0.087	U	7.2	
Silver	180	NA	2.9		3.1		4.1		0.03	U	0.027	U	0.028	U	0.027	U	2.9	
Sodium	NS	6000 - 8000	248		125		287		384		91.1		269	(J)	150		171	
Thallium	NS	NA	0.088	U	0.094	U	0.070	U	0.44		0.35		1.6		0.38		2.8	U
Vanadium	NS	1 - 300	10.6		12.5		16.8		13		11.9		32		11.7		0.40	U
Zinc	10,000	9 - 50	66.6		56.1		106		120		34.9		90.9	(J)	41		22.2	

Qualifiers and Notes
(1) NYSDEC 6 NYCRR PART 375 Environmental Remediation Programs, Subpart 375-6, Dated December 14, 2006
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* Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4 to 61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200 to 500 ppm.

TABLE 4.6.1-1

Groundwater Analytical Results Summary

TABLE 4.6.1-1: GROUNDWATER ANALYTICAL RESULTS SUMMARY
400 UPPER BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	NYSDEC GROUNDWATER STANDARD OR GUIDANCE VALUE (ug/L)[1]	MW-1 ug/l		MW-2 ug/l		MW-3 ug/l		MW-4 ug/l		MW-5 ug/l		MW-6 ug/l		MW-7 ug/l		Duplicate (MW-7) ug/l	
		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Volatile Organic Compounds																	
Benzene	1	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
4-Isopropyltoluene	5	5	U	**7**		5	U	5	U	3	J	5	U	5	U	5	U
Naphthalene	10(GV)	5	U(J)	5	U(J)	5	U(J)	5	U(J)	5	U(J)	2	J	5	U(J)	5	U(J)
Semi-Volatile Organic Compounds																	
Phenol	1	**5**	J	**8**	J	10	U	**30**		10	U	10	U	10	U	10	U
2-Methylphenol	1	**14**		**11**		10	U	**31**		10	U	10	U	10	U	10	U
4-Methylphenol	1	**21**		**140**		10	U	**22**		10	U	10	U	10	U	10	U
Pentachlorophenol	1	20	U(J)	**5**	J	20	U(J)	20	U(J)	20	U(J)	20	U(J)	20	U(J)	20	U(J)
bis(2-Ethylhexyl)phthalate	5	**7**	J	3	J	10	U	10	U	10	U	10	U	10	U	10	U
Pesticides																	
alpha-Chlordane	0.05	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U
beta-BHC	NS	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U	0.050	U
PCBs (None Detected Above the Detection Limit)																	
Metals																	
Aluminum	NS	1270		1060		273	(U)	932		9280		3900		1350	(J)	924	(J)
Antimony	NS	4.4	U	4.4	U	4.4	U	4.4	U	4.4	U	4.4	U	6.4	(J)	4.4	U(J)
Barium	1,000	19.1		106		42.0		34.2		77.0		38.2		66.2		58.8	
Calcium	NS	61,800		97,000		110,000		57,800		85,400		47,200		91,200		91,900	
Chromium	50	0.22	U	0.95	(U)	0.22	U	0.32	(U)	8.3		2.9	(U)	1.5	(U)	0.76	(U)
Cobalt	NS	7.2	(U)	2.3	(U)	1.0	(U)	3.5	(U)	10.2	(U)	8.3	(U)	3.2	(U)	1.8	(U)
Copper	200	3.3	(U)	5.9	(U)	5.5	(U)	3.7	(U)	16.3	(U)	100		17.2	(U)	7.6	(U)
Iron	300	**11,300**		**25,800**		**25,500**		**13,700**		**22,600**		**5320**		**1890**	(J)	**1410**	(J)
Lead	25	2.8	(U)	14.1		2.4	(U)	4.5	(U)	24.1		5.2		2.2	(U)	1.7	(U)
Magnesium	35,000(GV)	19,900		11,400		11,200		7850		24,900		11,700		15,900		16,000	
Manganese	300	**8630**		**3200**		**3400**		**1870**		**6420**		**2020**		**398**		**388**	
Nickel	NS	1.9	(U)	2.1	(U)	1.6	(U)	1.1	(U)	8.7	(U)	9.4	(U)	4.9	(U)	3.2	(U)
Potassium	NS	3520		9810		4780		3720		3000		2480		1510		1410	
Selenium	10	**12.3**		**17.8**		**16.4**		**11.2**		**15.1**		**18.6**		**23.0**		**26.3**	
Silver	NS	6.3	(U)	4.1	(U)	5.9	(U)	3.8	(U)	6.4	(U)	10.6	(U)	10.9	(U)	10.2	(U)
Sodium	20,000	**24,300**		**38,000**		10,500		11,300		**50,500**		**72,400**	(J)	**35,300**		**35,100**	
Vanadium	NS	1.2	(U)	1.9	(U)	0.40	U	1.2	(U)	14.5		5.3	(U)	2.5	(U)	0.67	(U)
Zinc	2,000(GV)	43.3	(U)	1060		26.1	(U)	26.8	(U)	170		69.9	(U)	41.2	(U)	35.3	(U)

Notes:
[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 or parts per billion (ppb)
U indicates that the compound was analyzed for but not detected
J indicates an estimated value
GV denotes a Guidance Value
NS denotes "No Standard"
Qualifiers in parantheses reflect ammendments made by the data validator

TABLE 4.6.1-1: GROUNDWATER ANALYTICAL RESULTS SUMMARY
400 UPPER BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	NYSDEC GROUNDWATER STANDARD OR GUIDANCE VALUE (ug/L)[1]	MW-8 ug/l		MW-9 ug/l		MW-10 ug/l		MW-11 ug/l		Duplicate (MW-11) ug/l		MW-12 ug/l		Equipment Blank ug/l		Equipment Blank ug/l	
		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Volatile Organic Compounds																	
Benzene	1	5	U	**200**		5	U	5	U	5	U	5	U	5	U	5	U
4-Isopropyltoluene	5	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Naphthalene	10(GV)	5	U	5	U	5	U	5	U	5	U	5	U	5	U(J)	5	U
Semi-Volatile Organic Compounds																	
Phenol	1	10	U	**8.3**	J	10	U	10	U	10	U	10	U	10	U	10	U
2-Methylphenol	1	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Methylphenol	1	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Pentachlorophenol	1	20	U	20	U	20	U	20	U	20	U	20	U	20	U(J)	20	U
bis(2-Ethylhexyl)phthalate	5	10	U	1.5	(U)	1.5	(U)	1.7	(U)	10	(U)	1.3	(U)	10	U	1.4	(U)
Pesticides																	
alpha-Chlordane	0.05	0.05	U	**0.052**		0.05	U	0.05	U	0.05	U	0.05	U	0.050	U	0.05	U
beta-BHC	NS	0.05	U	0.083	(J)	0.05	U	0.05	U	0.05	U	0.05	U	0.050	U	0.05	U
PCBs (None Detected Above the Detection Limit)																	
Metals																	
Aluminum	NS	642		3090		143		365	(J)	87.1	(J)	1430		37.0	U	37.0	U
Antimony	NS	4.4	U	4.4	U	4.4	U	4.4	U	4.4	U	4.4	U	4.4	U	4.4	U
Barium	1,000	32.7		47.1		56.0		57.1		54.9		34.3		11.0	U	11.0	U
Calcium	NS	53,500		137,000		147,000		90,700		89,500		52,500		205		116	
Chromium	50	0.22	U	0.22	U	0.22	U	0.22	U	0.22	U	0.27	(U)	0.22	U	0.44	
Cobalt	NS	6.2	(U)	8.7		1.2	(U)	2.5	(U)	3.2	(U)	2.3	(U)	0.068	U	1.3	
Copper	200	1.7	U	1.7	U	4.9	(U)	1.7	U	2.2	(U)	2.5	(U)	1.7	U	3.1	
Iron	300	**673**		**3080**		**790**		**13,800**		**12,600**		**1660**		89.0	U	89.0	U
Lead	25	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
Magnesium	35,000(GV)	8540		22100		10,700		10,300		10,000		13,300		26.0		47.3	
Manganese	300	**4170**		**10,400**		280		**3350**	(J)	**3210**	(J)	**376**		7.7		1.8	U
Nickel	NS	4.4	(U)	5.5	(U)	1.8	(U)	4.9	(U)	6.7	(U)	6.2	(U)	0.27		2.4	
Potassium	NS	1630		2960		7170		5280		5110		1970		36.0	U	36.0	U
Selenium	10	5.2	U	5.2	U	5.2	U	5.2	U	5.2	U	5.2	U	5.2	U	5.2	U
Silver	NS	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	3.3		1.2	U
Sodium	20,000	**80,100**		18,300		18,300		**43,400**		**44,200**		**52,400**		104		64.0	U
Vanadium	NS	0.67	(U)	3.4	(U)	0.41	(U)	0.90	(U)	0.63	(U)	1.6	(U)	0.40	U	0.40	U
Zinc	2,000(GV)	146		38.6	(U)	23.3	(U)	21.1	(U)	22.9	(U)	29.5	(U)	17.6		17.8	

Notes:
[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 or parts per billion (ppb)
U indicates that the compound was analyzed for but not detected
J indicates an estimated value
GV denotes a Guidance Value
NS denotes "No Standard"
Qualifiers in parantheses reflect ammendments made by the data validator

TABLE 4.7.1-1

Wetland Surface Water Analytical Results Summary

TABLE 4.7.1-1: WETLAND SURFACE WATER ANALYTICAL RESULTS SUMMARY
400 BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	NYSDEC SURFACE WATER STANDARD OR GUIDANCE VALUE[1]	SW-1 µg/l		Duplicate (SW-1) µg/l		SW-2 µg/l		EB-3 µg/l	
		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's									
Acetone	NS	6		6		5	U	5	U
4-Isopropyltoluene	NS	1	J	1	J	5	U	5	U
SVOCS									
4-Methylphenol	NS	10	U	6	J	8	J	10	U
Fluoranthene	NS	10	U	10	U	2	J	10	U
Pyrene	42	10	U	10	U	1	J	10	U
Benzo(b)fluoranthene	NS	10	U	10	U	1	J	10	U
PESTICIDES (None Detected Above the Laboratory Detection Limit)									
PCB's (None Detected Above the Laboratory Detection Limit)									
METALS									
Aluminum	NS	6,430	(J)	7,920	(J)	3,440		14	U
Antimony	NS	3	(U)	1.2	U	6.9	(U)	1.2	U
Arsenic	340	1.6	U	1.6	U	3.1		1.6	U
Barium	NS	1,170		1,370		272	(J)	2.1	U
Beryllium	NS	0.75		0.91		0.3		0.15	U
Cadmium	25[2]	7.9		10.7		1.6		0.1	U
Calcium	NS	101,000		109,000		229,000		34.9	
Chromium	2181[3]	5.3		6.5		3.4		0.38	U
Cobalt	110(GV)	14.9		18.7		5.6		0.15	U
Copper	63[4]	6.3	U	6.3	U	19.8		6.3	U
Iron	300	**576,000**		**671,000**		**64,500**	(J)	19	U
Lead	546[5]	121	(J)	154	(J)	28.1	(U)	2.8	
Magnesium	NS	13,900		14,500		24,600	(J)	20	U
Manganese	NS	8,150		9,400		2,190	(J)	2.1	
Mercury	1.4	0.17	(U)	0.24	(U)	0.13	(U)	0.072	
Nickel	1878[6]	9.4		12.5		12.1		1.1	
Potassium	NS	4,580		4,910		5,910		160	U
Selenium	NS	26.2	(U)	25.3	(U)	6.7	(U)	2.1	
Silver	69[7]	0.91	U	0.91	U	7.5		0.91	U
Sodium	NS	1,060,000		1,090,000		1,740,000		130	U
Thallium	20	**67.2**		**71**		1.6	(U)	2.6	
Vanadium	190	12.7		15.9		19.5		0.47	U
Zinc	472[8]	342	(J)	427	(J)	236	(J)	15.6	
Hardness Avg. 516 ppm[9]	**No Standard**	**393.34**		**331**		**671.32**			

Notes:

[1] TOGS 1.1.1, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, NYSDEC, June 1998 and Addendum, April 2000. Based on Water Class D Type A(A) for Fish Survival.

[2] Cadmium standard derived employing the formula (0.85) exp (1.128 [In (ppm hardness)] - 3.6867) as given in TOGS.

[3] Chromium standard derived employing the formula (0.316) exp (0.819 [In (ppm hardness)] + 3.7256) as given in TOGS.

[4] Copper standard derived employing the formula (0.96) exp (0.9422 [In (hardness)] -1.7) as given in TOGS.

[5] Lead standard derived employing the formula {1.46203- [In (hardness) (0.145712)]} exp (1.273 [In (hardness)] -1.052) as given in TOGS.

[6] Nickel standard derived employing the formula (0.998) exp (0.846 [In (ppm hardness)] + 2.255) as given in TOGS.

[7] Silver standard derived employing the formula exp (1.72 [In (ppm hardness)] - 6.52) as given in TOGS.

[8] Zinc standard derived employing the formula (0.978) exp (0.8473 [In (ppm hardness)] + 0.884) as given in TOGS.

[9] Hardness is calculated in parts per million utilizing the following formula: (Ca in ppm X 2.49) + (Mg in ppm X 4.11) = Hardness
Hardness of 516 ppm derived by averaging SW-2 and the average of SW-1 and SW-1 Duplicate

U indicates that the compound was analyzed for but not detected

J indicates an estimated value

µg/l denotes microgram per liter or parts per billion (ppb)

Qualifiers in parantheses reflect ammendments made by the data validator

TABLE 4.8.1-1

Wetland Sediments Analytical Results Summary

TABLE 4.8.1-1: WETLAND SEDIMENTS ANALYTICAL RESULTS SUMMARY
400 BROADWAY ERP SITE
(Validated Data)
C.T. Male Project No. 07.1092

PARAMETER	NYSDEC Technical Guidance for Screening Contaminated Sediments(1) (mg/kg)		WS-1 mg/kg		Duplicate (WS-1) mg/kg		WS-2 mg/kg		WS-3 mg/kg		Equipment Blank mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOC's												
Acetone	NS		0.009	U	0.014	(J)	0.006	U	0.006	U	0.005	U(J)
SVOC's												
Phenol	0.5(2)		0.5	U	0.48	U	0.37	U	0.39	U	0.007	J
Fluoranthene	1,020(2)		0.5	U(J)	0.052	J	0.37	U	0.39	U	0.01	U
bis(2-Ethylhexyl)phthalate	199.5(2)		0.085	J	0.076	J	0.043	(U)	0.39	U	0.001	J
Pesticides (None Detected Above the Laboratory Detection Limit)												
PCB's (None Detected Above the Laboratory Detection Limit)												
Metals												
	LEL(3)	**SEL(4)**										
Aluminum	NS	NS	10,300		9,510		4,800		6,070		37	U
Arsenic	6	33	**8.1**		**9.2**		3.7		**14.4**		2.5	U
Barium	NS	NS	41.5		35.6		23		32		11	U
Beryllium	NS	NS	2.1		2.2		0.36		1.1		0.064	
Cadmium	0.6	9	**1.3**		**1.4**		0.4	(J)	**1.4**		0.11	U
Calcium	NS	NS	2,690		2,240		1,750		1,520		99	U
Chromium	26	110	8.6		7.8		5.1		7.3		0.46	
Cobalt	NS	NS	7.5		6.3		2.8	(J)	9.7		0.9	
Copper	16	110	8		8.1		1.6	(U)	2.8		4.8	
Iron	NS	NS	10,500		11,500		5,300		19,900		89	U
Lead	31	110	10.2		10		4.3		5.3		1.2	U
Magnesium	NS	NS	1,800		1,550		1,240		1,870		29.6	
Manganese	460	1,100	216		210		52.9		303		1.8	U
Mercury	0.15	1.3	0.051		0.0078		0.006	U	0.0054	U	0.11	U
Nickel	16	50	6.6		6		2.6	(J)	4.1		0.75	
Potassium	NS	NS	360		292		226		277		36	U
Sodium	NS	NS	80.9		48.5		74.4		93		124	
Thallium	NS	NS	0.9	(U)	0.9	(U)	0.38	(U)	1.6		2.8	U
Vanadium	NS	NS	18.7		19.9		11.5		21.1		0.4	U
Zinc	120	270	**168**		**171**		37.2		43.9		30	

Notes:
(1) NYSDEC Technical Guidance for Screening Contaminated Sediments, Human Health Bioaccumulation, November 22, 1993 (Reprinted with changes July 1994, March 1998, and January 1999)
(2) Standard denotes the Benthic Aquatic Life Chronic Toxicity Sediment Criteria. Standards for Human Health Bioaccumulation not presented in the reference document
(3) LEL denotes Lowest Effect Level
(4) SEL denotes Severe Effect Level
Concentrations expressed in mg/kg or parts per million (ppm)
U indicates that the compound was analyzed for but not detected
J indicates an estimated value
ND denotes "Non-Detect"
NS denotes "No Standard"
Analytical results in BOLD have exceeded the LEL standard. Analytical results in BOLD underline have exceeded the SEL standard
Qualifiers in parantheses reflect ammendments made by the data validator

October 2008
(Revised January 2009)

400 Broadway ERP Site
(ERP Site No. E517007)

Site Investigation Report
(Volume 2 of 3 – Figures)

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

400 Broadway
Village of Saranac Lake
Franklin County, New York

Prepared for:

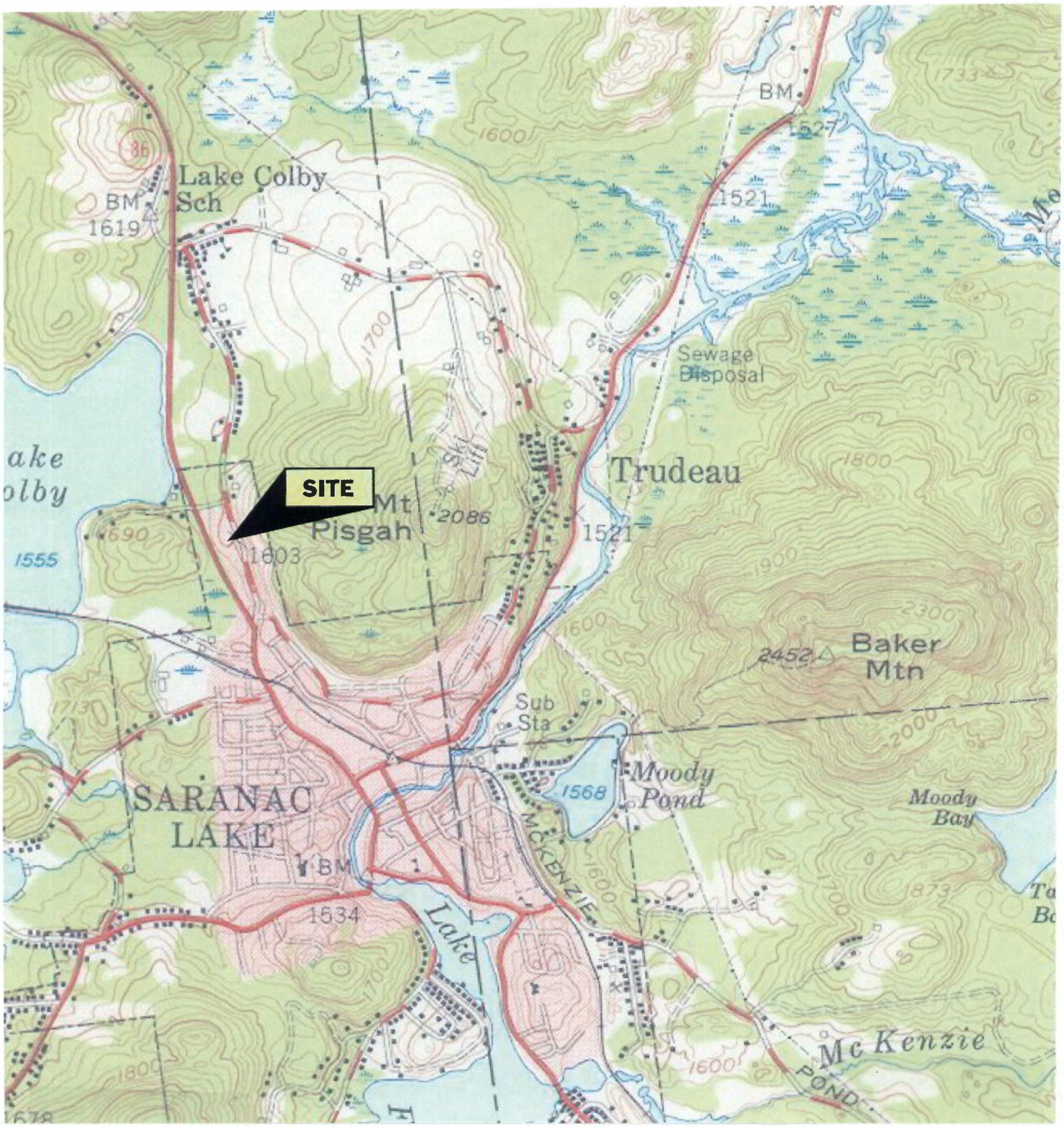
THE VILLAGE OF SARANAC LAKE
Power and Light Building
3 Main Street – Suite 5
Saranac Lake, New York 12983

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.: 07.1092

FIGURE 1

Site Location Map



MAP REFERENCE
United States Geological Survey
15 Minute Series Topographic Map
Quadrangle: Saranac, NY
Date: 1955

N W E

ENGINEERING
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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 1 - SITE LOCATION MAP

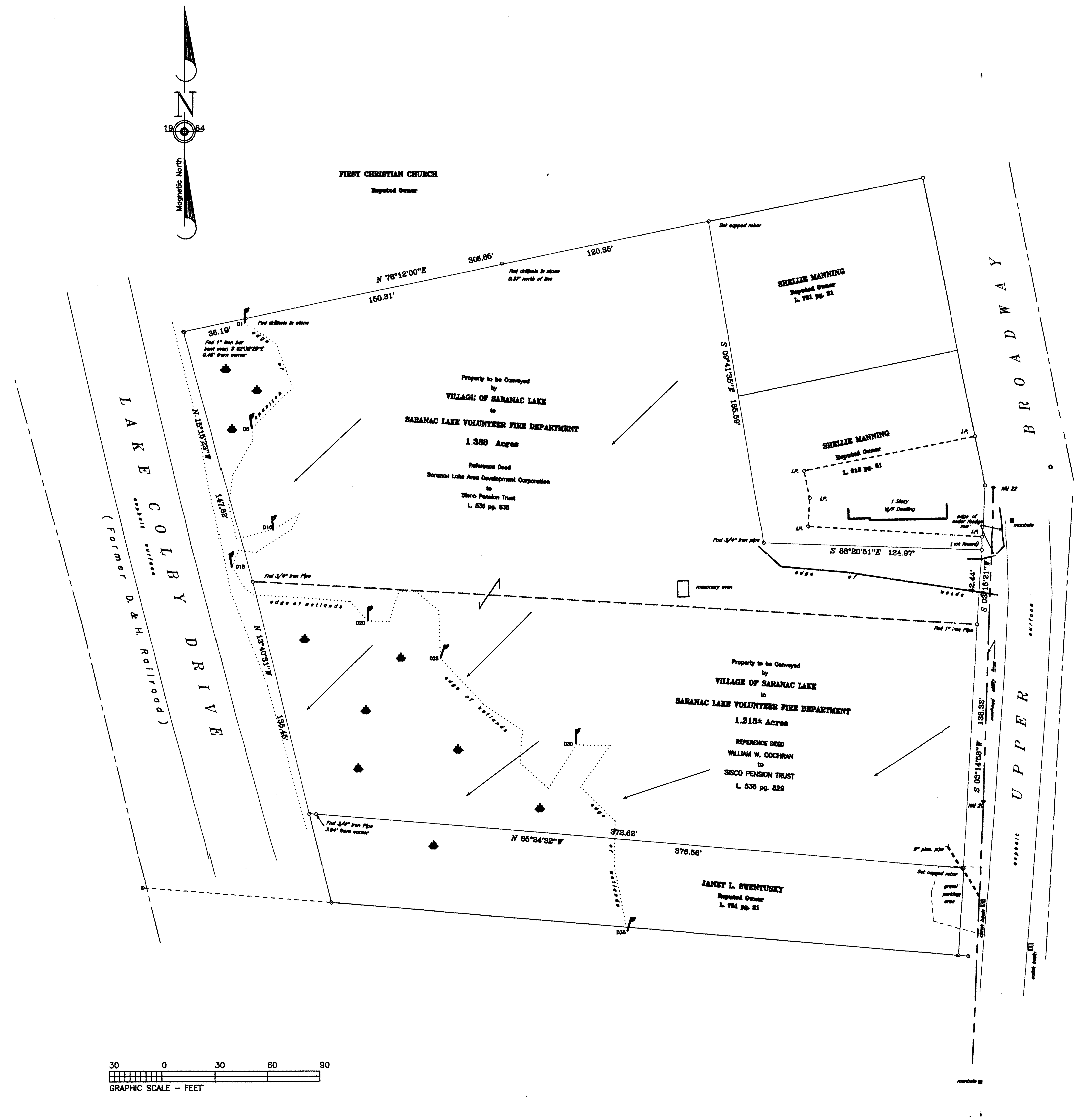
400 Broadway ERP Site
Upper Broadway

VILLAGE OF SARANAC LAKE	FRANKLIN COUNTY, NY
SCALE: 1"=2,000'	
DRAFTER: SHB	
PROJECT No. 07.1092	

FIGURE 2

Site Boundary Survey

Figure 3 – Drainage Map



NOTE:

This map is based on a boundary surveys by Glenn D. Odone, LS dated June 10, 1977 and April 22, 1988 and updated solely to show wetlands limits flagged by the APA and found boundary monumentation.

WETLAND STATEMENT

1. The wetland boundary as shown on this survey was flagged in the field by Mark Rooks of APA staff on and surveyed by Stacey L. Allott on 6/26/03.
2. Verified by ____________ of APA staff on ____________.
3. Wetland boundaries shown reflect only those flagged in the field and determined necessary for review of project. Additional wetlands may exist elsewhere on the parcel.

CADD Files: 03004.CRD, 03004-2pl1

Key

← Drainage

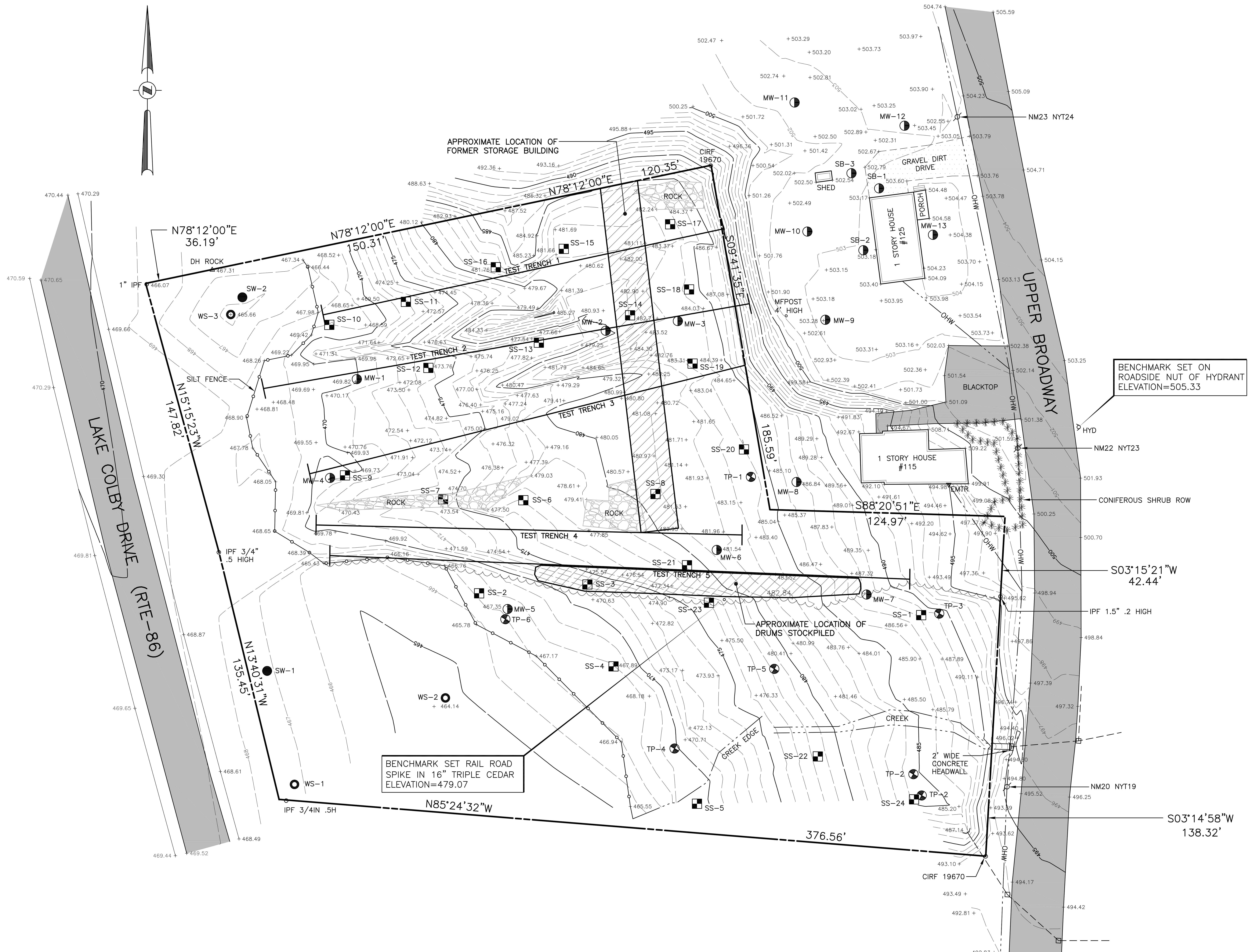
Geomatics
LAND SURVEYING, P C
P.O. BOX 1277 SARANAC LAKE, NY

MAP OF SURVEY
PREPARED FOR
Saranac Lake Volunteer Fire Department
SITUATE IN TOWNSHIP 21, GREAT TRACT ONE, MACOMB'S PURCHASE
VILLAGE OF SARANAC LAKE, TOWN OF HARRIETSTOWN
COUNTY OF FRANKLIN AND STATE OF NEW YORK

REVISIONS / DATE / BY	
COPYRIGHT	2003
CHECKED BY	SLA
DRAWN BY	NJH
DATE SURVEY / MAP	OCT.26, 06 / NOV.1, 06
SCALE IN./FT. / RATIO	1" = 30' / 1:360
TAX MAP NO.	446.43-2-3 / 446.43-2-4
MAP NO.	03004

FIGURE 3

SI Sampling Locations Map



Map Notes:

1. Topographic information shown hereon was compiled from an actual field survey conducted on January 10th & 11th, 2008.
2. Vertical datum shown hereon is an assumed base.
3. Prior to conducting this survey this geographic area accumulated approximately 12 to 18 inches of packed snow and ice. Therefore the undersigned cannot certify that some object or feature has been omitted.
4. Boundary information shown was taken from map reference no. one and does not represent a boundary survey prepared by the undersigned.

Map References:

1. "Map of Survey Prepared for Saranac Lake Volunteer Fire Department" situate in Township 21, Great Tract One, Macomb's Purchase Village of Saranac Lake, Town of Harrietstown County of Franklin and State of New York prepared by Geomatics Land Surveying, PC dated November 1, 2006 Map No. 03004.

Legend:

CBS	Catch Basin Square
CIRF	Capped Iron Rod Found
	Drainage End Section
DH ROCK	Dig Hole Rock
EMTR	Electric Meter
HYD	Hydrant
IPF	Iron Pipe Found
MFPOST	Metal Fence Post
	Utility Pole
	Silt Fence
MW-1	Soil Boring/Monitoring Well
SW-1	Wetland Surface Water Sample
SS-1	Surface Soil Sample
TP-1	Test Pit
WS-1	Wetland Sediment Sample
TEST TRENCH 1	Test Trench

DATE	REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
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APPROVED:
DRAFTED : SMW
CHECKED :
PROJ. NO: 07.1092
SCALE : 1"=30'
DATE : MAR 27, 2008

FIGURE 3: SI SAMPLING LOCATIONS MAP

400 BROADWAY ERP SITE

VILLAGE OF SARANAC LAKE — FRANKLIN COUNTY, NEW YORK

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FIG-3

SHEET 1 OF 1

DWG. NO: 08-162

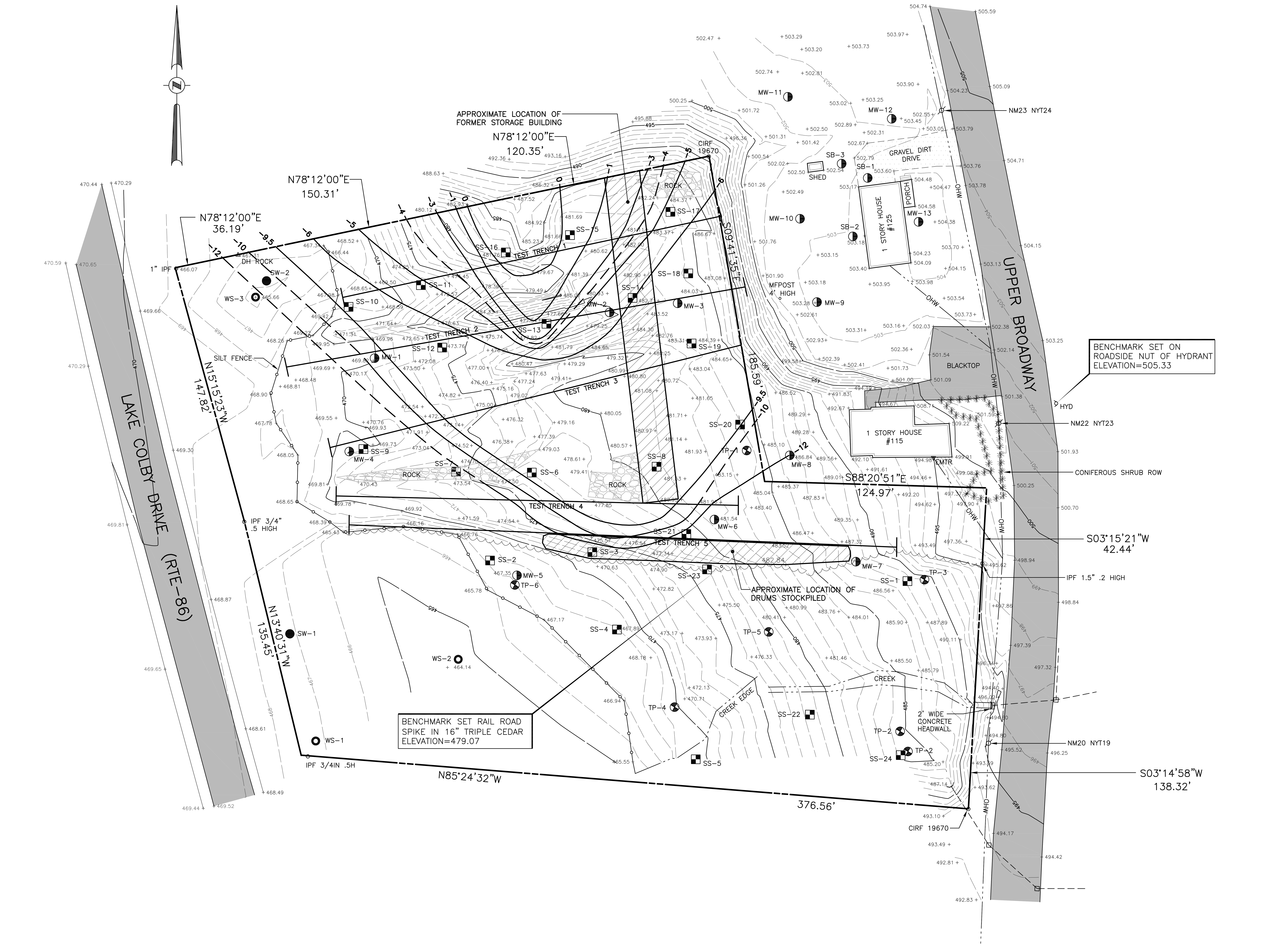
FIGURE 5

Bedrock Contour Map

XREFS: NONE

PROJECT NUMBER: 07.1092

CAD DWG. FILE NAME: FIGURE 5.DWG



Map Notes:

1. Topographic information shown hereon was compiled from an actual field survey conducted on January 10th & 11th, 2008.
2. Vertical datum shown hereon is an assumed base.
3. Prior to conducting this survey this geographic area accumulated approximately 12 to 18 inches of packed snow and ice. Therefore the undersigned cannot certify that some object or feature has been omitted.
4. Boundary information shown was taken from map reference no. one and does not represent a boundary survey prepared by the undersigned.
5. Bedrock contours extrapolated from where refusal was encountered during advancement of the test trenches and test borings. At several locations, a definitive determination as to weather boulders or bedrock was encountered could not be made.

Map References:

1. "Map of Survey Prepared for Saranac Lake Volunteer Fire Department" situate in Township 21, Great Tract One, Macomb's Purchase Village of Saranac Lake, Town of Harrietstown County of Franklin and State of New York prepared by Geomatics Land Surveying, PC dated November 1, 2006 Map No. 03004.

Legend:

- CBS — Catch Basin Square
- CIRF — Capped Iron Rod Found
- Drainage End Section
- DH ROCK — Dig Hole Rock
- EMTR — Electric Meter
- HYD — Hydrant
- IPF — Iron Pipe Found
- MFPOST — Metal Fence Post
- Utility Pole
- Silt Fence
- MW-1 — Soil Boring/Monitoring Well
- SW-1 — Wetland Surface Water Sample
- SS-1 — Surface Soil Sample
- TP-1 — Test Pit
- WS-1 — Wetland Sediment Sample
- TEST TRENCH 1 — Test Trench
- 0 / –1 — Contour line depicting the depth below grade where bedrock and/or boulders were encountered. The contour line is dashed where the depth is inferred.

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APPROVED:
DRAFTED : SMW
CHECKED :
PROJ. NO: 07.1092
SCALE : 1"=30'
DATE : MAR 27, 2008

FIGURE 5: BEDROCK CONTOUR MAP

400 BROADWAY ERP SITE

VILLAGE OF SARANAC LAKE — FRANKLIN COUNTY, NEW YORK

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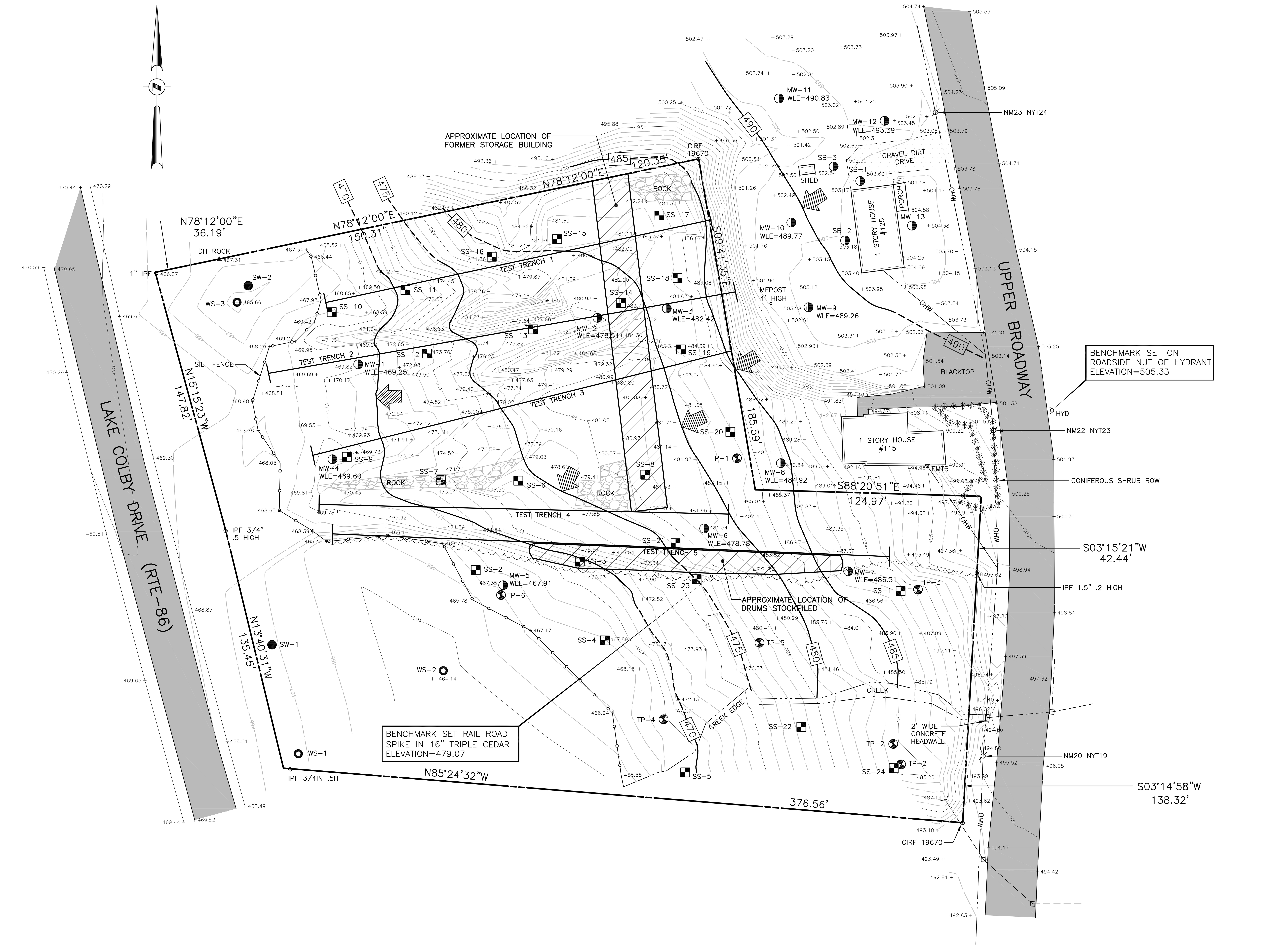
FIG-5
SHEET 1 OF 1
DWG. NO: 08-162

CAD DWG. FILE NAME: FIGURE 5.DWG

FIGURE 6

Groundwater Contour Map

(April 10, 2008)



Map Notes:

1. Topographic information shown hereon was compiled from an actual field survey conducted on January 10th & 11th, 2008.
2. Vertical datum shown hereon is an assumed base.
3. Prior to conducting this survey this geographic area accumulated approximately 12 to 18 inches of packed snow and ice. Therefore the undersigned cannot certify that some object or feature has been omitted.
4. Boundary information shown was taken from map reference no. one and does not represent a boundary survey prepared by the undersigned.

Map References:

1. "Map of Survey Prepared for Saranac Lake Volunteer Fire Department" situate in Township 21, Great Tract One, Macomb's Purchase Village of Saranac Lake, Town of Harrietstown County of Franklin and State of New York prepared by Geomatics Land Surveying, PC dated November 1, 2006 Map No. 03004.

Legend:

CBS	Catch Basin Square
CIRF	Capped Iron Rod Found
	Drainage End Section
DH ROCK	Dig Hole Rock
EMTR	Electric Meter
HYD	Hydrant
IPF	Iron Pipe Found
MFPOST	Metal Fence Post
	Utility Pole
	Silt Fence
MW-1	Soil Boring/Monitoring Well
WLE=489.26	WLE Denotes water level elevation in feet based on an assumed benchmark elevation
480	Groundwater contour line. Dashed where inferred. Arrow depicts inferred direction of groundwater flow based on water level elevations collected 4/10/2008.

DATE	REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
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APPROVED:
DRAFTED : TCB
CHECKED : S.BIEBER
PROJ. NO: 07.1092
SCALE : 1"=30'
DATE : MAR. 27, 2008

FIGURE 6: GROUNDWATER COUNTOUR MAP

(APRIL 10, 2008)

400 BROADWAY ERP SITE

VILLAGE OF SARANAC LAKE — FRANKLIN COUNTY, NEW YORK

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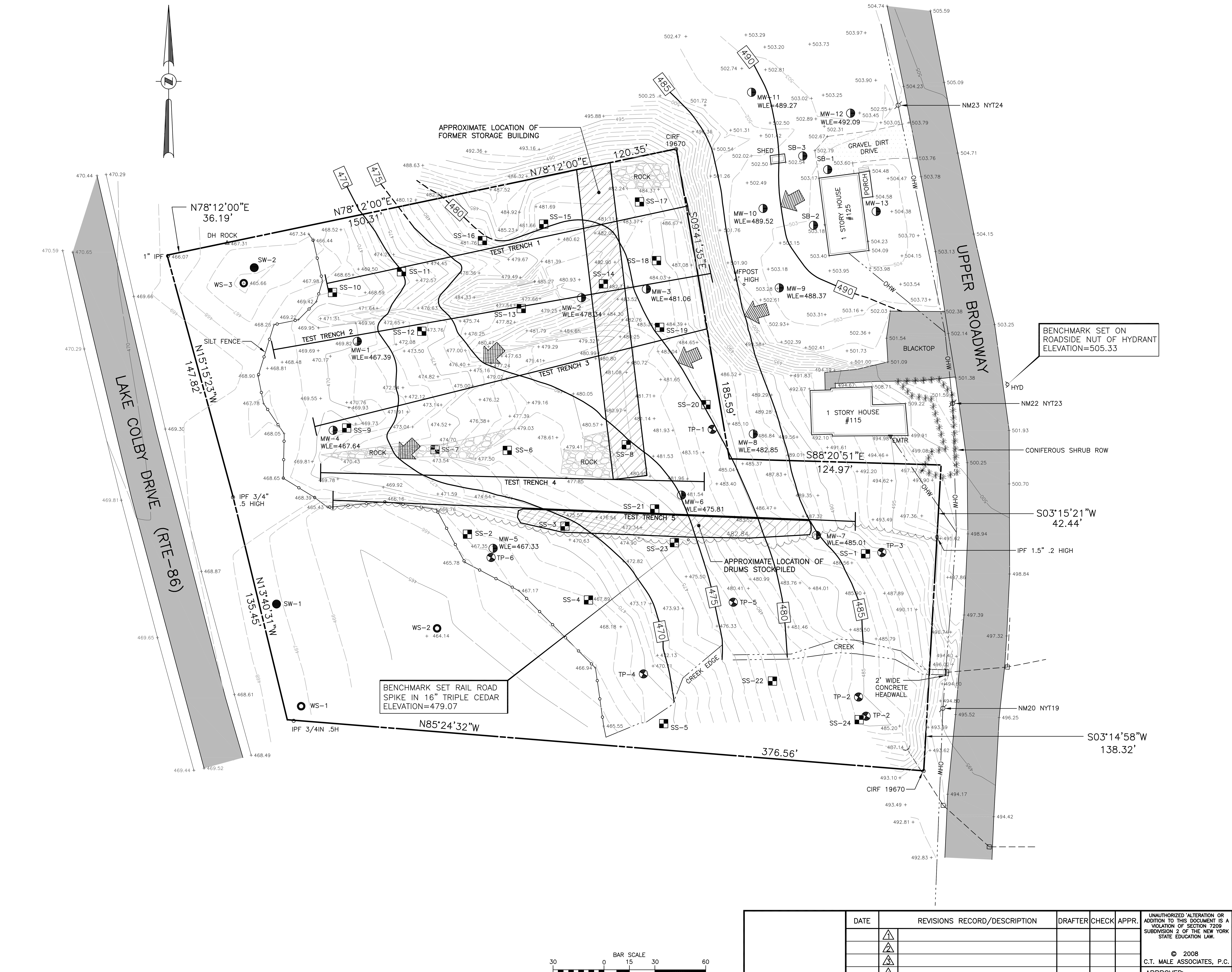
FIG-6
SHEET 1 OF 1
DWG. NO: 08-162

FIGURE 7

Groundwater Contour Map

(May 7, 2008)



Map Notes:

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2. Vertical datum shown hereon is an assumed base.
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Map References:

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Legend:

CBS	Catch Basin Square
CIRF	Capped Iron Rod Found
	Drainage End Section
DH ROCK	Dig Hole Rock
EMTR	Electric Meter
HYD	Hydrant
IPF	Iron Pipe Found
MFPOST	Metal Fence Post
	Utility Pole
	Silt Fence
MW-1	Soil Boring/Monitoring Well
WLE=489.26	WLE Denotes water level elevation in feet based on an assumed benchmark elevation
480	Groundwater contour line. Dashed where inferred. Arrow depicts inferred direction of groundwater flow based on water level elevations collected 4/10/2008.

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SCALE : 1"=30'
DATE : MAR. 27, 2008

FIGURE 7: GROUNDWATER COUNTOUR MAP
(MAY 7, 2008)
400 BROADWAY ERP SITE

VILLAGE OF SARANAC LAKE — FRANKLIN COUNTY, NEW YORK

C.T. MALE ASSOCIATES, P.C.
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FIG-7
SHEET 1 OF 1
DWG. NO: 08-162

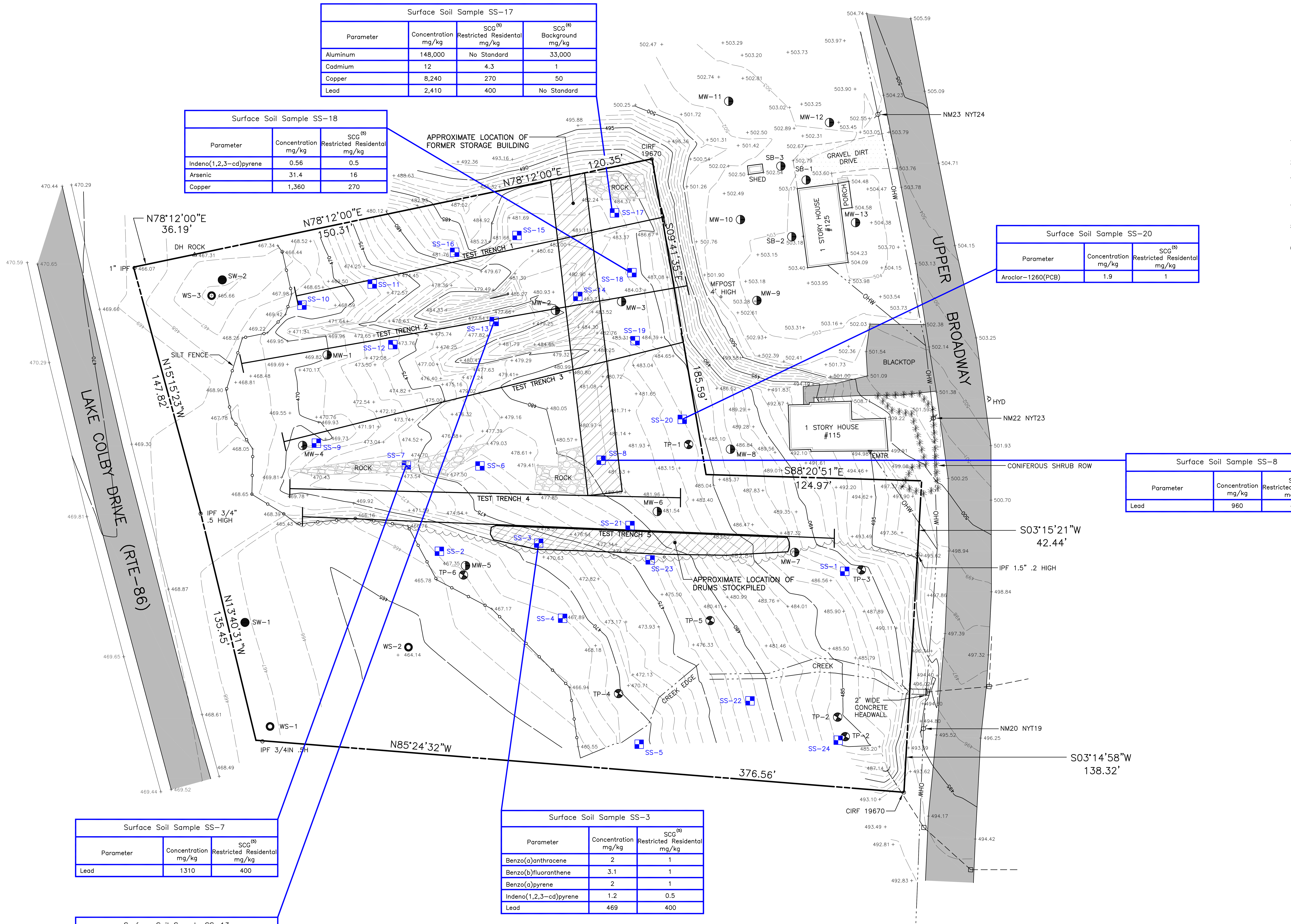
FIGURE 8

Parameters Exceeding SCGs in Surface Soils Locations Map

XREFS: NONE

PROJECT NUMBER: 07.1092

CAD DWG. FILE NAME: PARAM SCGS IN SS.DWG



Surface Soil Sample SS-17

Parameter	Concentration mg/kg	SCG(5) Restricted Residental mg/kg	SCG(6) Background mg/kg
Aluminum	148,000	No Standard	33,000
Cadmium	12	4.3	1
Copper	8,240	270	50
Lead	2,410	400	No Standard

Surface Soil Sample SS-18

Parameter	Concentration mg/kg	SCG(5) Restricted Residental mg/kg
Indeno(1,2,3-cd)pyrene	0.56	0.5
Arsenic	31.4	16
Copper	1,360	270

Surface Soil Sample SS-20

Parameter	Concentration mg/kg	SCG(5) Restricted Residental mg/kg
Aroclor-1260(PCB)	1.9	1

Surface Soil Sample SS-8

Parameter	Concentration mg/kg	SCG(5) Restricted Residental mg/kg
Lead	960	400

Surface Soil Sample SS-7

Parameter	Concentration mg/kg	SCG(5) Restricted Residental mg/kg
Lead	1310	400

Surface Soil Sample SS-13

Parameter	Concentration mg/kg	SCG(5) Restricted Residental mg/kg
Indeno(1,2,3-cd)pyrene	0.54	0.5
Barium	886	400

Surface Soil Sample SS-3

Parameter	Concentration mg/kg	SCG(5) Restricted Residental mg/kg
Benzo(a)anthracene	2	1
Benzo(b)fluoranthene	3.1	1
Benzo(a)pyrene	2	1
Indeno(1,2,3-cd)pyrene	1.2	0.5
Lead	469	400

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5. Residental (Restricted) SCG obtained from NYSDEC 6 NYCRR Part 375 Environmental Remediation Programs, Subport 375-6. Dated December 14, 2006.
6. SCG=NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 determination of soil clean-up objectives, Eastern USA or NYS background, dated January 24, 1994.

Map References:

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Legend:

CBS	Catch Basin Square
CIRF	Capped Iron Rod Found
	Drainage End Section
DH ROCK	Dig Hole Rock
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MFPOST	Metal Fence Post
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MW-1	Soil Boring/Monitoring Well
SW-1	Wetland Surface Water Sample
SS-1	Surface Soil Sample
TP-1	Test Pit
WS-1	Wetland Sediment Sample
TEST TRENCH 1	Test Trench

BAR SCALE
30 0 15 30 60
1 inch = 30 ft.

"ONLY COPIES OF THIS MAP SIGNED IN RED INK AND EMBOSSED WITH THE SEAL OF AN OFFICER OF C.T. MALE ASSOCIATES, P.C. OR A DESIGNATED REPRESENTATIVE SHALL BE CONSIDERED TO BE A VALID TRUE COPY".

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DATE : MAR 27, 2008

FIGURE 8: PARAMETERS EXCEEDING SCGs IN SURFACE SOILS LOCATIONS MAP

400 BROADWAY ERP SITE

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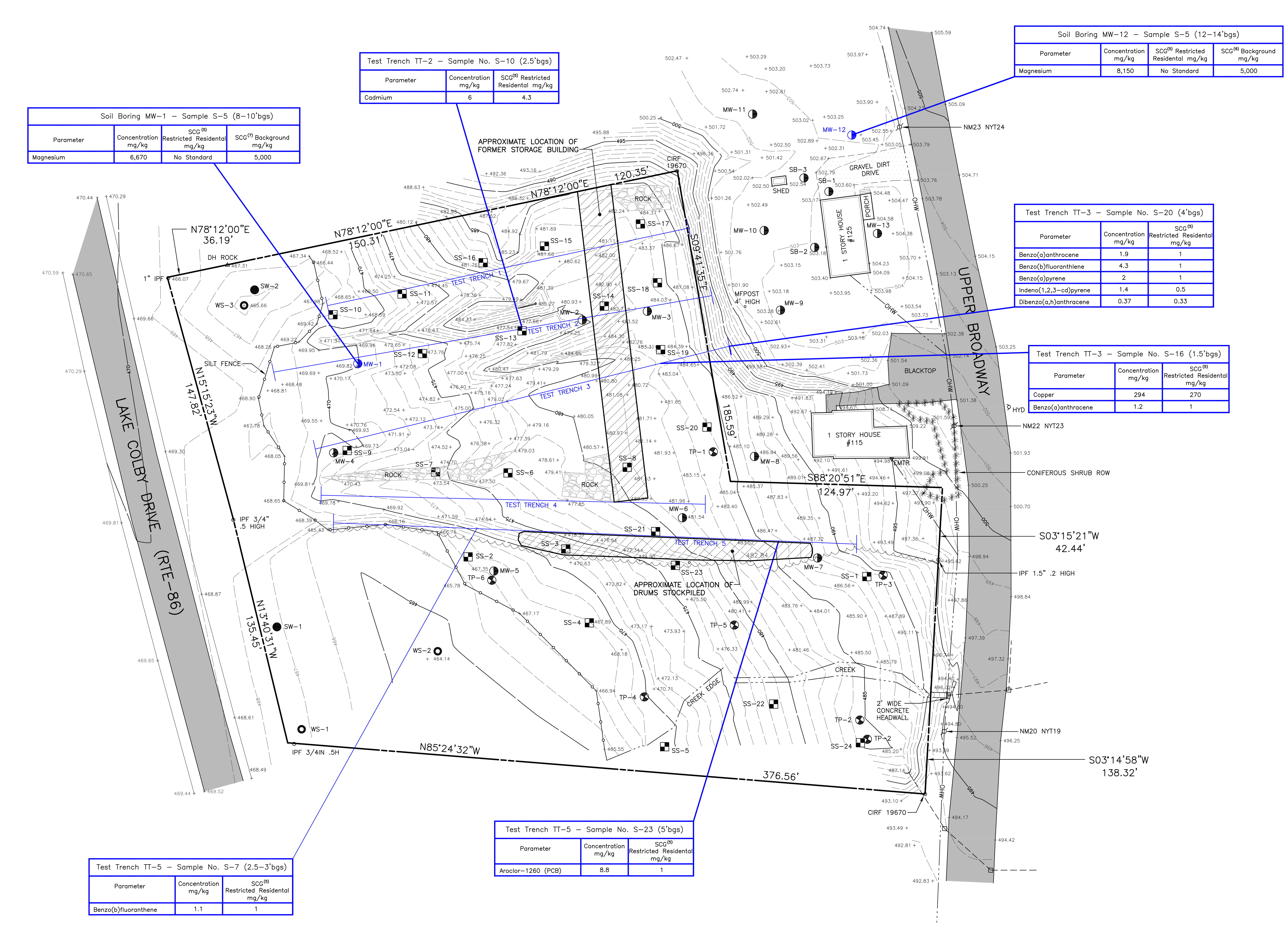
FIG-8

SHEET 1 OF 1

DWG. NO: 08-162

FIGURE 9

Parameters Exceeding SCGs in Subsurface Soils Locations Map



Soil Boring MW-1 – Sample S-5 (8-10'bgs)

Parameter	Concentration mg/kg	SCG(5) Restricted Residental mg/kg	SCG(7) Background mg/kg
Magnesium	6,670	No Standard	5,000

Test Trench TT-2 – Sample No. S-10 (2.5'bgs)

Parameter	Concentration mg/kg	SCG(5) Restricted Residental mg/kg
Cadmium	6	4.3

Soil Boring MW-12 – Sample S-5 (12-14'bgs)

Parameter	Concentration mg/kg	SCG(5) Restricted Residental mg/kg	SCG(6) Background mg/kg
Magnesium	8,150	No Standard	5,000

Test Trench TT-3 – Sample No. S-20 (4'bgs)

Parameter	Concentration mg/kg	SCG(5) Restricted Residental mg/kg
Benzo(a)anthracene	1.9	1
Benzo(b)fluoranthlene	4.3	1
Benzo(a)pyrene	2	1
Indeno(1,2,3-cd)pyrene	1.4	0.5
Dibenzo(a,h)anthracene	0.37	0.33

Test Trench TT-3 – Sample No. S-16 (1.5'bgs)

Parameter	Concentration mg/kg	SCG(5) Restricted Residental mg/kg
Copper	294	270
Benzo(a)anthracene	1.2	1

Test Trench TT-5 – Sample No. S-23 (5'bgs)

Parameter	Concentration mg/kg	SCG(5) Restricted Residental mg/kg
Aroclor-1260 (PCB)	8.8	1

Test Trench TT-5 – Sample No. S-7 (2.5-3'bgs)

Parameter	Concentration mg/kg	SCG(5) Restricted Residental mg/kg
Benzo(b)fluoranthene	1.1	1

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FIGURE 9: PARAMETERS EXCEEDING SCGs IN SUBSURFACE SOILS LOCATIONS MAP

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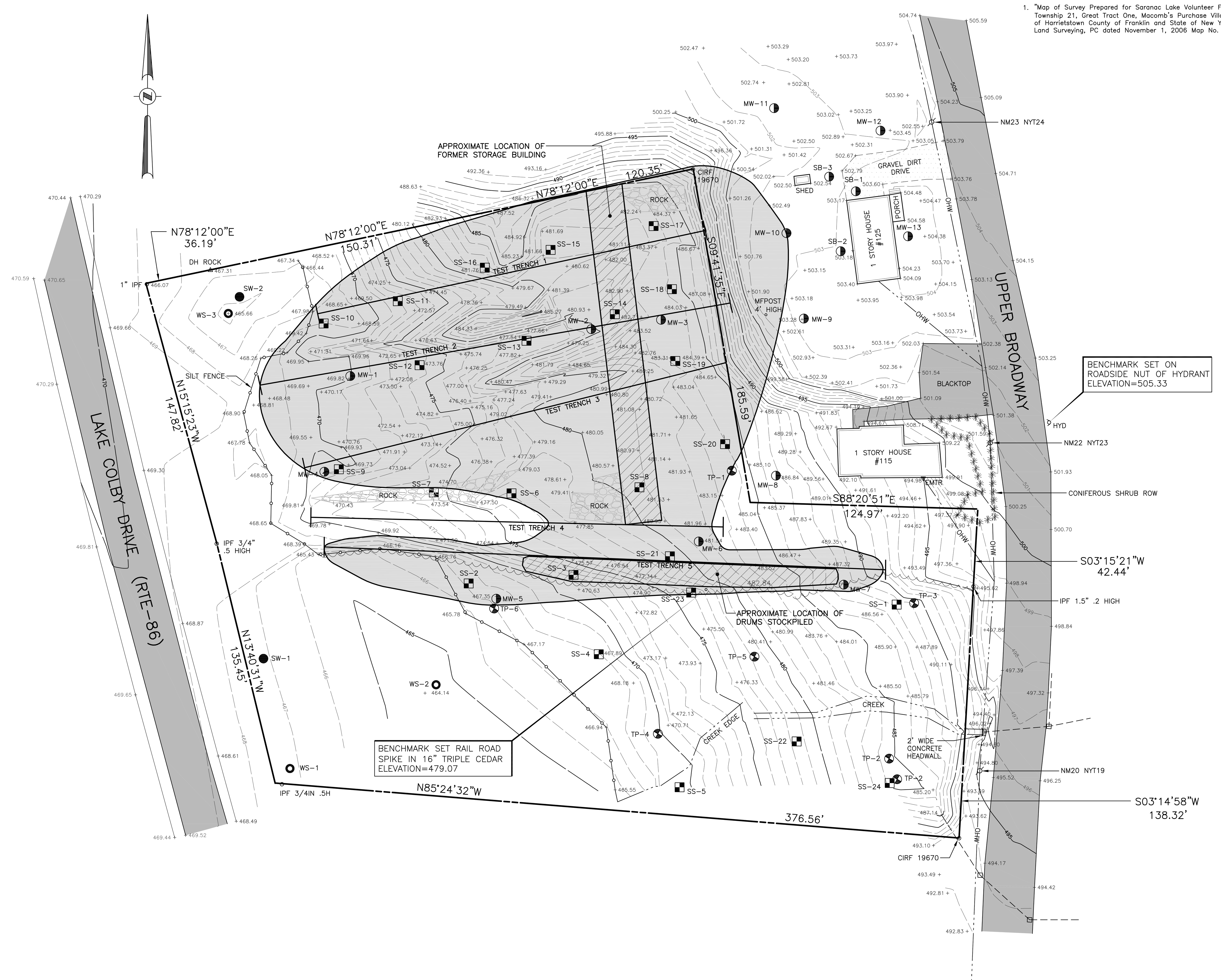
FIG-9
SHEET 1 OF 1
DWG. NO: 08-162

FIGURE 9A

Approximate Extent of Subjective Impacts to Subsurface Soils and Fill Locations Map



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EXPLORATION NUMBER	SAMPLE NUMBER	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS	EXPLORATION NUMBER	SAMPLE NUMBER	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
TT - 1	S - 1	365	0.8	petroleum/solvent-type odor, dark gray staining	TT-4	S-7	0.0	0.0	organic odor, no staining
TT - 1	S - 2	898	0.0	petroleum-type odor, dark gray staining	TT-4	S-8	1.2	0.0	Organic Odor, No Staining
TT - 1	S - 3	645	0.0	no odor, no staining	TT-4	S-9	26.5	0.0	faint petroleum-type odor, little dark grey staining
TT - 1	S - 4	8217	0.0	petroleum/solvent-type odor, dark staining	TT-4	S-10	5.9	0.0	petroleum-type odor, trace grey staining
TT - 1	S - 5	5650	0.0	petroleum/solvent-type odor, dark staining	TT-4	S-11	77.8	0.0	petroleum-type odor, dark grey to black staining
TT - 1	S - 6	1170	0.2	petroleum/solvent-type odor, dark staining	TT-4	S-12	60.6	33.4	petroleum-type odor, no staining
TT - 1	S - 7	117	0.0	no odor, no staining	TT-4	S-13	349	2.2	petroleum-type odor, no staining
TT - 1	S - 8	163	0.0	no odor, metallic staining	TT-4	S-14	9,999+	0.0	petroleum-type odor, dark grey to black staining
TT - 1	S - 9	102	0.0	no odor, slight dark staining	TT-4	S-15	0.0	0.0	no odor/no staining
TT - 1	S - 10	86.9	0.0	no odor, slight staining	TT-4	S-16	39.2	0.0	slight petroleum-type odor, no staining
TT - 2	S - 1	727	0.0	petroleum-type odor, grey staining	TT-4	S-17	27.2	0.0	no odor/no staining
TT - 2	S - 2	472	1.1	petroleum-type odor, some staining	TT-4	S-18	0.0	0.0	no odor, black and maroon metallic staining
TT - 2	S - 3	328	1.3	slight petroleum-type odor, no staining	TT-4	S-19	0.0	0.0	no odor/no staining
TT - 2	S - 4	846	0.0	strong petroleum-type odor, dark grey staining	TT - 5	S - 1	212	0.0	slight petroleum-type odor, grey staining
TT - 2	S - 5	79.4	1.2	strong petroleum-type odor, dark grey staining	TT - 5	S - 2	156	0.0	staining
TT - 2	S - 6	457	0.0	petroleum-type odor, dark grey staining	TT - 5	S - 3	2.5	0.0	no odor, no staining
TT - 2	S - 7	1356	5.6	petroleum-type odor, dark grey staining	TT - 5	S - 4	68.2	0.0	no odor, no staining
TT - 2	S - 8	652	3.9	organic-type odor, metallic staining	TT - 5	S - 5	169	0.0	staining
TT - 2	S - 9	937	3.0	petroleum-type odor, dark grey staining	TT - 5	S - 6	42.5	0.0	no odor, no staining
TT - 2	S - 10	1574	2.7	petroleum-type odor, dark grey staining	TT - 5	S - 7	9999+	0.0	strong petroleum-type odor, dark grey staining
TT - 2	S - 11	754	4.7	petroleum-type odor	TT - 5	S - 8	367	0.0	slight petroleum-type odor, no staining
TT - 2	S - 12	936	8.2	petroleum-type odor, no staining	TT - 5	S - 9	174	0.0	strong petroleum-type odor, grey staining
TT - 2	S - 13	1642	0.0	petroleum-type odor, dark grey staining	TT - 5	S - 10	825	10.9	petroleum-type odor, grey staining
TT - 2	S - 14	1457	0.0	petroleum-type odor, dark grey staining	TT - 5	S - 11	3230	29.6	strong petroleum-type odor, black staining
TT - 2	S - 15	2336	0.0	petroleum-type odor, dark grey staining	TT - 5	S - 12	75.7	0.8	petroleum-type odor, grey staining
TT - 2	S - 16	3638	0.0	petroleum-type odor, dark grey staining	TT - 5	S - 13	524	1.2	strong petroleum-type odor, little sludge
TT - 2	S - 17	702	1.2	petroleum-type odor, dark grey staining	TT - 5	S - 14	315	1.3	petroleum-type odor, trace staining
TT - 2	S - 18	1625	0.0	petroleum-type odor, dark grey staining	TT - 5	S - 15	105	0.2	petroleum-type odor, grey staining
TT - 2	S - 19	777	0.0	petroleum-type odor, dark grey staining	TT - 5	S - 16	181	0.1	no odor, no staining
TT - 3	S-1	6.7	0.0	strong petroleum-type odor, grey staining	TT - 5	S - 17	528	0.0	no odor, no staining
TT - 3	S-2	4.5	0.0	faint petroleum-type odor, no staining	TT - 5	S - 18	39	0.4	no odor, no staining
TT - 3	S-3	121.0	1.1	petroleum-type odor, trace staining	TT - 5	S - 19	386	1.2	no odor, no staining
TT - 3	S-4	19.6	1.3	organic-type odor, no staining	TT - 5	S - 20	32.3	0.2	petroleum-type odor, grey staining
TT - 3	S-5	196.0	0.0	petroleum-type odor, some staining	TT - 5	S - 21	17.2	0.4	petroleum-type odor, trace grey staining
TT - 3	S-6	19.1	1.1	slight petroleum-type odor, no staining	TT - 5	S - 22	130	0.0	petroleum-type odor, trace grey staining
TT - 3	S - 7	64.2	1.8	slight petroleum-type odor, no staining	TT - 5	S - 23	192	0.8	petroleum-type odor, dark grey staining
TT - 3	S - 8	368	0.8	petroleum-type odor, dark grey staining	TT-5	S-24	532	0.2	no odor, no staining
TT - 3	S - 9	37.4	0.0	organic-type odor, metallic staining	TT-5	S-25	264	0.8	no odor, no staining
TT - 3	S - 10	301	0.0	petroleum-type odor, dark grey staining	TT-5	S-26	549	1.4	no odor, no staining
TT - 3	S - 11	39.2	0.7	organic-type odor, no staining	TT-5	S-27	463	0.9	no odor, no staining
TT - 3	S - 12	131.0	0.0	petroleum-type odor, slight staining	TP - 1	S-1	549	0.5	staining
TT - 3	S - 13	70.1	0.0	petroleum-type odor, no staining	TP - 1	S-2	149	0.6	petroleum-type odor, some greenish-grey and black staining
TT - 3	S - 14	322	0.8	no odor, metallic-type staining	TP - 1	S-3	127	0.0	slight petroleum-type odor, trace staining
TT - 3	S - 15	1104	0.2	faint petroleum-type odor, no staining	TP-2	S-1	29.5	0.0	no odor, no staining
TT - 3	S - 16	2743	1.1	strong petroleum-type odor, dark grey staining	TP-2	S-2	25.5	0.4	no odor, no staining
TT - 3	S - 17	970	2.3	petroleum-type odor, grey staining	TP-3	S-1	49.2	0.0	no odor, no staining
TT - 3	S - 18	667	2.1	petroleum-type odor, grey staining	TP-3	S-2	15.7	0.0	no odor, no staining
TT - 3	S - 19	1648	1.0	petroleum-type odor, dark grey staining	TP-4	S-1	8.9	0.0	no odor, no staining
TT - 3	S - 20	4343	0.0	petroleum-type odor, dark grey staining	TP-4	S-2	5.6	0.0	no odor, no staining
TT - 3	S - 21	437	0.0	slight petroleum-type odor, trace staining	TP-5	S-1	0.0	0.0	no odor, no staining
TT - 3	S - 22	2298	0.0	petroleum-type odor, dark grey staining	TP-5	S-2	0.0	0.0	no odor, no staining
TT-4	S-1	10.7	8.1	organic odor, no staining	TP-6	S-1	0.0	0.0	solvent-type odor, black staining
TT-4	S-2	2.0	0.0	organic odor, no staining	TP-6	S-2	140	0.0	faint odor, no staining
TT-4	S-3	1.5	0.0	organic odor, no staining	TP-6	S-3	58.1	0.0	no odor, no staining
TT-4	S-4	2.3	0.0	organic odor, no staining	MW-1	S-1	16.3	0.0	No Odor/Staining
TT-4	S-5	1.1	0.0	organic odor, no staining	MW-1	S-2	10.9	0.1	No Odor/Staining
TT-4	S-6	0.0	0.0	organic odor, no staining	MW-1	S-3	7.9	0.0	No Odor/Staining

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MW-1	S-4	11.2	0.0	No Odor/Staining	MW-10	S-1	3.2	1.4	no odor, no staining
MW-1	S-5	8.6	0.0	No Odor/Staining	MW-10	S-2	-	-	no recovery
MW-1	S-6	6.1	0.0	No Odor/Staining	MW-10	S-3	2.7	1.1	no odor, no staining
MW-2	S-1	28.2	0.0	Organic Odor, No Staining	MW-10	S-4	1.8	1.4	no odor, no staining
MW-2	S-2	44.1	0.0	Organic Odor, No Staining	MW-10	S-5	5.4	1.1	no odor, no staining
MW-2	S-3	11.4	0.2	No Odor/Staining	MW-10	S-6	-	-	no recovery
MW-2	S-4	87.3	0.1	Organic Odor, No Staining	MW-10	S-7	2..1	1.2	no odor, no staining
MW-3	S-1	140	0.7	No Odor, metallic staining	MW-10	S-8	1.9	1.1	no odor, no staining
MW-3	S-2	1170	1.4	Organic Odor, No Staining	MW-10	S-9	475	1.0	dark gray staining, petroleum-type odor
MW-3	S-3	50.5	0.5	Dark Gray Staining	MW-10	S-10	45	1.3	no staining, faint petroleum-type odor
MW-3	S-4	130	0.5	Faint Petroleum-Type Odor	MW-10	S-11	3.1	1.1	no staining, faint petroleum-type odor
MW-3	S-5	9999+	0.3	Faint Petroleum-Type Odor	MW-10b	S-1	2.0	0.0	no odor, no staining
MW-4	S-1	0.8	0.1	No Odor/Staining	MW-10b	S-2	40.2	1.7	organic odor, metallic staining
MW-4	S-2	8.7	0.1	No Odor/Staining	MW-10b	S-3	12.4	4.5	no odor, no staining
MW-4	S-3	4.3	0.4	No Odor/Staining	MW-11	S-1	0.8	0.7	no odor, no staining
MW-4	S-4	-	-	no sample recovery	MW-11	S-2	0.7	0.7	no odor, no staining
MW-4	S-5	19.3	0.1	Faint Petro Odor, Gray Stain	MW-11	S-3	0.9	0.7	no odor, no staining
MW-4	S-6	4.2	0.0	No Odor/Staining	MW-11	S-4	0.8	0.7	no odor, no staining
MW-4	S-7	1.7	0.0	No Odor/Staining	MW-11	S-5	0.8	0.7	no odor, no staining
MW-4	S-8	14.4	0.0	No Odor/Staining	MW-11	S-6	1.0	0.8	no odor, no staining
MW-5	S-1	10.2	0.0	No Odor/Staining	MW-11	S-7	1.0	0.8	no odor, no staining
MW-5	S-2	25.4	0.1	No Odor/Gray Staining	MW-11	S-8	0.9	0.8	organic odor, no staining
MW-5	S-3	0.6	0.0	No Odor/Staining	MW-11	S-9	1.9	0.8	organic odor, no staining
MW-5	S-4	0.1	0.0	No Odor/Staining	MW-11a	S-1	0.1	0.0	no odor, no staining
MW-6	S-1	0.0	0.0	No Odor/Staining	MW-11a	S-2	0.7	0.0	no odor, no staining
MW-6	S-2	11.8	0.0	No Odor/Staining	MW-11a	S-3	0.3	0.0	no odor, no staining
MW-6	S-3	35.2	0.0	No Odor/Staining	MW-11a	S-4	-	-	no recovery
MW-6	S-4	0.0	0.0	No Odor/Metallic Staining	MW-11a	S-5	0.1	0.0	no odor, no staining
MW-6	S-5	3.5	0.0	No Odor/Metallic Staining	MW-11a	S-6	0.0	0.0	no odor, no staining
MW-6	S-6	1.7	0.0	No Odor/Metallic Staining	MW-12	S-1	1.0	0.4	no odor, no staining
MW-6	S-7	0.0	0.0	No Odor/Metallic Staining	MW-12	S-2	0.6	0.3	no odor, no staining
MW-6	S-8	0.0	0.0	No Odor/Metallic Staining	MW-12	S-3	1.4	0.1	no odor, no staining
MW-7	S-1	0.0	0.0	No Odor/Staining	MW-12	S-4	-	-	no recovery
MW-7	S-2	11.0	0.6	No Odor/Staining	MW-12	S-5	0.5	0.1	no odor, trace metallic staining
MW-7	S-3	0.8	0.4	No Odor/Staining	MW-12	S-6	0.5	0.1	no odor, trace metallic staining
MW-7	S-4	13.2	0.2	Metallic and Gray Staining	MW-12	S-7	1.9	0.1	no odor, no staining
MW-7	S-5	3.3	0.7	Metallic and Gray Staining	MW-12	S-8	0.1	0.1	no odor, no staining
MW-7	S-6	4.1	0.3	No Odor/Metallic Staining	MW-13	S-1	0.0	0.0	no odor, no staining
MW-7	S-7	5.6	0.0	No Odor/Staining	MW-13	S-2	0.0	0.0	no odor, no staining
MW-8	S-1	0.0	0.0	no odor, no staining	MW-13	S-3	0.0	0.0	no odor, no staining
MW-8	S-2	0.0	0.0	no odor, no staining	MW-13	S-4	0.3	0.0	no odor, no staining
MW-8	S-3	13.1	0.2	no odor, green-gray and metallic staining	MW-13	S-5	1.1	0.0	no odor, no staining
MW-8	S-4	7.9	0.2	no odor, green-gray and metallic staining	MW-13	S-6	1.5	0.0	no odor, no staining
MW-8	S-5	2.0	0.0	no odor, metallic staining	MW-13	S-7	0.4	0.0	no odor, no staining
MW-8	S-6	0.4	0.0	no odor, metallic staining	SB-1	S-1	0.6	0.5	no odor, no staining
MW-8	S-7	0.0	0.0	no odor, no staining	SB-1	S-2	0.5	0.3	no odor, no staining
MW-9	S-1	10.8	0.0	no odor, no staining	SB-1	S-3	1.0	0.5	no odor, no staining
MW-9	S-2	2.1	0.0	no odor, no staining	SB-1	S-4	0.6	0.2	no odor, no staining
MW-9	S-3	-	-	no recovery	SB-1	S-5	0.6	0.1	no odor, metallic staining
MW-9	S-4	0.4	0.0	no odor, no staining	SB-2	S-1	0.6	0.3	no odor, no staining
MW-9	S-5	0.8	0.0	no odor, no staining	SB-2	S-2	0.5	0.2	no odor, no staining
MW-9	S-6	0.9	0.0	no odor, no staining	SB-2	S-3	0.7	0.3	no odor, no staining
MW-9	S-7	0.6	0.0	no odor, no staining	SB-2	S-4	0.9	0.4	no odor, no staining
MW-9	S-8	0.5	0.0	no odor, no staining	SB-2	S-5	0.9	0.3	no odor, no staining
MW-9	S-9	0.8	0.0	no odor, no staining	SB-3	S-1	0.8	0.5	no odor, no staining
MW-9	S-10	0.4	0.0	no odor, no staining	SB-3	S-2	1.1	0.5	no odor, no staining
MW-9	S-11	0.7	0.0	no odor, no staining	SB-3	S-3	-	-	no recovery

Legend:

- CBS Catch Basin Square
- CIRF Capped Iron Rod Found
- Drainage End Section
- DH ROCK Dig Hole Rock
- EMTR Electric Meter
- HYD Hydrant
- IPF Iron Pipe Found
- MFPOST Metal Fence Post
- Utility Pole
- Silt Fence
- MW-1 Soil Boring/Monitoring Well
- SW-1 Wetland Surface Water Sample
- SS-1 Surface Soil Sample
- TP-1 Test Pit
- WS-1 Wetland Sediment Sample
- TEST TRENCH 1 Test Trench
- Approximate extent of impacts to subsurface soils employing subjective methods of PID headspace analysis and organoleptic perception

BAR SCALE
30 0 15 30 60
1 inch = 30 ft.

DATE	REVISIONS RECORD/DESCRIPTION		DRAFTER	CHECK	APPR.
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DESIGNED:
DRAFTED : SMW
CHECKED :
PROJ. NO: 07.1092
SCALE : 1"=30'
DATE : MAR 27, 2008

FIGURE 9A: APPROXIMATE EXTENT OF SUBJECTIVE IMPACTS TO SUBSURFACE SOILS AND FILL

400 BROADWAY ERP SITE

VILLAGE OF SARANAC LAKE FRANKLIN COUNTY, NEW YORK

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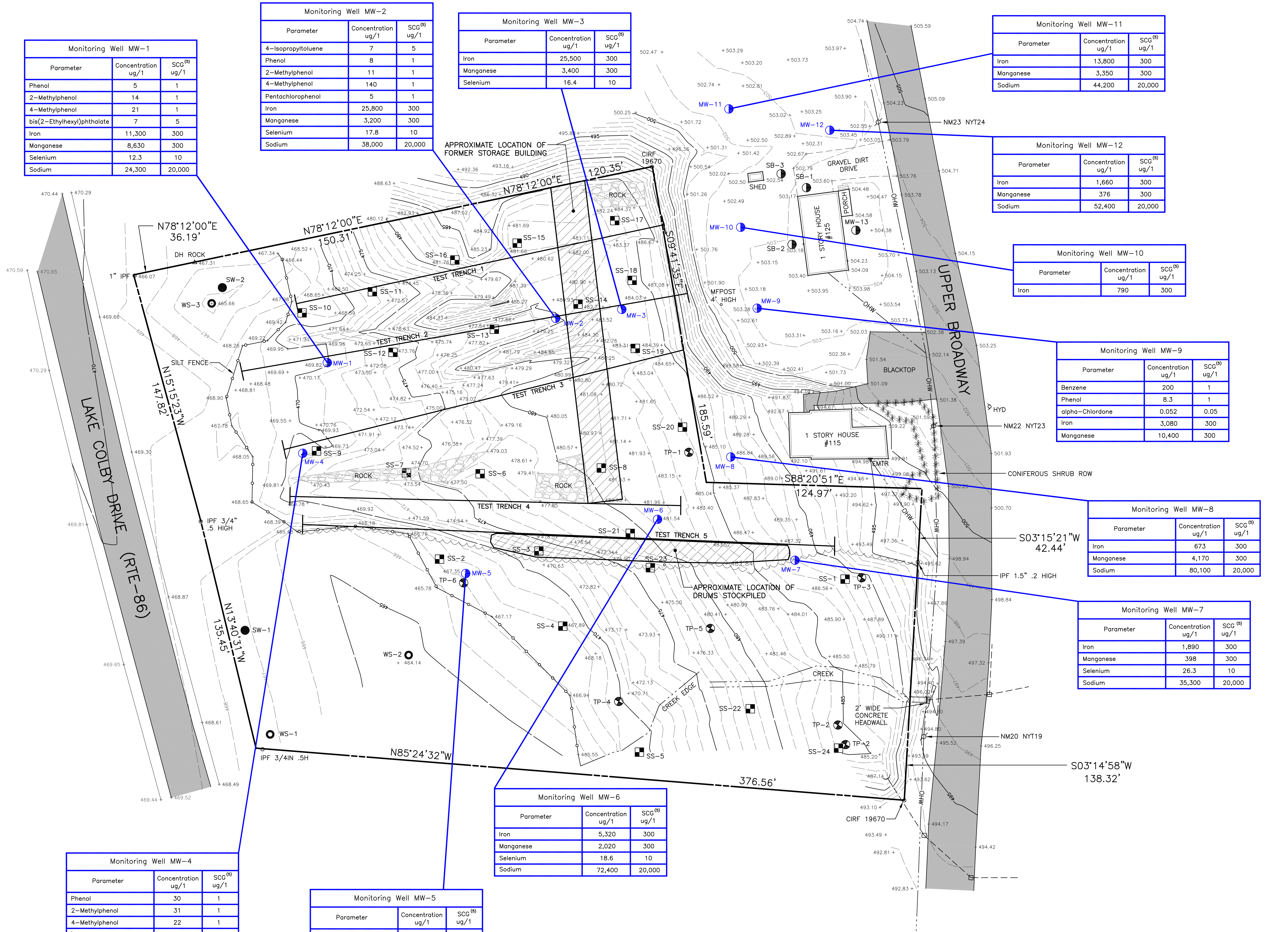
ENVIRONMENTAL SERVICES * SURVEY & LAND INFORMATION SERVICES

FIG-9A
SHEET 1 OF 1
DWG. NO: 08-162

FIGURE 10

Parameters Exceeding SCGs in Groundwater Locations Map



Monitoring Well MW-1		
Parameter	Concentration ug/1	SCG(5) ug/1
Phenol	5	1
2-Methylphenol	14	1
4-Methylphenol	21	1
bis(2-Ethylhexyl)phthalate	7	5
Iron	11,300	300
Manganese	8,630	300
Selenium	12.3	10
Sodium	24,300	20,000

Monitoring Well MW-2		
Parameter	Concentration ug/1	SCG(5) ug/1
4-Isopropyltoluene	7	5
Phenol	8	1
2-Methylphenol	11	1
4-Methylphenol	140	1
Pentachlorophenol	5	1
Iron	25,800	300
Manganese	3,200	300
Selenium	17.8	10
Sodium	38,000	20,000

Monitoring Well MW-3		
Parameter	Concentration ug/1	SCG(5) ug/1
Iron	25,500	300
Manganese	3,400	300
Selenium	16.4	10

Monitoring Well MW-11		
Parameter	Concentration ug/1	SCG(5) ug/1
Iron	13,800	300
Manganese	3,350	300
Sodium	44,200	20,000

Monitoring Well MW-12		
Parameter	Concentration ug/1	SCG(5) ug/1
Iron	1,660	300
Manganese	376	300
Sodium	52,400	20,000

Monitoring Well MW-10		
Parameter	Concentration ug/1	SCG(5) ug/1
Iron	790	300

Monitoring Well MW-9		
Parameter	Concentration ug/1	SCG(5) ug/1
Benzene	200	1
Phenol	8.3	1
alpha-Chlordane	0.052	0.05
Iron	3,080	300
Manganese	10,400	300

Monitoring Well MW-8		
Parameter	Concentration ug/1	SCG(5) ug/1
Iron	673	300
Manganese	4,170	300
Sodium	80,100	20,000

Monitoring Well MW-7		
Parameter	Concentration ug/1	SCG(5) ug/1
Iron	1,890	300
Manganese	398	300
Selenium	26.3	10
Sodium	35,300	20,000

Monitoring Well MW-6		
Parameter	Concentration ug/1	SCG(5) ug/1
Iron	5,320	300
Manganese	2,020	300
Selenium	18.6	10
Sodium	72,400	20,000

Monitoring Well MW-4		
Parameter	Concentration ug/1	SCG(5) ug/1
Phenol	30	1
2-Methylphenol	31	1
4-Methylphenol	22	1
Iron	13,700	300
Manganese	1,870	300
Selenium	11.2	10

Monitoring Well MW-5		
Parameter	Concentration ug/1	SCG(5) ug/1
Iron	22,600	300
Manganese	6,420	300
Selenium	15.1	10
Sodium	50,500	20,000

Map Notes:

1. Topographic information shown hereon was compiled from an actual field survey conducted on January 10th & 11th, 2008.
2. Vertical datum shown hereon is an assumed base.
3. Prior to conducting this survey this geographic area accumulated approximately 12 to 18 inches of packed snow and ice. Therefore the undersigned cannot certify that some object or feature has been omitted.
4. Boundary information shown was taken from map reference no. one and does not represent a boundary survey prepared by the undersigned.
5. SCG=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.

Map References:

1. "Map of Survey Prepared for Saranac Lake Volunteer Fire Department" situate in Township 21, Great Tract One, Macomb's Purchase Village of Saranac Lake, Town of Harrietstown County of Franklin and State of New York prepared by Geomatics Land Surveying, PC dated November 1, 2006 Map No. 03004.

Legend:

CBS	Catch Basin Square
CIRF	Capped Iron Rod Found
	Drainage End Section
DH ROCK	Dig Hole Rock
EMTR	Electric Meter
HYD	Hydrant
IPF	Iron Pipe Found
MFPOST	Metal Fence Post
	Utility Pole
	Silt Fence
MW-1	Soil Boring/Monitoring Well
SW-1	Wetland Surface Water Sample
SS-1	Surface Soil Sample
TP-1	Test Pit
WS-1	Wetland Sediment Sample
TEST TRENCH 1	Test Trench

BAR SCALE
30 0 15 30 60
1 inch = 30 ft.

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
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APPROVED:
DRAFTED : SMW
CHECKED :
PROJ. NO: 07.1092
SCALE : 1"=30'
DATE : MAR 27, 2008

FIGURE 10: PARAMETERS EXCEEDING SCGs IN GROUNDWATER LOCATIONS MAP

400 BROADWAY ERP SITE

VILLAGE OF SARANAC LAKE — FRANKLIN COUNTY, NEW YORK

C.T. MALE ASSOCIATES, P.C.
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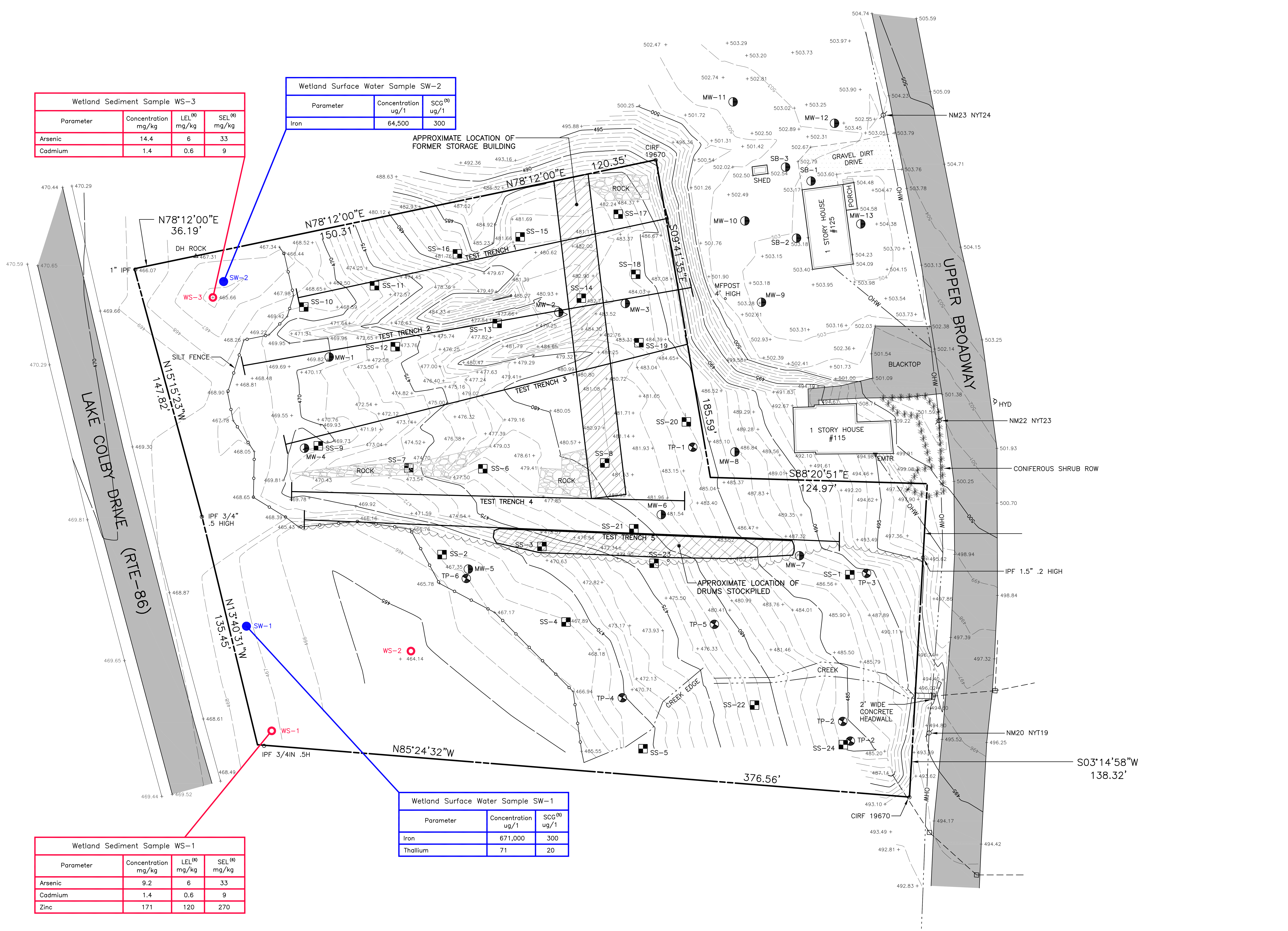
FIG-10
SHEET 1 OF 1
DWG. NO: 08-162

FIGURE 11

Parameters Exceeding SCGs in Wetland Surface Water and Sediments Locations Map



Wetland Sediment Sample WS-3

Parameter	Concentration mg/kg	LEL(6) mg/kg	SEL(6) mg/kg
Arsenic	14.4	6	33
Cadmium	1.4	0.6	9

Wetland Surface Water Sample SW-2

Parameter	Concentration ug/l	SCG(5) ug/l
Iron	64,500	300

Wetland Surface Water Sample SW-1

Parameter	Concentration ug/l	SCG(5) ug/l
Iron	671,000	300
Thallium	71	20

Wetland Sediment Sample WS-1

Parameter	Concentration mg/kg	LEL(6) mg/kg	SEL(6) mg/kg
Arsenic	9.2	6	33
Cadmium	1.4	0.6	9
Zinc	171	120	270

Map Notes:

1. Topographic information shown hereon is was compiled from an actual field survey conducted on January 10th & 11th, 2008.
2. Vertical datum shown hereon is an assumed base.
3. Prior to conducting this survey this geographic area accumulated approximately 12 to 18 inches of packed snow and ice. Therefore the undersigned cannot certify that some object or feature has been omitted.
4. Boundary information shown was taken from map reference no. one and does not represent a boundary survey prepared by the undersigned.
5. SCG=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. Based on Water Class D Type A (A) for fish survival.
6. SCG=NYSDEC Technical Guidance for Screening Contaminated Sediments, Human Health Bioaccumulation, November 22, 1993 (Reprinted with changes July 1994, March 1998, and January 1999). Standard denotes the Benthic Aquatic Life chronic toxicity sediment criteria. LEL denotes Lowest Effect Level. SEL denotes Severe Effect Level.

Map References:

1. "Map of Survey Prepared for Saranac Lake Volunteer Fire Department" situate in Township 21, Great Tract One, Macomb's Purchase Village of Saranac Lake, Town of Harrietstown County of Franklin and State of New York prepared by Geomatics Land Surveying, PC dated November 1, 2006 Map No. 03004.

Legend:

CBS	Catch Basin Square
CIRF	Capped Iron Rod Found
	Drainage End Section
DH ROCK	Dig Hole Rock
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SW-1	Wetland Surface Water Sample
SS-1	Surface Soil Sample
TP-1	Test Pit
WS-1	Wetland Sediment Sample
TEST TRENCH 1	Test Trench

DATE	REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
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APPROVED:
DRAFTED : SMW
CHECKED :
PROJ. NO: 07.1092
SCALE : 1"=30'
DATE : MAR 27, 2008

FIGURE 11: PARAMETERS EXCEEDING SCGs IN WETLAND SURFACE WATER & SEDIMENTS LOCATIONS MAP

400 BROADWAY ERP SITE

VILLAGE OF SARANAC LAKE — FRANKLIN COUNTY, NEW YORK

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ENVIRONMENTAL SERVICES * SURVEY & LAND INFORMATION SERVICES

FIG-11
SHEET 1 OF 1
DWG. NO: 08-162

October 2008
(Revised January 2009)

400 Broadway ERP Site
(ERP Site No. E517007)

Site Investigation Report
(Volume 3 of 3 – Appendices, Exhibits)

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

400 Broadway
Village of Saranac Lake
Franklin County, New York

Prepared for:

THE VILLAGE OF SARANAC LAKE
Power and Light Building
3 Main Street - Suite 5
Saranac Lake, New York 12983

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.: 07.1092

APPENDIX A

Test Trench and Test Pit Logs

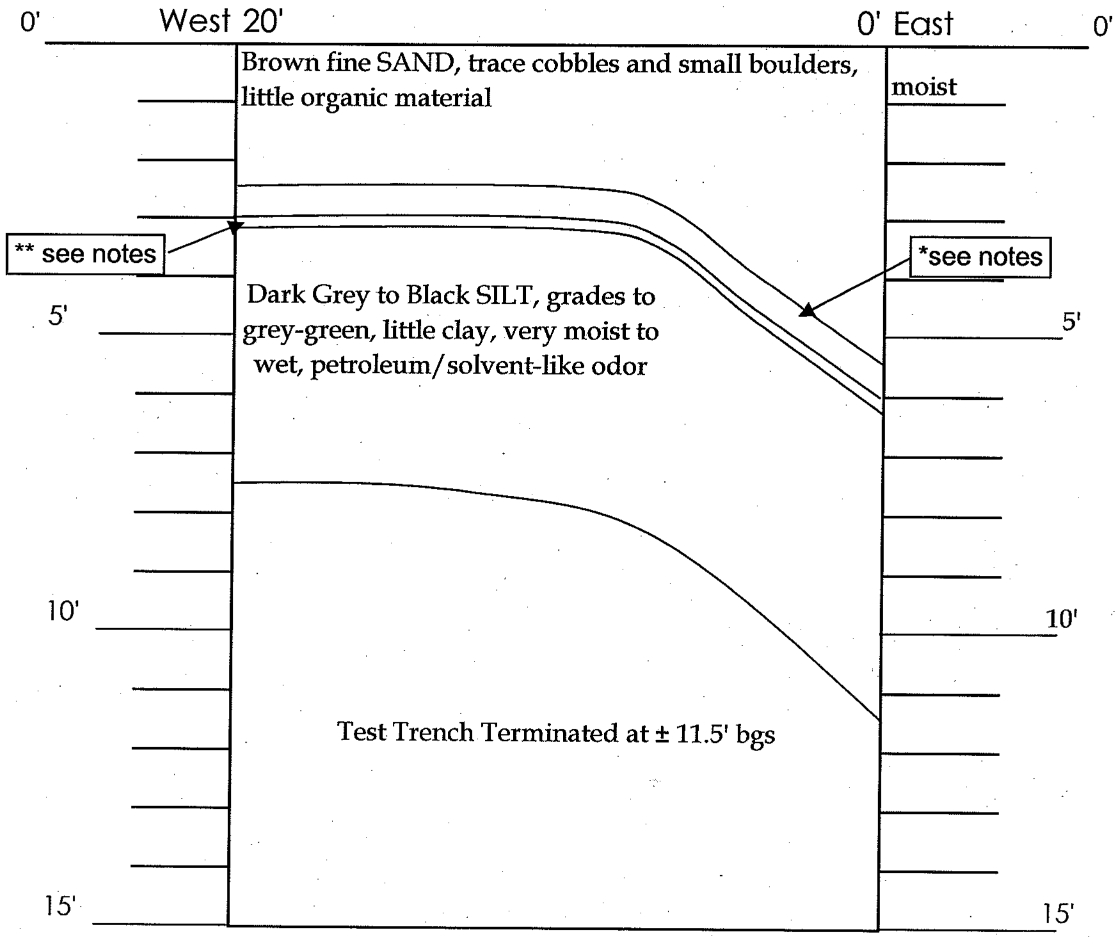
TEST TRENCH - 1

0 to 20' Horizontally (East to West)

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:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/27/2007

TEST TRENCH - 1



TOTAL DEPTH:	± 11.5' bgs
WATER AT:	wet at ± 2.5' (water does not accumulate in excavation)
SIZE OF TEST PIT:	± 6' wide x 20' long

NOTES: Soil sample S-1 collected at ± 8' bgs a horizontal distance of ± 5' from East trench start (submitted to lab)
From W to E, from 10' to 0', surface grade elevation increases ± 5'
*± 2.5' - 3' bgs - some small metal shavings-petroleum/solvent-type odor
**± 3' - 3.25' - organic material

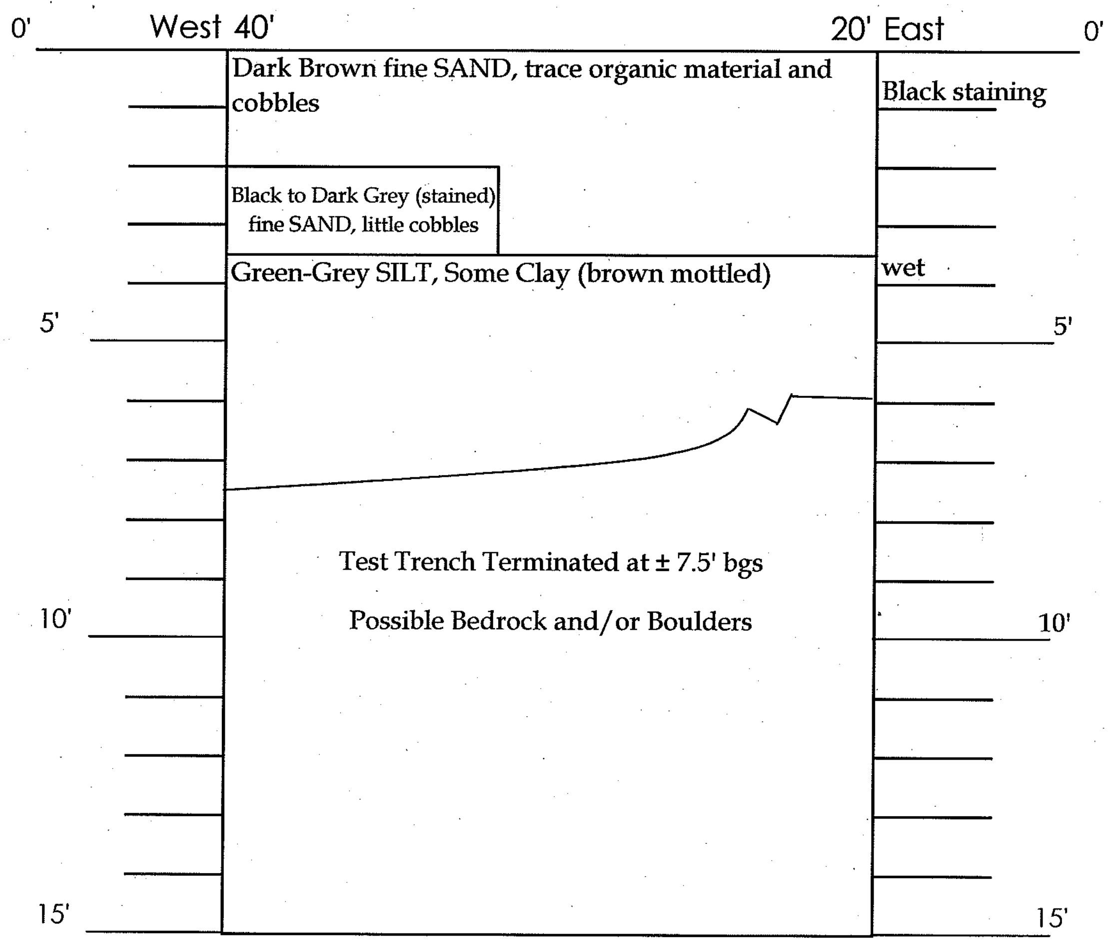
TEST TRENCH - 1

20 to 40' Horizontally (East to West)

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:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/27/2007

TEST TRENCH - 1



TOTAL DEPTH:	± 7.5' bgs
WATER AT:	wet at ± 4'
SIZE OF TEST PIT:	± 6' wide x 20' long

NOTES: Soil sample S-2 collected at ± 2.5' bgs a horizontal distance of ± 24' from East trench start
Soil sample S-3 collected at ± 7' bgs a horizontal distance of ± 29' from East trench start
Soil sample S-4 collected at ± 3.5' bgs a horizontal distance of ± 37' from East trench start (submitted to lab)
Sheen observed on water which accumulated in trench

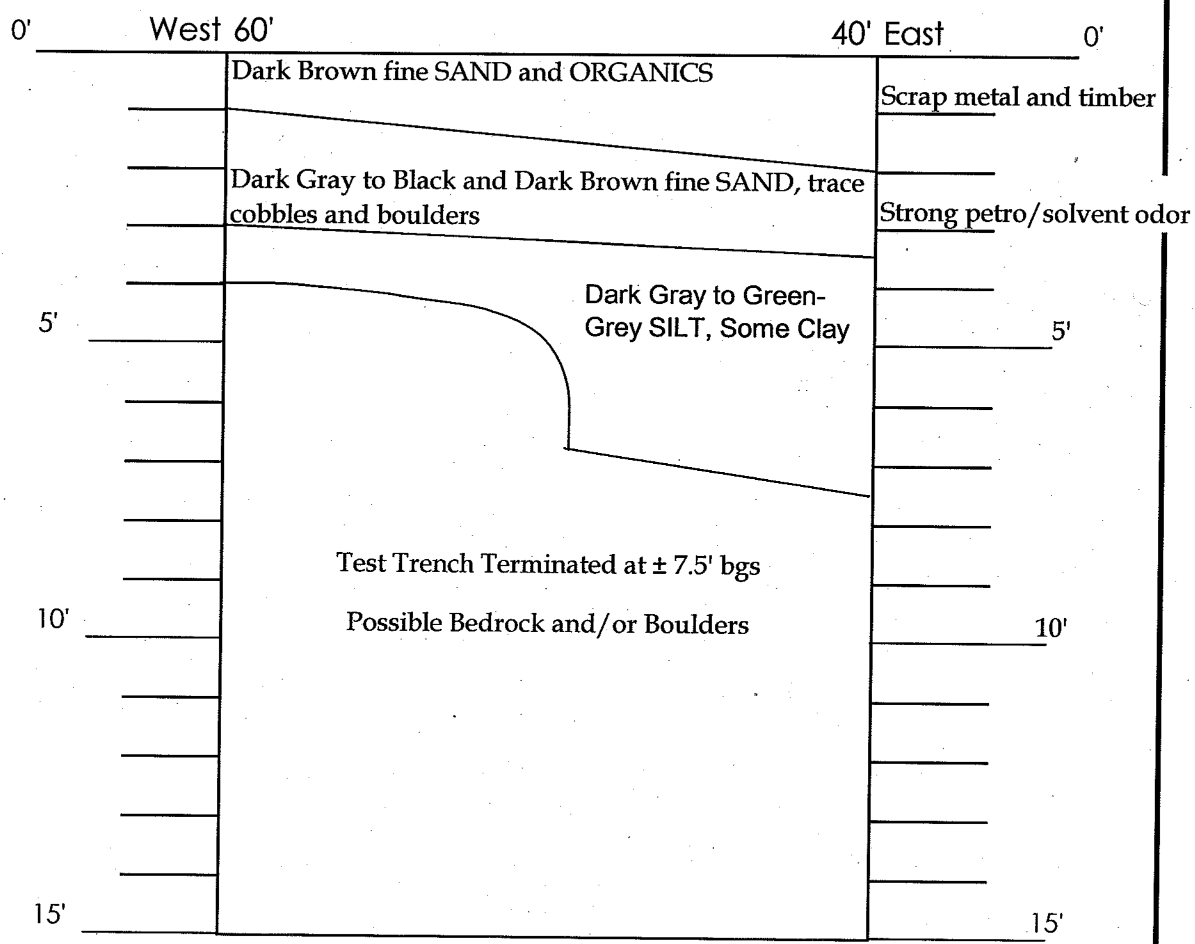
TEST TRENCH - 1

40 to 60' Horizontally (East to West)

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:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/27/2007

TEST TRENCH - 1



TOTAL DEPTH:	± 7.5' bgs
WATER AT:	wet at ± 3' bgs (groundwater seep)
SIZE OF TEST PIT:	± 6' wide x 20' long

NOTES: Soil sample S-5 collected at ± 3' bgs a horizontal distance of ± 46' from East trench start
Sheen observed on water which accumulated in trench

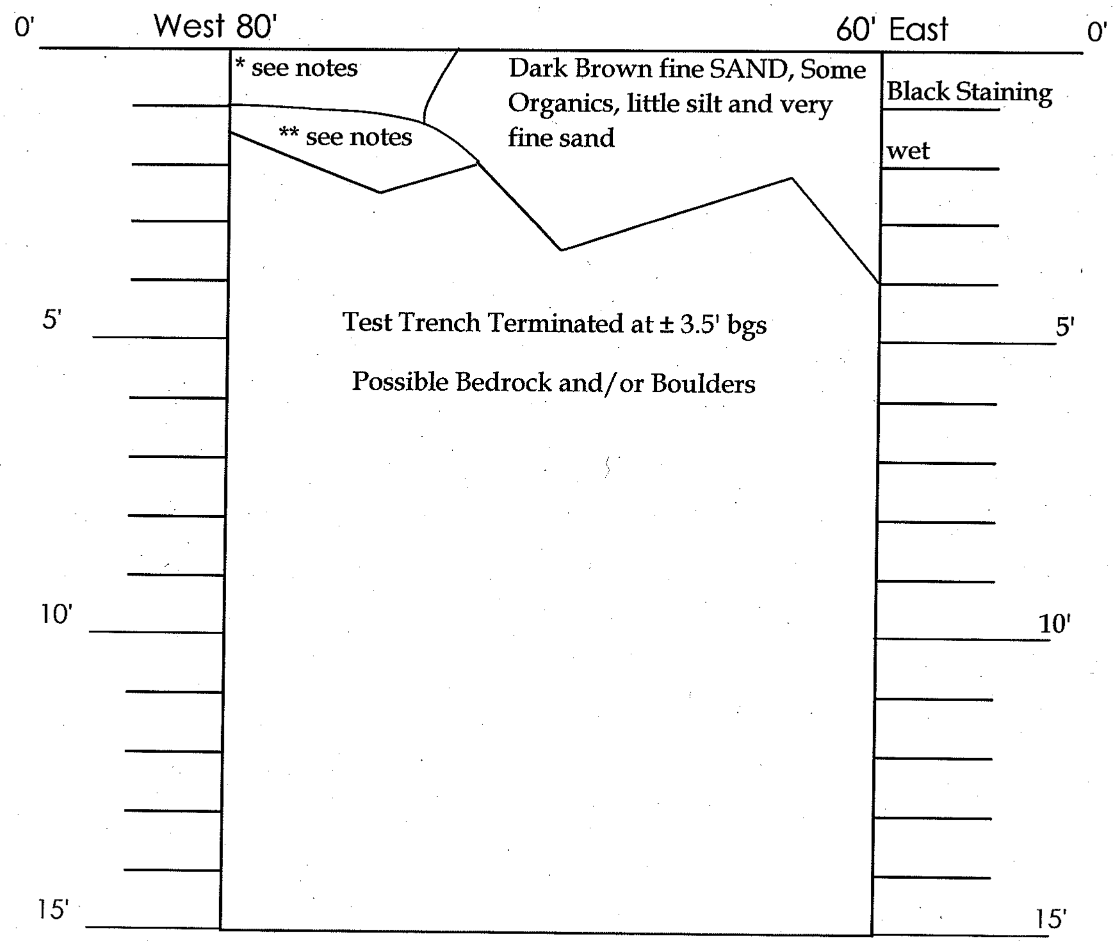
TEST TRENCH - 1

60 to 80' Horizontally (East to West)

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:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mount Excavator
LOGGED BY:	JD	DATE:	8/27/2007

TEST TRENCH - 1



TOTAL DEPTH:	± 3.5' bgs
WATER AT:	wet at ± 2' bgs (groundwater seep)
SIZE OF TEST PIT:	± 6' wide x 20' long

NOTES: Soil sample S-6 collected at ± 2.5' bgs a horizontal distance of ± 66' from East trench start
Soil sample S-7 collected at ± 1.5' bgs a horizontal distance of ± 80' from East trench start
* Brown fine SAND and ORGANICS
** Brown SILT, Some Clay, little organic material

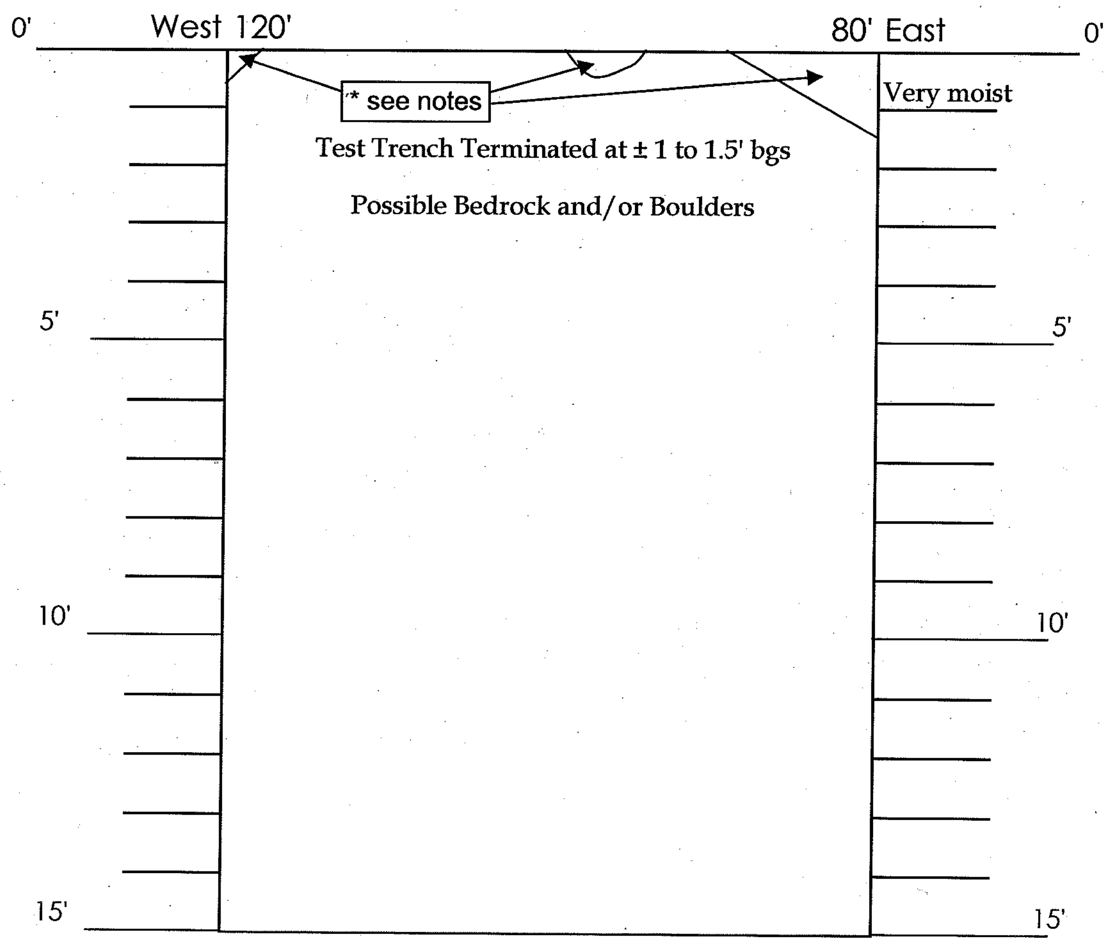
TEST TRENCH - 1

80 to 120' Horizontally (East to West)

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:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/27/2007

TEST TRENCH - 1



TOTAL DEPTH:	± 1 to 1.5' bgs
WATER AT:	none observed at the depth explored
SIZE OF TEST PIT:	± 6' wide x 40' long

NOTES: * Brown fine SAND and ORGANICS

TEST TRENCH - 1

120 to 150' Horizontally (East to West)

C.T. MALE ASSOCIATES, P.C.
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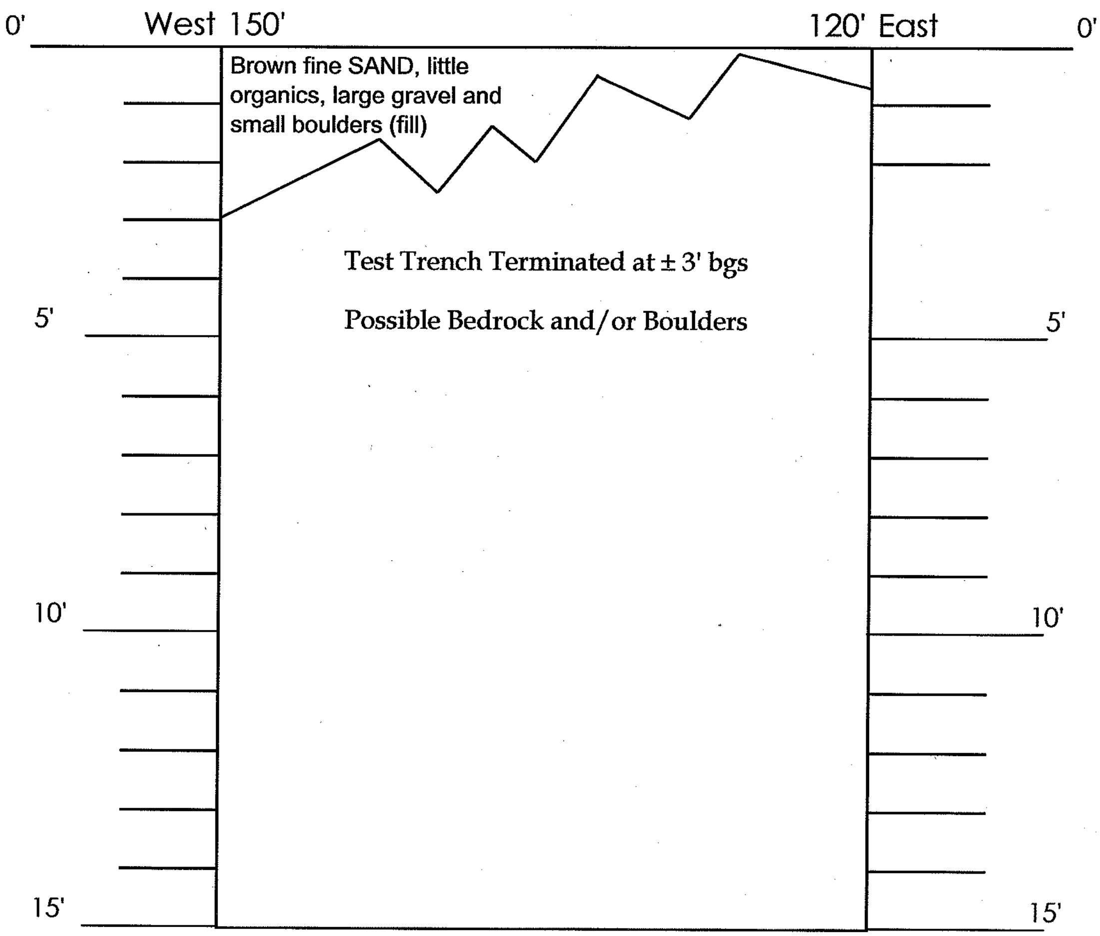
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
Building Systems • Engineering • Environmental Services • Land Information Services

PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/28/2007

TEST TRENCH - 1



TOTAL DEPTH: ± 3' bgs

WATER AT: none observed at the depth explored

SIZE OF TEST PIT: ± 6' wide x 30' long

NOTES:

TEST TRENCH - 1

150 to 185' Horizontally (East to West)

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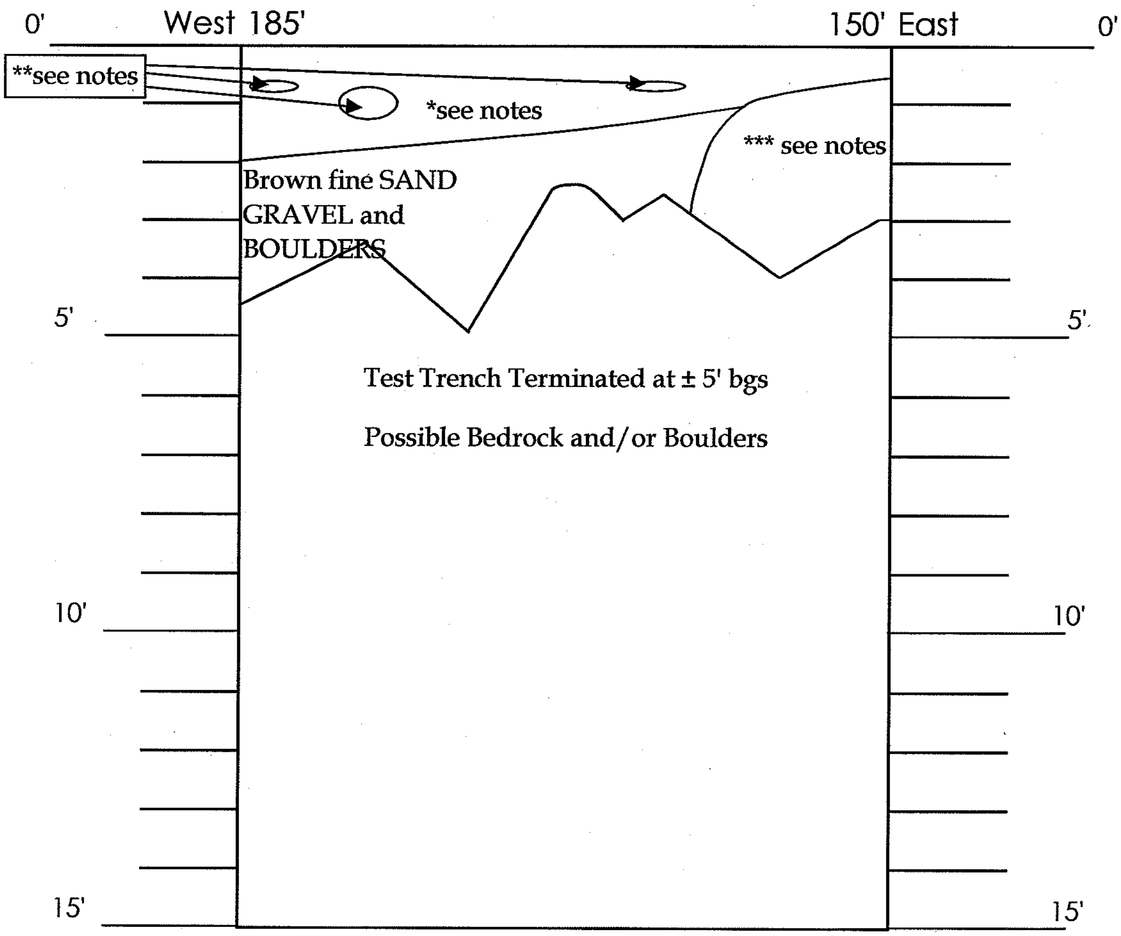
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
Building Systems • Engineering • Environmental Services • Land Information Services

PROJECT NAME: 400 Upper Broadway ERP Site
EXCAVATOR: OP-TECH
PROJECT NUMBER: 07.1092
EQUIPMENT: Track Mounted Excavator
LOGGED BY: JD
DATE: 8/28/2007

TEST TRENCH - 1



TOTAL DEPTH: ± 5' bgs
WATER AT: none observed at the depth explored
SIZE OF TEST PIT: ± 6' wide x 35' long

NOTES: Soil sample S-8 collected at ± 1' bgs a horizontal distance of ± 177' from East trench start (submitted to lab)
* Brown fine SAND, ORGANICS, GRAVEL and BOULDERS
** lenses of ASH and black fine SAND (metallic staining noted)
*** Brown fine SAND, fractured bedrock or large boulders

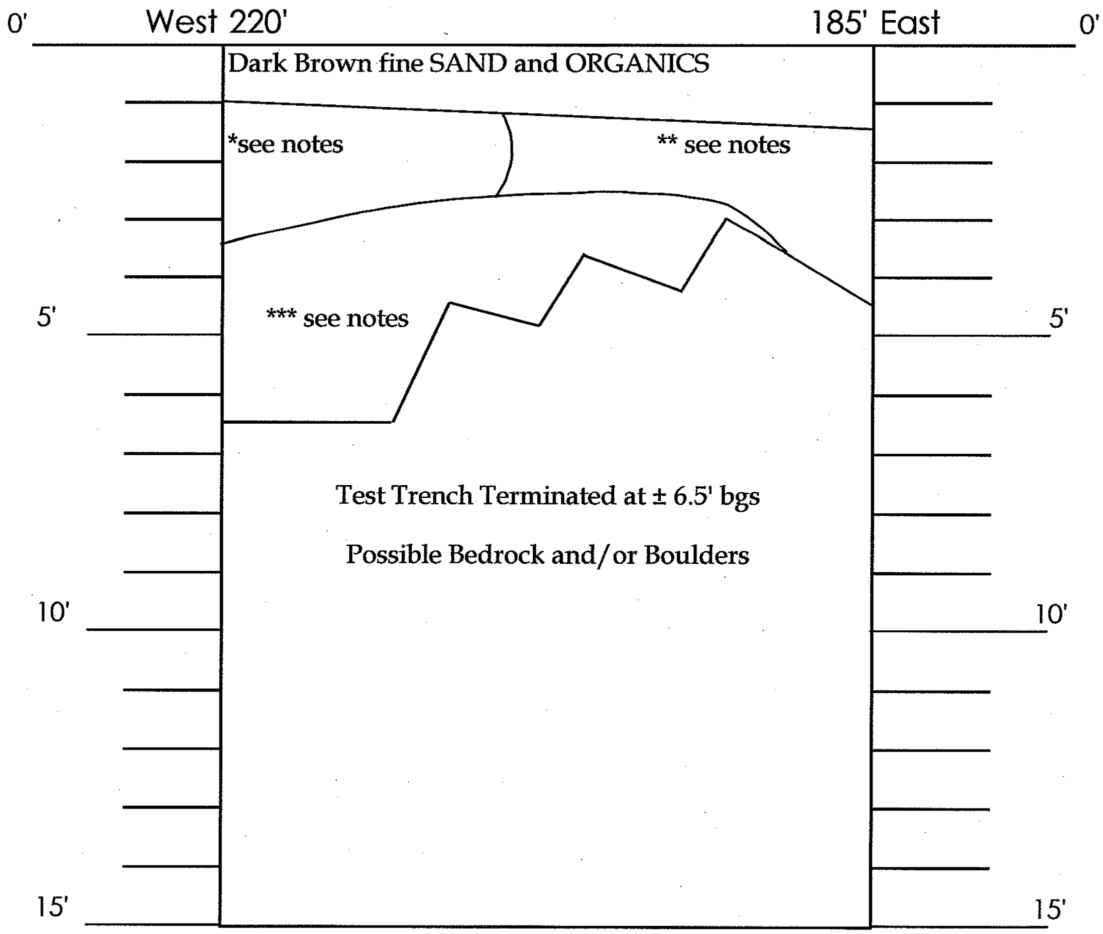
TEST TRENCH - 1

185 to 200' Horizontally (East to West)

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:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/28/2007

TEST TRENCH - 1



TOTAL DEPTH:	± 6.5' bgs
WATER AT:	none observed at the depth explored
SIZE OF TEST PIT:	± 6' wide x 35' long

NOTES: Soil sample S-9 collected at ± 6.5' bgs a horizontal distance of ± 218' from East trench start
Soil sample S-10 collected at ± 3.5' bgs a horizontal distance of ± 210' from East trench start
* Brown fine SAND, Some Ash, little coarse gravel and boulders (black staining noted)
** Brown fine SAND, little coarse gravel and boulders
*** Brown SILT and very fine SAND (dark gray staining noted)

TEST TRENCH - 2

0 to 30' Horizontally (West to East)

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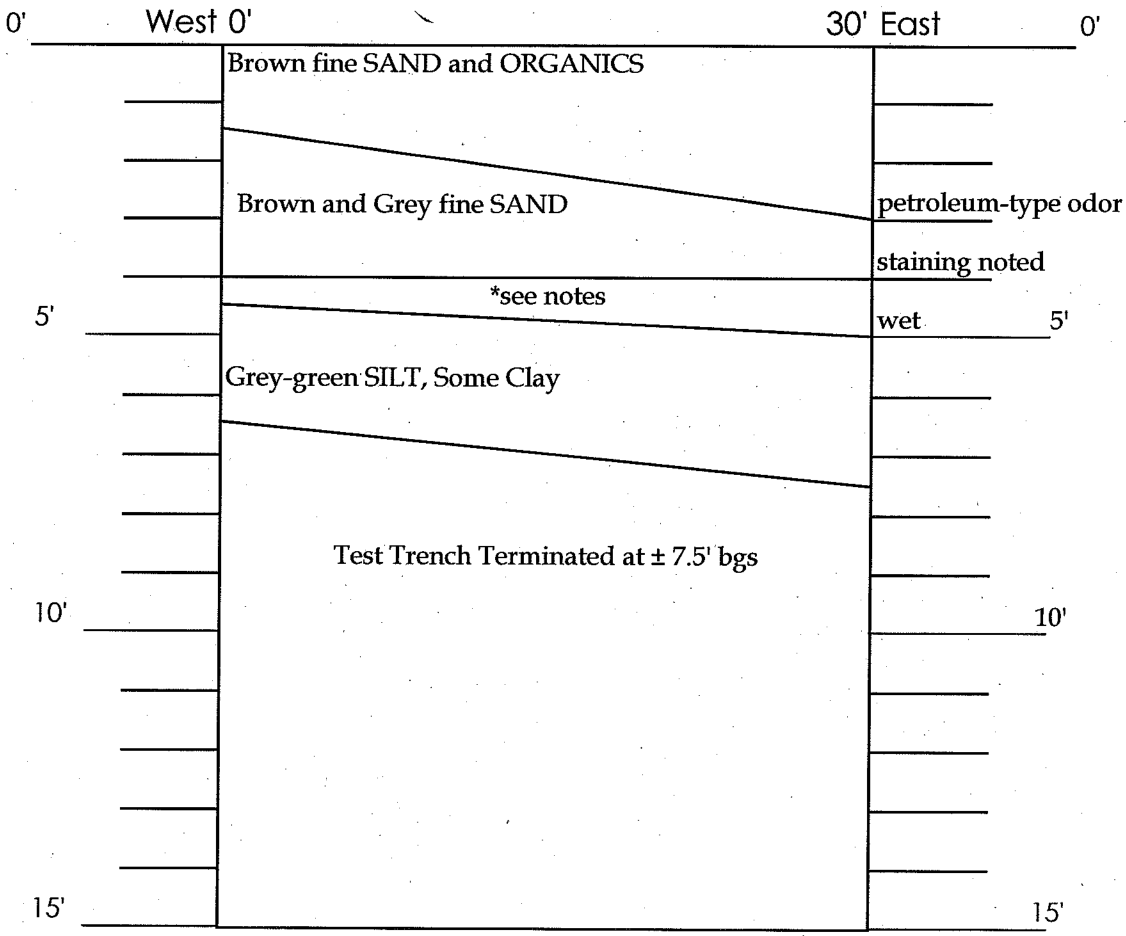
50 Century Hill Drive, P.O. Box 727
Latham, NY 12110-0727
(518) 786-7400 • FAX (518) 786-7299
Building Systems • Engineering • Environmental Services • Land Information Services

PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/22/2007

TEST TRENCH - 2



TOTAL DEPTH: ± 7.5' bgs
WATER AT: water seep at ± 5' bgs
SIZE OF TEST PIT: ± 6' wide by ± 30' long

NOTES: Soil Sample S-1 collected at ± 3' bgs a horizontal distance of ± 3' from West trench start
Soil Sample S-2 collected at ± 4.5' bgs a horizontal distance of ± 6' from West trench start
Trench was left open to allow water to accumulate; approximately .5' of water pooled over 6' x 10' area
*Black very fine SAND, Some Silt and Organics

TEST TRENCH - 2

30 to 45' Horizontally (West to East)

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PROJECT NAME: 400 Upper Broadway ERP Site
PROJECT NUMBER: 07.1092
LOGGED BY: JD

EXCAVATOR: OP-TECH
EQUIPMENT: Track Mounted Excavator
DATE: 8/22/2007

TEST TRENCH - 2

0' West 30' — 45' East 0'

Brown fine SAND, Some Cobbles and Boulders, little organics

*see notes

5' Black fine SAND, SILT and ORGANICS — Wet, organic odor

Green-grey SILT, Some Clay — wet

Test Trench Terminated at ± 8' bgs

10' — 10'

15' — 15'

TOTAL DEPTH: ± 8' bgs
WATER AT: seam of water at ± 5' bgs
SIZE OF TEST PIT: ± 6' wide by ± 15' long

NOTES: Soil Sample S-3 collected at ± 4' bgs a horizontal distance of ± 40' from West trench start
*Brown and Grey fine SAND (petroleum odor and staining noted)

TEST TRENCH - 2

45 to 60' Horizontally (West to East)

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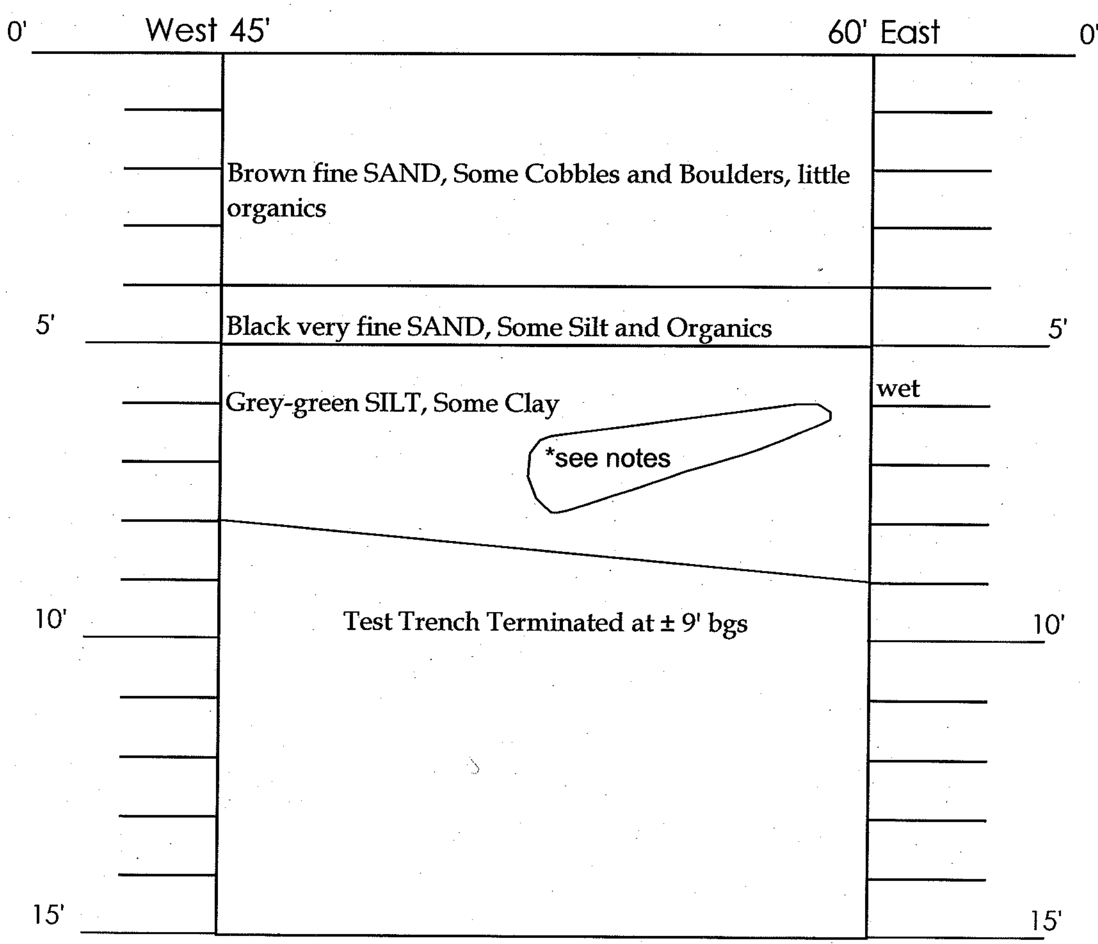
PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/22/2007

TEST TRENCH - 2



TOTAL DEPTH: ± 9' bgs

WATER AT: ± 4' bgs

SIZE OF TEST PIT: ± 6' wide by ± 15' long

NOTES: Soil Sample S-4 collected at ± 6.5' bgs a horizontal distance of ± 62' from West trench start (lab analysis)
Dark gray fine SAND (staining and petroleum-type odors noted)

TEST TRENCH - 2

60 to 80' Horizontally (West to East)

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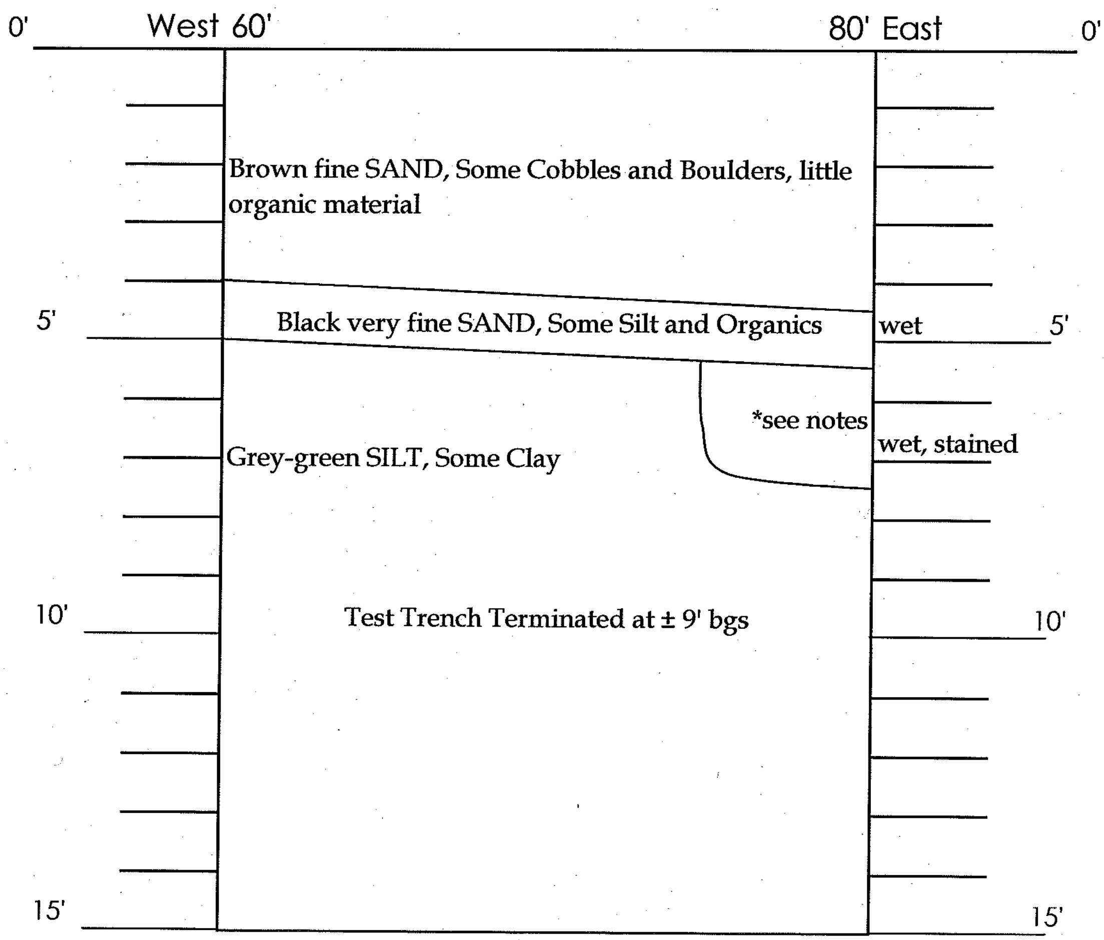
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/22/2007

TEST TRENCH - 2



TOTAL DEPTH:	± 9' bgs
WATER AT:	± 4 to 4.5' bgs, water seam
SIZE OF TEST PIT:	± 6' wide by ± 20' long

NOTES: Soil Sample S-5 collected at ± 6' bgs a horizontal distance of ± 77' from West trench start
* At ± 75' from the western trench start at ± 5.5' - 7.25' bgs - Dark Grey fine SAND, Some Silt (strong petroleum odor and staining) wet

TEST TRENCH - 2

80 to 100' Horizontally (West to East)

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PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/23/2007

TEST TRENCH - 2

0' West 80' — 100' East 0'

0'–5'	Brown fine SAND, little organics, cobbles and boulders	
5'	*see notes	wet, petroleum odor
	Black to dark grey SILT, Some Clay, petroleum odor, dense	very moist to wet
	Grey-green SILT, Some Clay	faint petroleum odor
10'	Test Trench Terminated at ± 9' bgs Possible Bedrock or Large Boulders	10'
15'		15'

TOTAL DEPTH: ± 9' bgs
WATER AT: none observed at depth explored
SIZE OF TEST PIT: ± 6' wide by ± 20' long

NOTES: Soil Sample S-6 collected at ± 6.5' bgs a horizontal distance of ± 85' from West trench start
*Black fine SAND, Some Silt and Organics (petroleum-type odor)

TEST TRENCH - 2

100 to 120' Horizontally (West to East)

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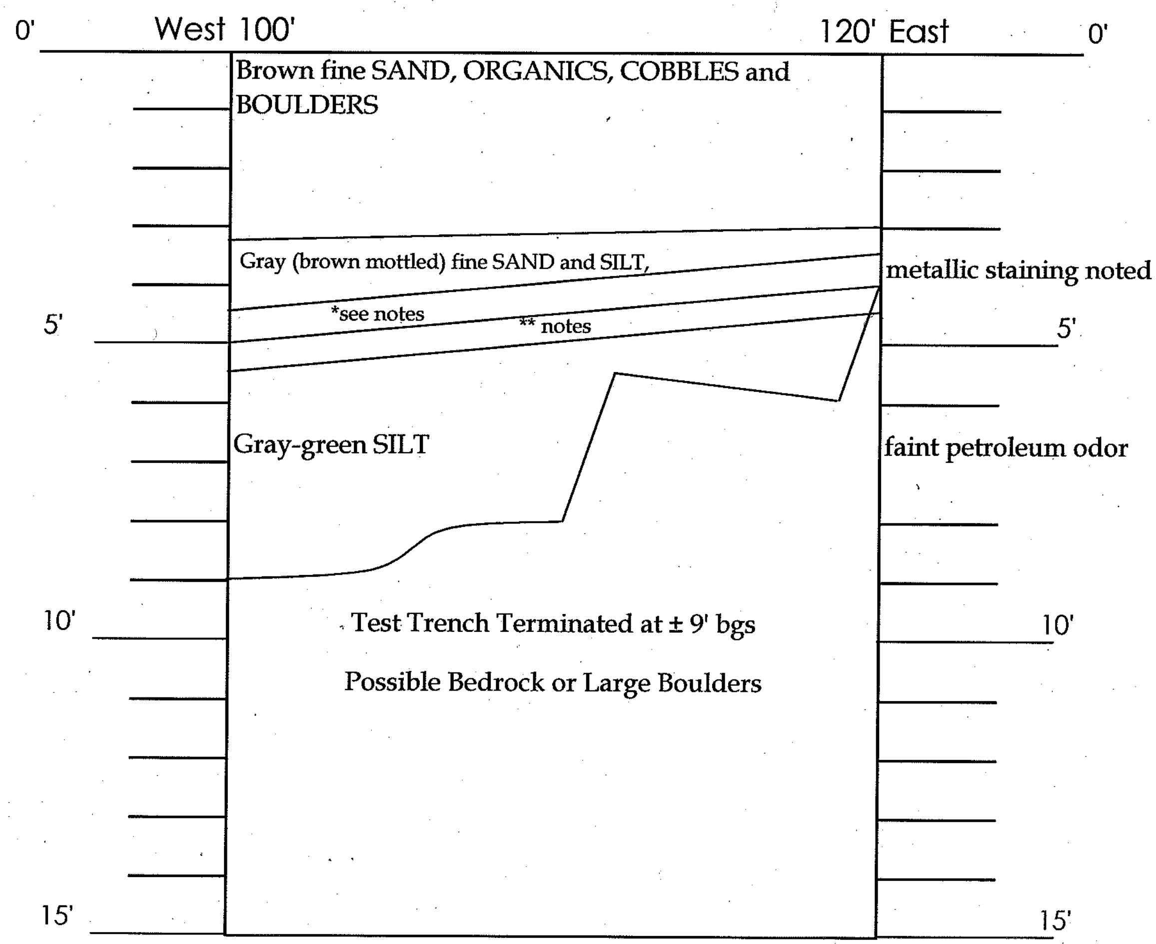
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/23/2007

TEST TRENCH - 2



TOTAL DEPTH:	± 9' bgs
WATER AT:	± 4 to 4.5' bgs, water seam
SIZE OF TEST PIT:	± 6' wide by ± 20' long

NOTES: Soil Sample S-7 collected at ± 5' bgs a horizontal distance of ± 104' from West trench start
* Black fine SAND, SILT and ORGANICS (petroleum odor noted)
**Dark Gray SILT (petroleum odor noted)

TEST TRENCH - 2

120 to 140' Horizontally (West to East)

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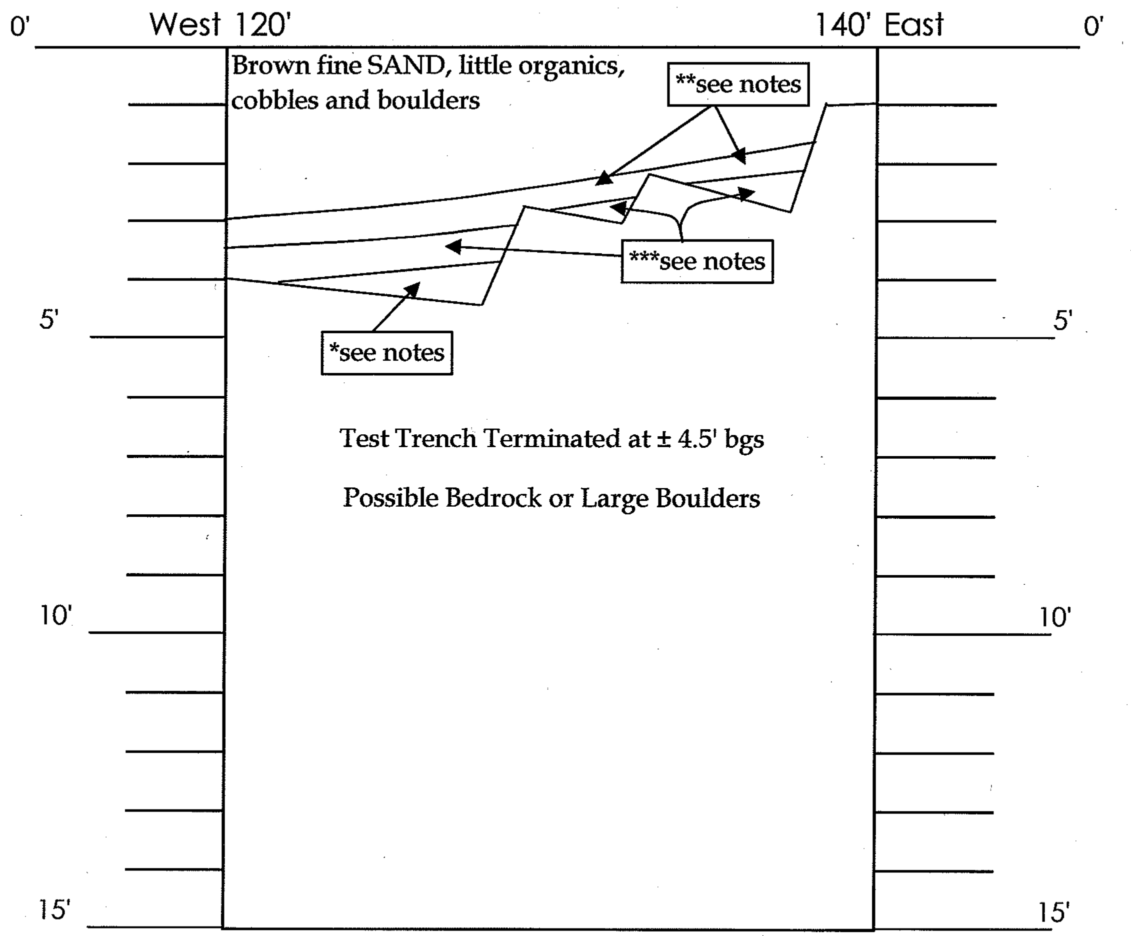
PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/23/2007

TEST TRENCH - 2



TOTAL DEPTH:	± 4.5' bgs
WATER AT:	seep at 3' bgs (see notes)
SIZE OF TEST PIT:	± 6' wide by ± 20' long

NOTES: Soil Sample S-8 collected at ± 3' bgs a horizontal distance of ± 120' from West trench start
Soil Sample S-9 collected at ± 4' bgs a horizontal distance of ± 125' from West trench start
*Gray-green SILT (petroleum odor noted) **Gray (brown mottling) fine SAND and SILT (metallic staining noted)
***Black fine SAND, SILT and ORGANICS (petroleum odor noted)
Water seep at ± 3' bgs a horizontal distance of ± 131' from west trench start exhibited a sheen

TEST TRENCH - 2

140 to 160' Horizontally (West to East)

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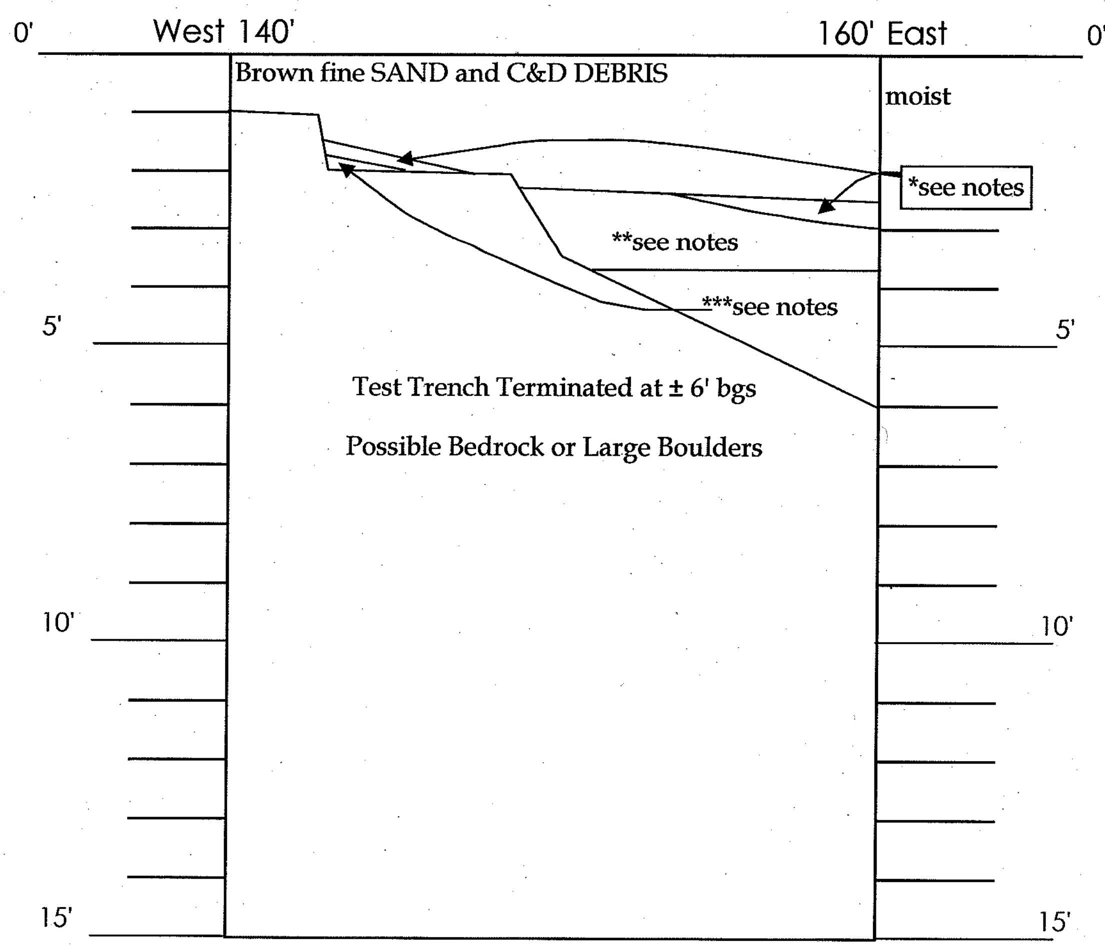
PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/23/2007

TEST TRENCH - 2



TOTAL DEPTH: ± 6' bgs
WATER AT: ± 3' bgs
SIZE OF TEST PIT: ± 6' wide by ± 20' long

NOTES: Soil Sample S-10 collected at ± 2.5' bgs a horizontal distance of ± 149' from West trench start (lab analysis)
Soil Sample S-11 collected at ± 2.75' bgs a horizontal distance of ± 160' from West trench start (organic material)
Soil Sample S-12 collected at ± 3.5' bgs a horizontal distance of ± 160' from West trench start (silt)
*Black SILT, Some fine Sand and Organics (petroleum odor) **Green-gray fine SAND, little silt (dark staining and petroleum odor) ***Green-gray SILT, trace clay (petroleum odor)

TEST TRENCH - 2

160 to 180' Horizontally (West to East)

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PROJECT NAME: 400 Upper Broadway ERP Site
PROJECT NUMBER: 07.1092
LOGGED BY: JD
EXCAVATOR: OP-TECH
EQUIPMENT: Track Mounted Excavator
DATE: 8/23/2007

TEST TRENCH - 2

0' West 160' — 180' East 0'

0'	Brown fine SAND and C&D DEBRIS, little organics	moist
	Black SILT and ORGANICS, Some fine Sand	wet, petroleum odor
	*see notes	
5'	Gray-green SILT, trace clay and fine sand	petroleum odor
	Test Trench Terminated at ± 6' bgs Possible Bedrock or Large Boulders	
10'		10'
15'		15'

TOTAL DEPTH: ± 6' bgs
WATER AT: seep at ± 4' bgs
SIZE OF TEST PIT: ± 6' wide by ± 20' long

NOTES: Soil Sample S-13 collected at ± 4' bgs a horizontal distance of ± 170' from West trench start
*Dark Gray-green fine SAND and SILT (dark gray staining and petroleum odor noted)

TEST TRENCH - 2

180 to 210' Horizontally (West to East)

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PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/23/2007

TEST TRENCH - 2

Depth	West 180' — 210' East	
0'	Brown fine SAND and C&D debris, little organics	
	Black SILT and ORGANICS, Some fine Sand	wet, petroleum odor
	*see notes	
5'	Gray-green SILT, trace clay and very fine sand,	petroleum odor
	Test Trench Terminated at ± 6' bgs Possible Bedrock or Large Boulders	
10'		10'
15'		15'

TOTAL DEPTH: ± 6' bgs
WATER AT: seep at ± 4' bgs
SIZE OF TEST PIT: ± 6' wide by ± 30' long

NOTES: Soil Sample S-14 collected at ± 4.25' bgs a horizontal distance of ± 195' from West trench start
*Dark Gray-green fine SAND and SILT (dark gray staining and petroleum odor noted)

TEST TRENCH - 2

210 to 233' Horizontally (West to East)

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PROJECT NAME: 400 Upper Broadway ERP Site
EXCAVATOR: OP-TECH
PROJECT NUMBER: 07.1092
EQUIPMENT: Track Mounted Excavator
LOGGED BY: JD
DATE: 8/23/2007

TEST TRENCH - 2

0' West 210' — 233' East 0'

0'	Dark Brown fine SAND and ORGANICS	moist
	Dark Gray and Gray-green fine SAND	wet, staining noted
	Black SILT and ORGANICS, Some fine Sand	petroleum odor
5'	Green-gray SILT, Some fine Sand, trace clay	petroleum odor
10'	Test Trench Terminated at ± 9' bgs	
15'		

TOTAL DEPTH: ± 9' bgs
WATER AT: seep at ± 3' bgs
SIZE OF TEST PIT: ± 6' wide by ± 33' long

NOTES: Soil Sample S-15 collected at ± 3' bgs a horizontal distance of ± 220' from West trench start (lab analysis)
Soil Sample S-16 collected at ± 2' bgs a horizontal distance of ± 226' from West trench start

TEST TRENCH - 2

259 to 269' Horizontally (West to East)

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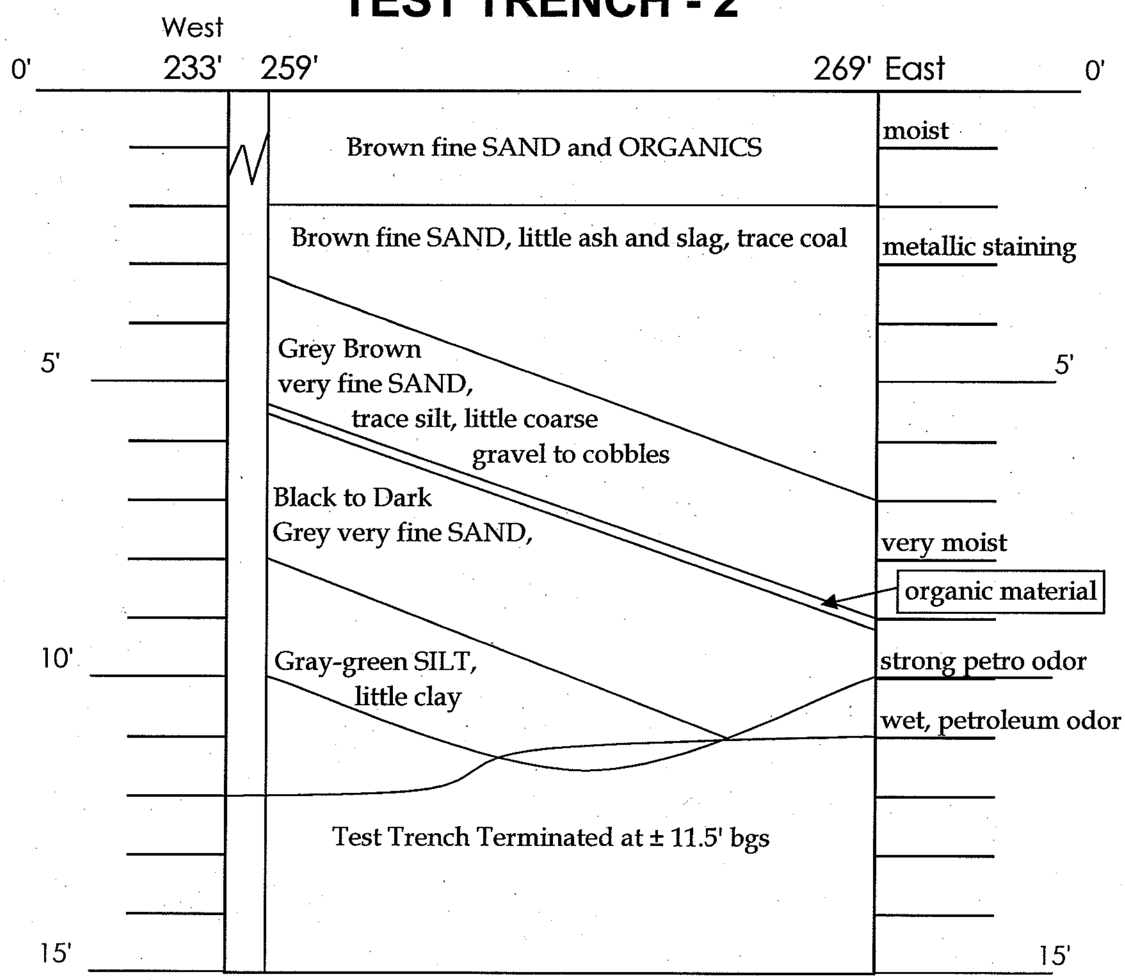
PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/24/2007

TEST TRENCH - 2



TOTAL DEPTH:	± 11.5' bgs
WATER AT:	± 9 to 10.5' bgs
SIZE OF TEST PIT:	± 6' wide by ± 10' long

NOTES: Trench excavated into embankment of the site's east adjoining property to verify soil conditions
Soil Sample S-17 collected at ± 8.5' bgs a horizontal distance of ± 264' from West trench start
Soil Sample S-18 collected at ± 8.5' bgs a horizontal distance of ± 264' from West trench start (lab analysis)
Soil Sample S-19 collected at ± 10.5 to 11' bgs a horizontal distance of ± 264' from West trench start

TEST TRENCH - 3

0 to 15' Horizontally (West to East)

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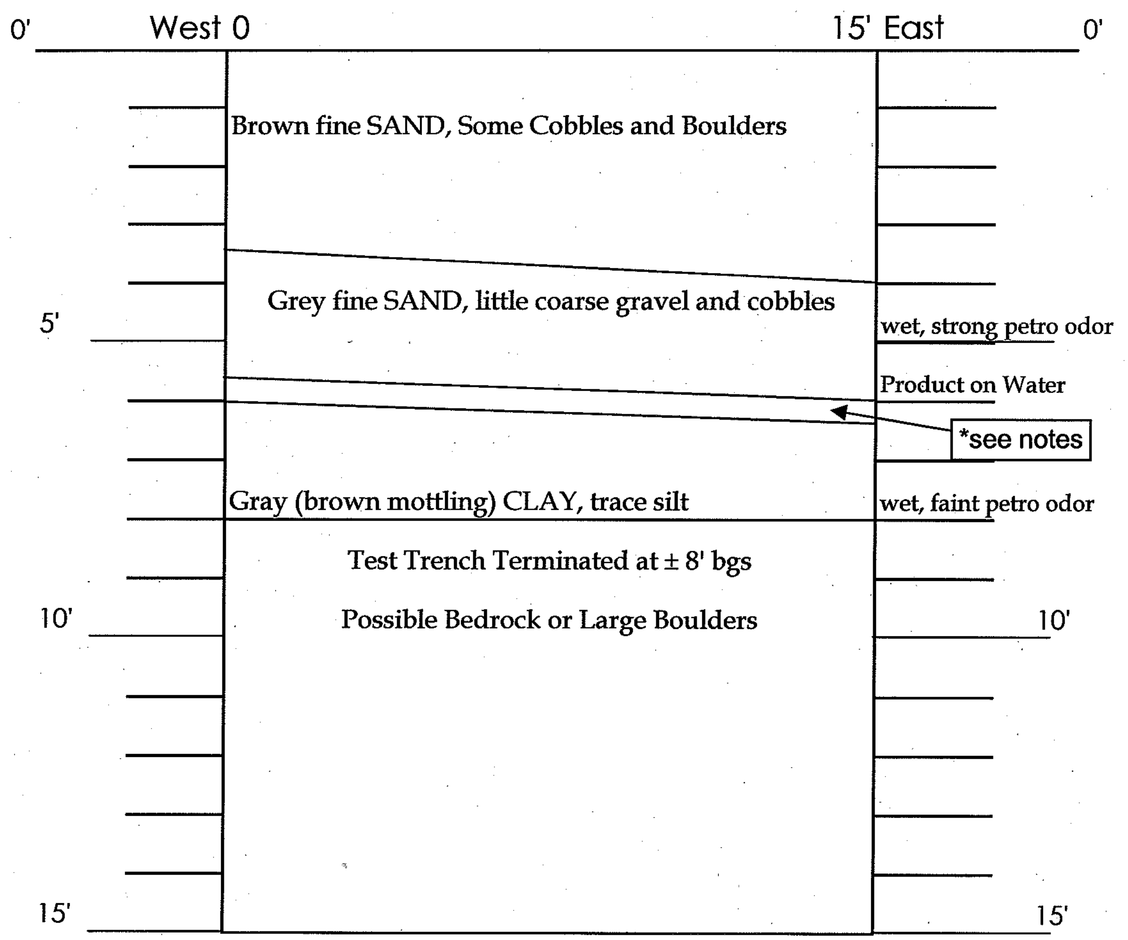
PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mount Excavator
LOGGED BY:	JD	DATE:	8/20/2007

TEST TRENCH - 3



TOTAL DEPTH: ± 8' bgs
WATER AT: ± 7' bgs
SIZE OF TEST PIT: ± 5' wide by ± 15' long

NOTES: Soil Sample S-1 collected at ± 5' bgs a horizontal distance of ± 3' from West trench start
Soil Sample S-2 collected at ± 7' bgs a horizontal distance of ± 5' from West trench start
*Black very fine to fine SAND, organic maerial, wet

TEST TRENCH - 3

15 to 30' Horizontally (West to East)

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PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/20/2007

TEST TRENCH - 3

0' West 15' — 30' East 0'

Depth (West)	Description	Notes (East)
0'	Brown fine SAND, Some Cobbles and Boulders, little organic material, trace timber	
	Brown and Gray fine SAND, little coarse gravel to medium cobble	wet, stained
5'		petro odor
	Black fine SAND and ORGANICS	
	Grey (brown mottling) CLAY, trace silt	wet
	Test Trench Terminated at ± 7.5' bgs	
	Possible Bedrock or Large Boulders	
10'		
15'		

TOTAL DEPTH: ± 7.5' bgs

WATER AT: water seam at ± 6' bgs

SIZE OF TEST PIT: ± 5' wide by ± 15' long

NOTES: slight sheen observed on accumulated water in excavation
Soil Sample S-3 collected at ± 5.5' bgs a horizontal distance of ± 18' from West trench start (lab analysis)
Soil Sample S-4 collected at ± 6-6.5' bgs a horizontal distance of ± 20' from West trench start
Soil Sample S-5 collected at ± 5' bgs a horizontal distance of ± 30' from West trench start

TEST TRENCH - 3

30 to 60' Horizontally (West to East)

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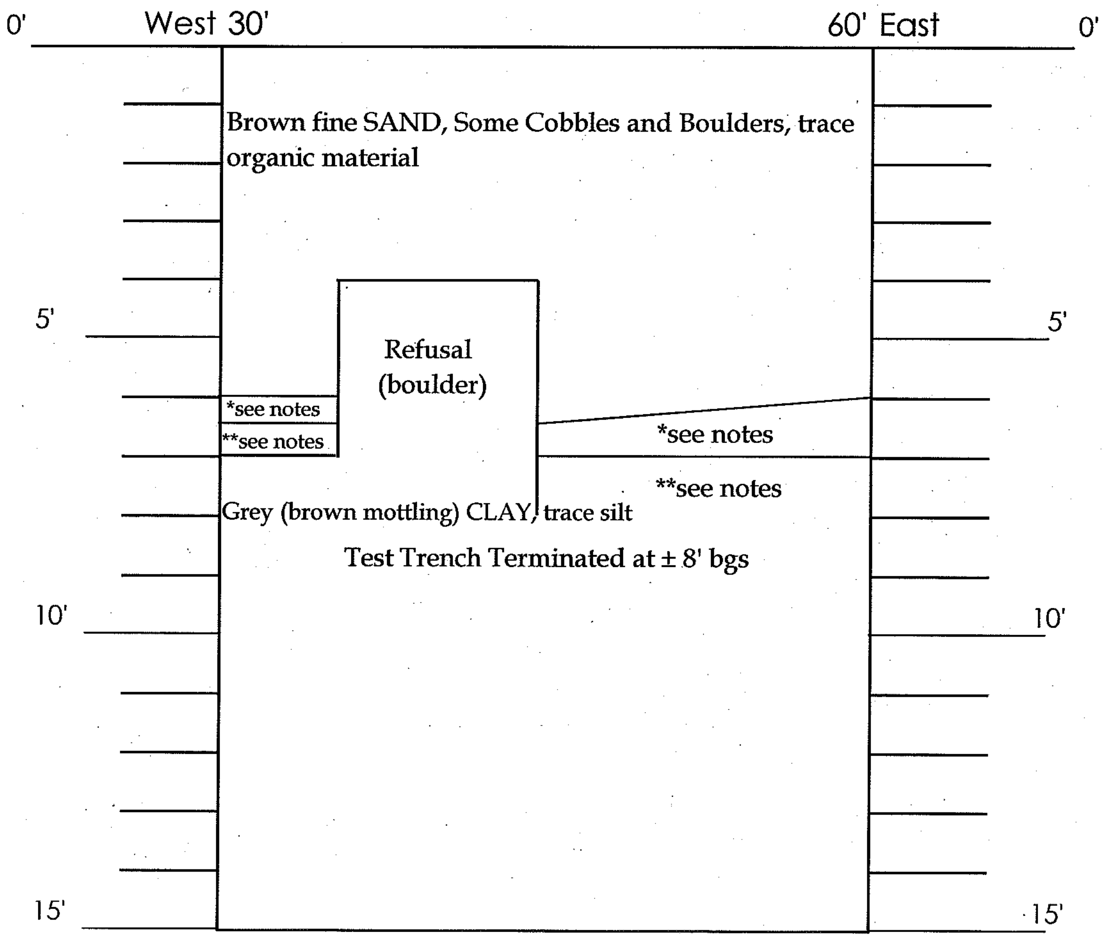
PROJECT NAME: 400 Upper Broadway ERP Site
EXCAVATOR: OP-TECH
PROJECT NUMBER: 07.1092
EQUIPMENT: Track Mounted Excavator
LOGGED BY: JD
DATE: 8/20/2007

TEST TRENCH - 3



TOTAL DEPTH: ± 8' bgs
WATER AT: none encountered
SIZE OF TEST PIT: ± 5' wide by ± 30' long

NOTES: * ± 6'-6.5' bgs - Black fine SAND and ORGANICS (very moist to wet)
** ± 6.5' - 7' bgs - Gray (brown mottling) CLAY, trace silt (very moist to wet)
Soil Sample S-6 collected at ± 6.5' bgs a horizontal distance of ± 50' from West trench start

TEST TRENCH - 3

60 to 80' Horizontally (West to East)

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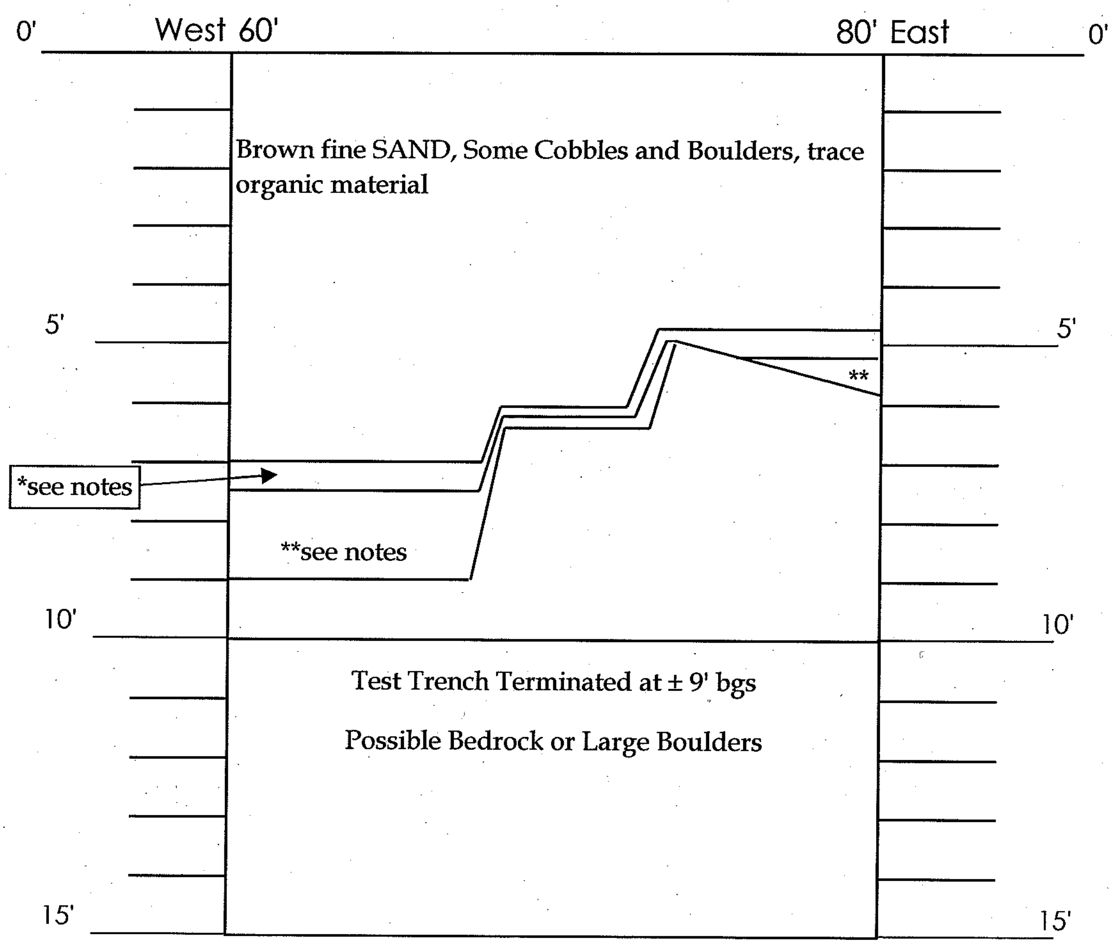
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/21/2007

TEST TRENCH - 3



TOTAL DEPTH:	± 9' bgs
WATER AT:	none encountered
SIZE OF TEST PIT:	± 6' wide by ± 20' long

NOTES: Soil Sample S-7 collected at ± 8' bgs a horizontal distance of ± 65' from West trench start
* ± 6-6.5' bgs - Black fine SAND, SILT and ORGANICS (wet)
** Gray SILT, little clay, trace fine sand (wet)

TEST TRENCH - 3

80 to 100' Horizontally (West to East)

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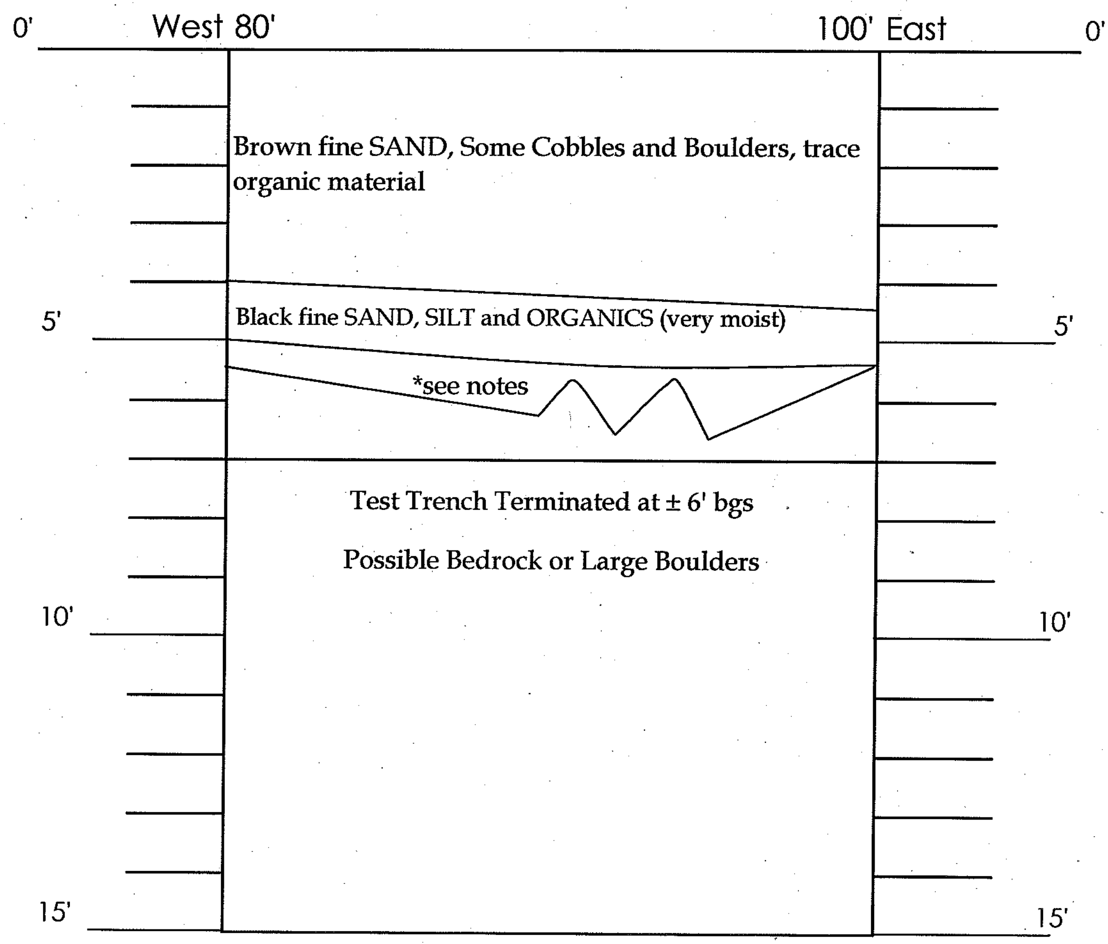
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/21/2007

TEST TRENCH - 3



TOTAL DEPTH: ± 6' bgs

WATER AT: none encountered

SIZE OF TEST PIT: ± 6' wide by ± 20' long

NOTES: *± 5-5.5' bgs Gray (brown mottling) SILT, little clay
No samples collected

TEST TRENCH - 3

100 to 125' Horizontally (West to East)

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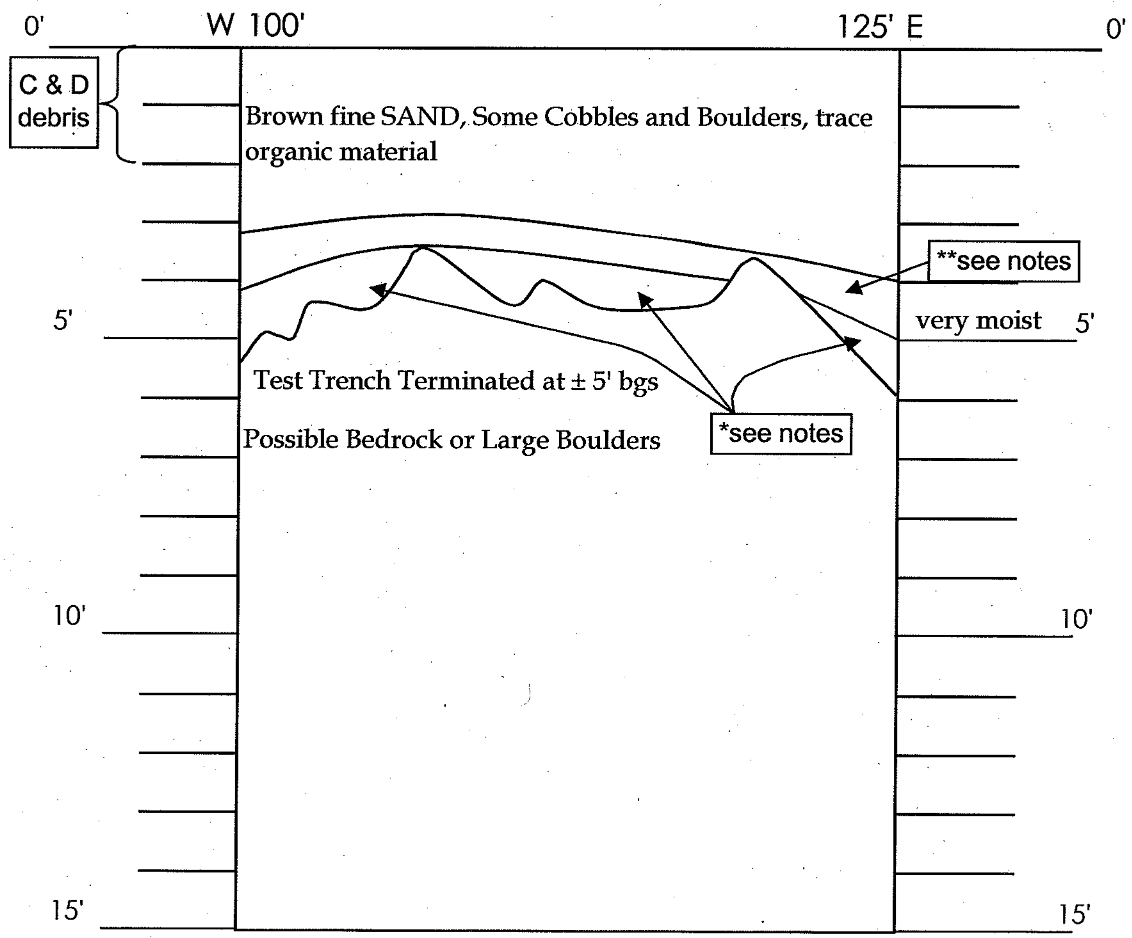
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/21/2007

TEST TRENCH - 3



TOTAL DEPTH:	± 5' bgs
WATER AT:	none encountered
SIZE OF TEST PIT:	± 6' wide by ± 25' long

NOTES: Soil Sample S-8 collected at ± 4' bgs a horizontal distance of ± 122' from West trench start (lab analysis)
Soil Sample S-9 collected at ± 4' bgs a horizontal distance of ± 107' from West trench start
Soil Sample S-10 collected at ± 6' bgs a horizontal distance of ± 125' from West trench start
*Gray SILT, little clay
**Black fine SAND, SILT and ORGANICS

TEST TRENCH - 3

125 to 145' Horizontally (West to East)

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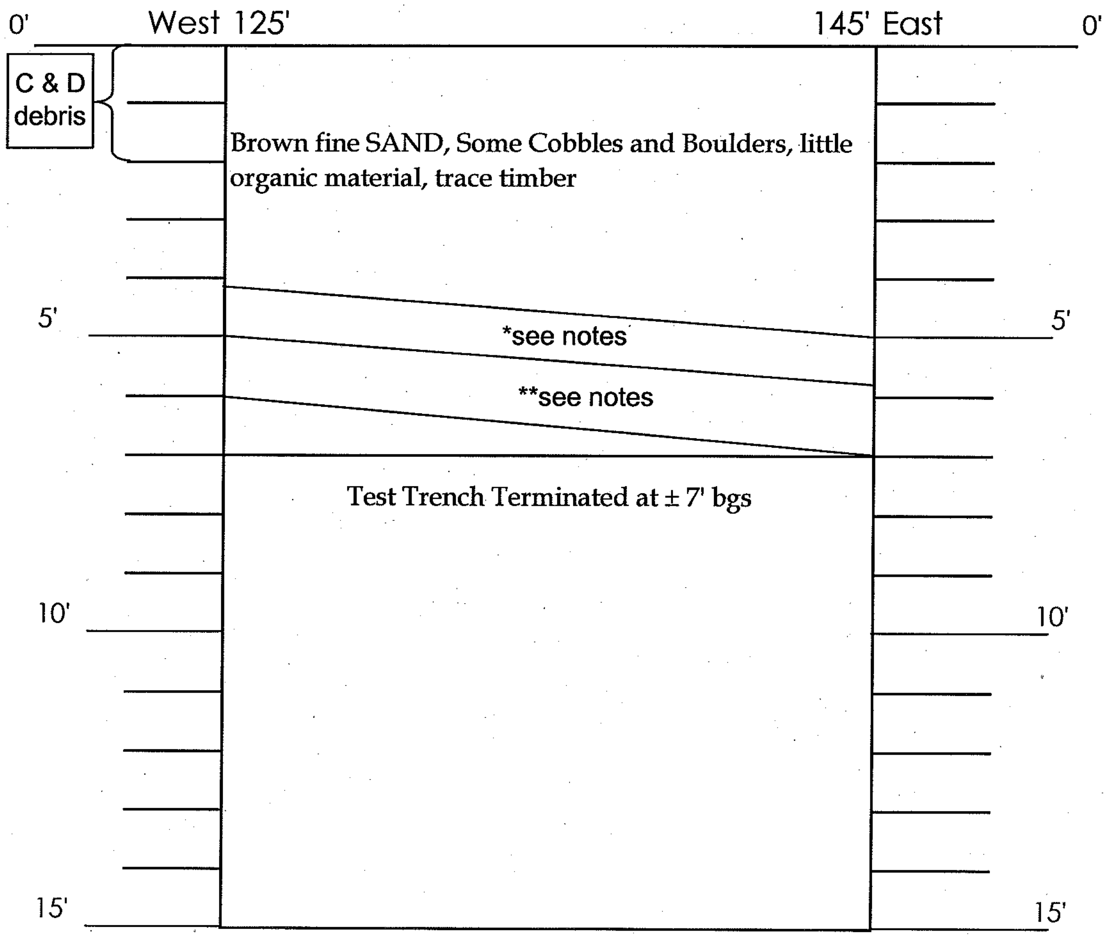
PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/21/2007

TEST TRENCH - 3



TOTAL DEPTH: ± 7' bgs
WATER AT: water seam at ± 5' bgs
SIZE OF TEST PIT: ± 6' wide by ± 20' long

NOTES: Soil Sample S-11 collected at ± 4' bgs a horizontal distance of ± 128' from West trench start
Soil Sample S-12 collected at ± 6' bgs a horizontal distance of ± 138' from West trench start
*Black fine SAND, SILT and ORGANICS
**Gray-green SILT, little clay (dark gray staining and petroleum odor)

TEST TRENCH - 3

145 to 165' Horizontally (West to East)

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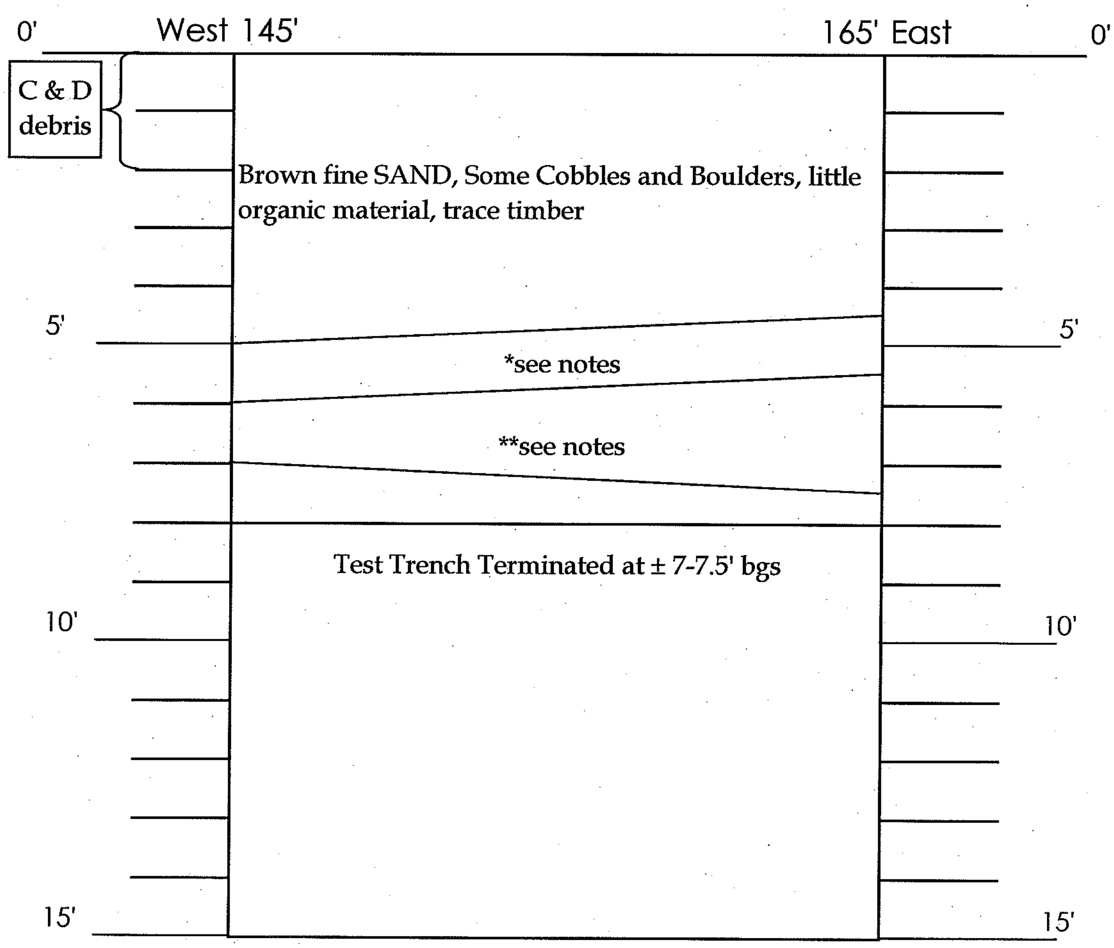
PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/21/2007

TEST TRENCH - 3



TOTAL DEPTH:	± 7-7.5' bgs
WATER AT:	water seam at ± 5' bgs
SIZE OF TEST PIT:	± 6' wide by ± 20' long

NOTES: Soil Sample S-13 collected at ± 5-5.5' bgs a horizontal distance of ± 149' from West trench start
*Black fine SAND, SILT and ORGANICS (wet, petroleum odor)
**Gray-green SILT, trace clay and fine sand (wet, faint petroleum odor)

TEST TRENCH - 3

165 to 185' Horizontally (West to East)

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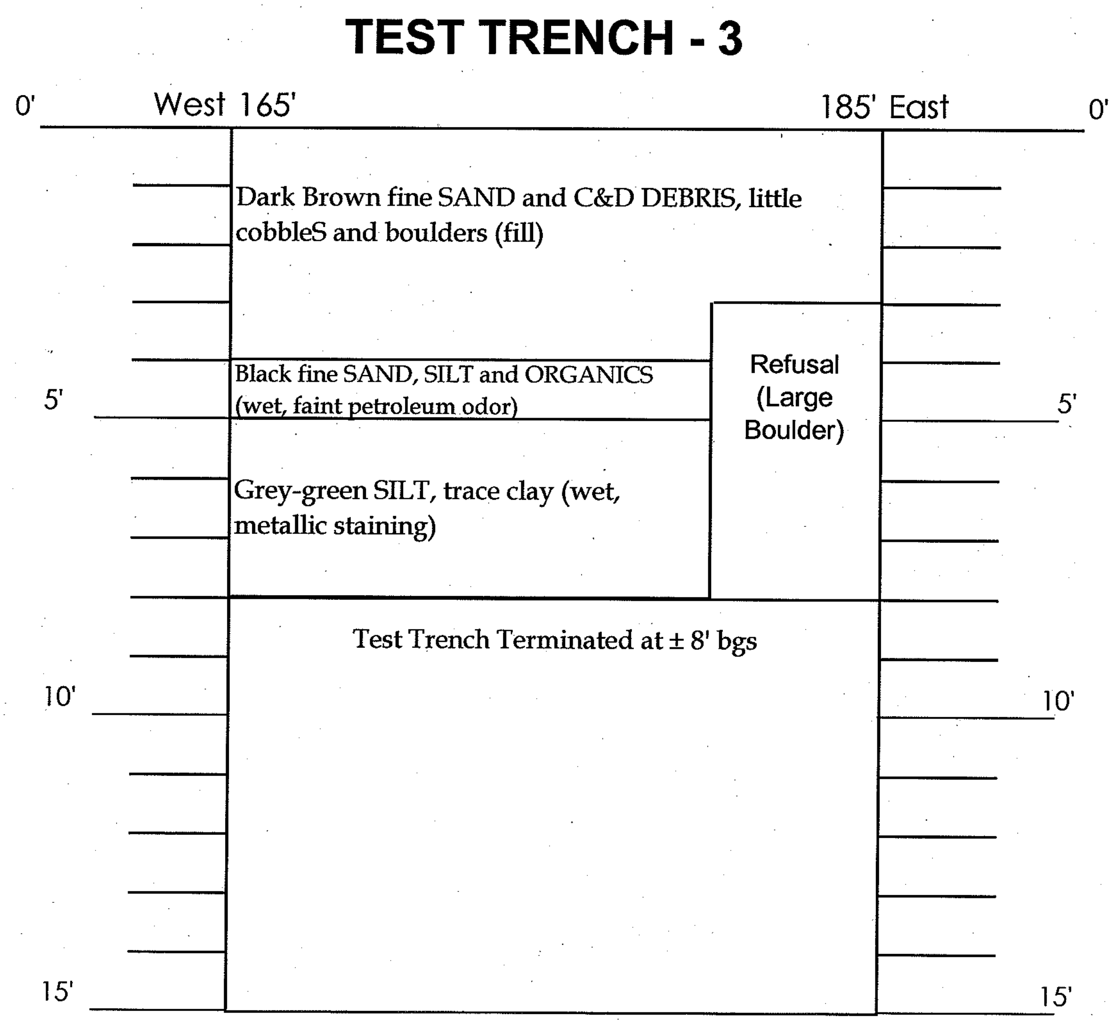
PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/22/2007



TOTAL DEPTH: ± 8' bgs

WATER AT: water seam at ± 4' bgs

SIZE OF TEST PIT: ± 6' wide by ± 20' long

NOTES: Soil Sample S-14 collected at ± 6.5' bgs a horizontal distance of ± 174' from West trench start
Soil Sample S-15 collected at ± 4.5' bgs a horizontal distance of ± 179' from West trench start

TEST TRENCH - 3

185 to 223' Horizontally (West to East)

C.T. MALE ASSOCIATES, P.C.
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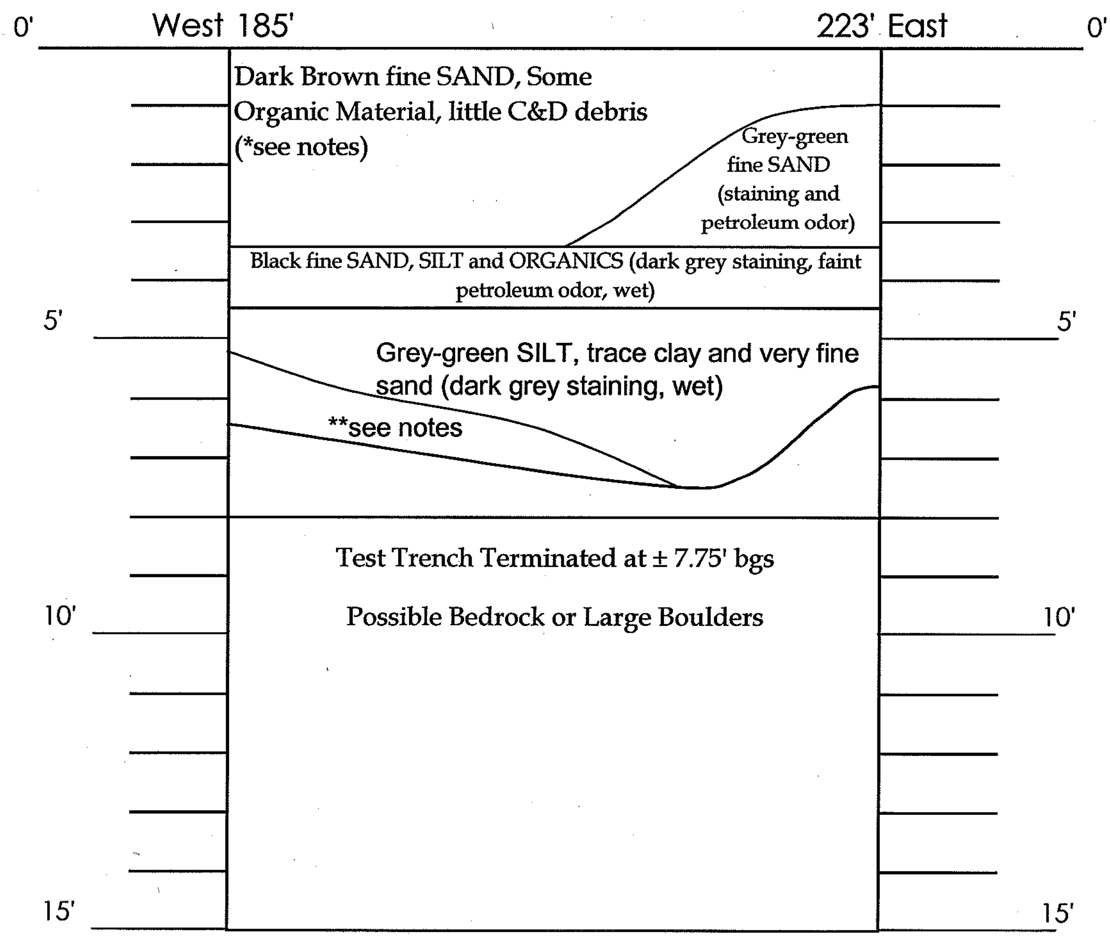
PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/22/2007

TEST TRENCH - 3



TOTAL DEPTH:	± 7.75' bgs
WATER AT:	± 5' bgs
SIZE OF TEST PIT:	± 6' wide by ± 38' long

NOTES: Soil Sample S-16 collected at ± 1.5' bgs a horizontal distance of ± 218' from West trench start (lab analysis)
Soil Sample S-17 collected at ± 5.5' bgs a horizontal distance of ± 218' from West trench start
Soil Sample S-18 collected at ± 4.5' bgs a horizontal distance of ± 207' from West trench start
Soil Sample S-19 collected at ± 4.5' bgs a horizontal distance of ± 202' from West trench start (lab analysis)
*C&D debris ends at ± 195' from west trench start
**Gray-green (brown mottling) SILT, trace clay (wet)

TEST TRENCH - 3

243 to 254' Horizontally (West to East)

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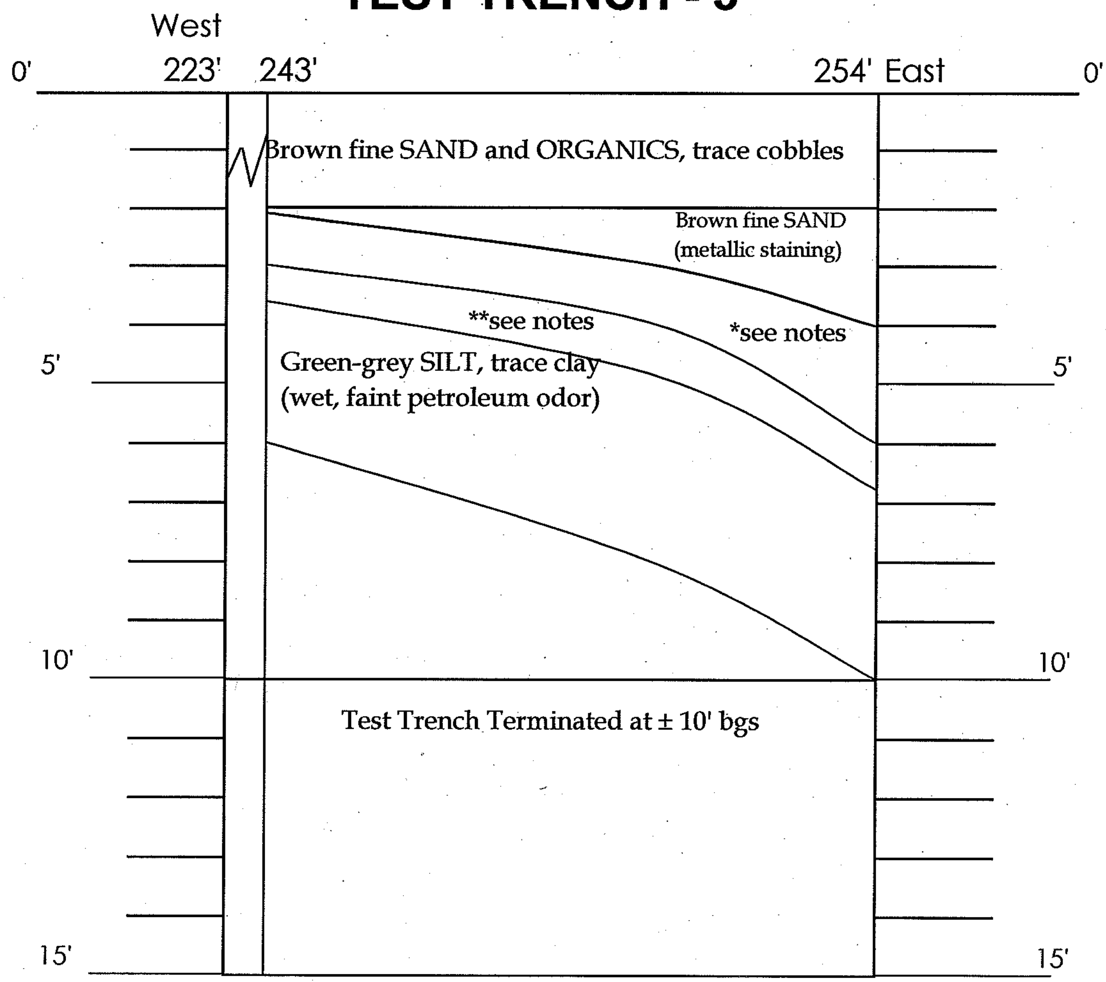
PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/24/2007

TEST TRENCH - 3



TOTAL DEPTH: ± 10' bgs

WATER AT: ± 5.5' bgs

SIZE OF TEST PIT: ± 6' wide by ± 10' long

NOTES: Soil Sample S-20 collected at ± 4' bgs a horizontal distance of ± 248' from West trench start

Soil Sample S-21 collected at ± 7.5' bgs a horizontal distance of ± 254' from West trench start

Soil Sample S-22 collected at ± 6-6.5' bgs a horizontal distance of ± 254' from West trench start

*Gray/Brown very fine SAND, trace silt (staining and petro odor)

**Black fine SAND, SILT, ORGANICS (petro odor) Excavation extended into site's eastern embankment

TEST TRENCH - 4

0 to 20' Horizontally (West to East)

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PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/16/2007

TEST TRENCH - 4

0' West 0' 20' East 0'

Brown fine SAND, little cobbles and boulders, trace timber (moist)

5' 5'

seam of water

Gray (grades to brown) CLAY (moist)

10' 10'

Test Trench Terminated at ± 11' bgs

15' 15'

TOTAL DEPTH: ± 11' bgs

WATER AT: ± 7' bgs (see notes)

SIZE OF TEST PIT: ± 6' wide by ± 20' long

NOTES: Soil Sample S-1 collected at ± 11' bgs a horizontal distance of ± 5' from West trench start
Soil Sample S-2 collected at ± 8' bgs a horizontal distance of ± 20' from West trench start
Seam of water at sand/clay interface

TEST TRENCH - 4

20 to 40' Horizontally (West to East)

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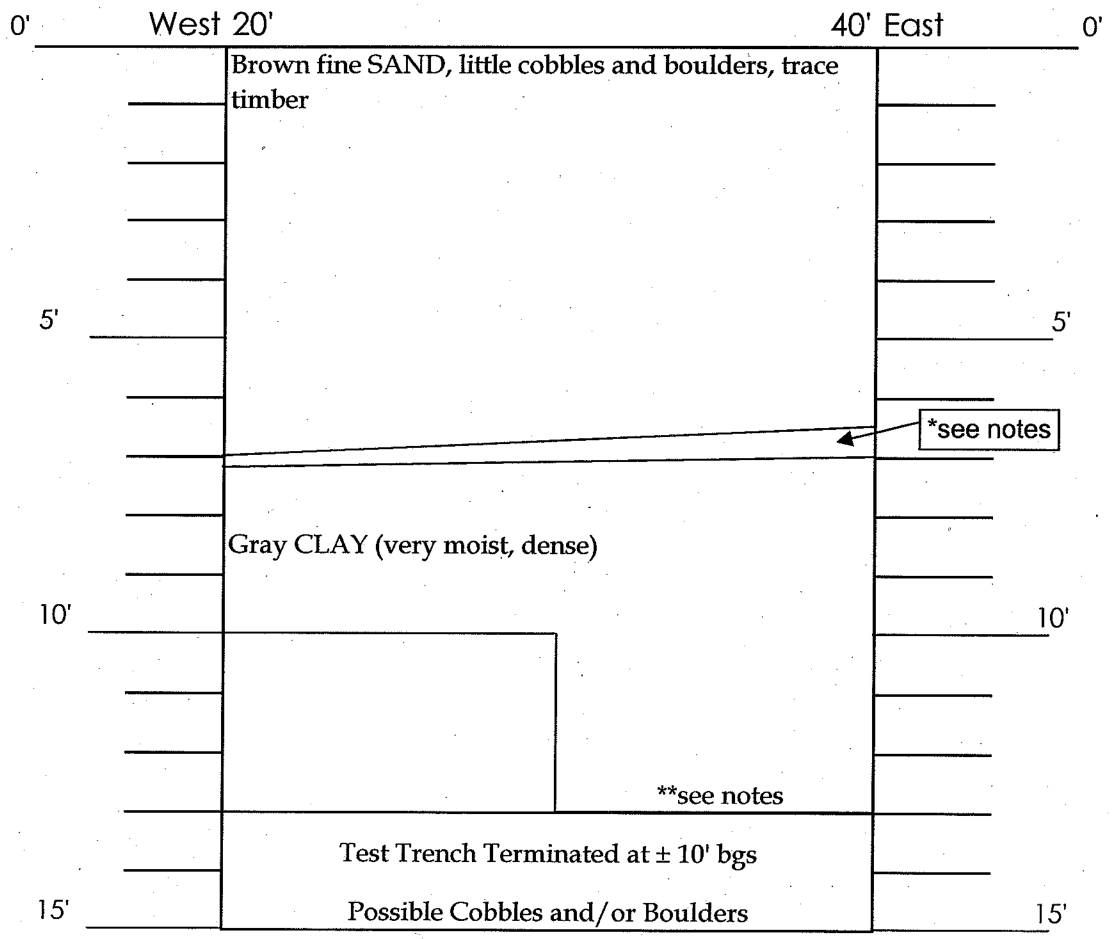
PROJECT NAME: 400 Upper Broadway ERP Site
EXCAVATOR: OP-TECH
PROJECT NUMBER: 07.1092
EQUIPMENT: Track Mounted Excavator
LOGGED BY: JD
DATE: 8/16/2007

TEST TRENCH - 4



TOTAL DEPTH: ± 10' bgs
WATER AT: water seam ± 7' bgs
SIZE OF TEST PIT: ± 6' wide by ± 20' long

NOTES: Soil Sample S-3 collected at ± 7' bgs a horizontal distance of ± 45' from West trench start (lab analysis)
* at ± 7' - Black fine SAND and Organics (wet, faint petroleum odor)
** excavated to limit of excavator arm (~13) to investigate beneath clay layer, encountered either large cobbles and/or bedrock

TEST TRENCH - 4

40 to 60' Horizontally (West to East)

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PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/16/2007

TEST TRENCH - 4

0' West 40' — 60' East 0'

Brown fine SAND, Some Cobbles and Boulders, trace timber and brick (moderately dense, moist (fill))

5'

Green-Gray SILT and CLAY (dense, moist)

*see notes

Gray CLAY (dense, very moist)

10'

Test Trench Terminated at ± 10' bgs

15'

TOTAL DEPTH: ± 10' bgs

WATER AT: water seam ± 7' bgs

SIZE OF TEST PIT: ± 6' wide by ± 20' long

NOTES: Soil Sample S-4 collected at ± 7' bgs a horizontal distance of ± 45' from West trench start (lab analysis)
Soil Sample S-5 collected at ± 7' bgs a horizontal distance of ± 55' from West trench start
* 7'-7.5' - Black fine SAND and Organics (wet)

TEST TRENCH - 4

60 to 80' Horizontally (West to East)

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PROJECT NAME: 400 Upper Broadway ERP Site
PROJECT NUMBER: 07.1092
LOGGED BY: JD
EXCAVATOR: OP-TECH
EQUIPMENT: Track Mounted Excavator
DATE: 8/16/2007

TEST TRENCH - 4

0' West 60' 80' East 0'

Brown fine SAND, Some Cobbles and Boulders, trace timber (moist) (fill)

5' 5'

Black and Brown fine SAND (wet, organic material noted)

10' 10'

Gray CLAY (dense, very moist)

Test Trench Terminated at ± 10.5' bgs

15' 15'

TOTAL DEPTH: ± 10.5' bgs
WATER AT: water seam ± 7-8' bgs
SIZE OF TEST PIT: ± 6' wide by ± 20' long

NOTES: Soil Sample S-6 collected at ± 9' bgs a horizontal distance of ± 70' from West trench start

TEST TRENCH - 4

80-100' Horizontally (West to East)

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PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/16/2007

TEST TRENCH - 4

0' W 80' 100' E 0'

Brown fine SAND, Some Cobbles and Boulders, trace brick, metal pipes and scrap metal (moderately dense, moist)

5' 5'

Black and Brown fine SAND, Some Organics (wet)

10' Gray CLAY (dense, very moist) 10'

Test Trench Terminated at ± 10' bgs

15' 15'

TOTAL DEPTH: ± 10' bgs
WATER AT: water seam ± 7' bgs
SIZE OF TEST PIT: ± 6' wide by ± 20' long

NOTES: Soil Sample S-7 collected at ± 7' bgs a horizontal distance of ± 95' from West trench start

TEST TRENCH - 4

100 to 120' (West to East)

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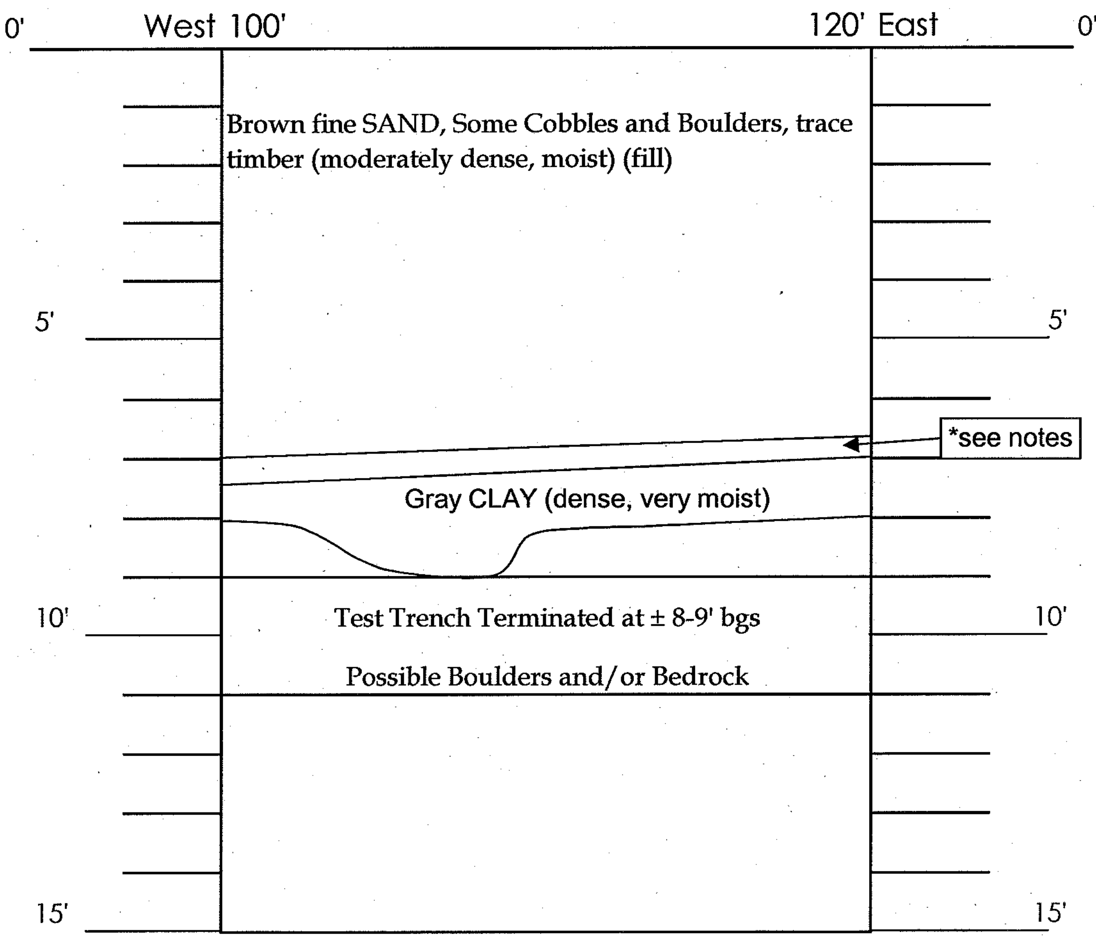
PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/16/2007

TEST TRENCH - 4



TOTAL DEPTH:	± 8-9' bgs
WATER AT:	water seam ± 7' bgs
SIZE OF TEST PIT:	± 6' wide by ± 20' long

NOTES: Soil Sample S-8 collected at ± 7' bgs a horizontal distance of ± 106' from West trench start
* Black fine SAND and ORGANIC MATERIAL (organic odor, wet, root structures)

TEST TRENCH - 4

120 to 140' Horizontally (West to East)

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PROJECT NAME: 400 Upper Broadway ERP Site
PROJECT NUMBER: 07.1092
LOGGED BY: JD
EXCAVATOR: OP-TECH
EQUIPMENT: Track Mounted Excavator
DATE: 8/16/2007

TEST TRENCH - 4

0' West 120' — 140' East 0'

Brown fine SAND, Some Cobbles and Boulders (moderately dense, moist) (fill)

5'

*see notes

Gray CLAY (dense, very moist, little dark grey to black staining, faint petroleum odor)

10'

Test Trench Terminated at ± 9' bgs

15'

TOTAL DEPTH: ± 9' bgs
WATER AT: water seam ± 7' bgs
SIZE OF TEST PIT: ± 6' wide by ± 20' long

NOTES: * Black very fine to fine SAND, organic material, root structures, wet, faint petroleum odor
Soil Sample S-9 collected at ± 7' bgs a horizontal distance of ± 135' from West trench start
Soil Sample S-10 collected at ± 7.5-8' bgs a horizontal distance of ± 135' from West trench start

TEST TRENCH - 4

140 to 160' Horizontally (West to East)

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PROJECT NAME: 400 Upper Broadway ERP Site
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PROJECT NUMBER: 07.1092
EQUIPMENT: Track Mounted Excavator
LOGGED BY: JD
DATE: 8/17/2007

TEST TRENCH - 4

0' West 140' — 160' East 0'

0'–±5.5'	Brown fine SAND, Some Cobbles and small Boulders, little organic material, trace scrap metal (moist)
±5.5'–±7.5'	Brown fine SAND, Some Cobbles and small Boulders, little organic material (very moist, dark gray to black staining, petroleum odor)
±7.5'–±9'	Gray-green CLAY (petroleum odor, dense, very moist)
±9'–15'	Test Trench Terminated at ± 9' bgs Possible Bedrock and/or Large Boulders

TOTAL DEPTH: ± 9' bgs
WATER AT: none encountered
SIZE OF TEST PIT: ± 6' wide by ± 20' long

NOTES: Soil Sample S-11 collected at ± 6.5-7' bgs a horizontal distance of ± 147' from West trench start
Soil Sample S-12 collected at ± 8-9' bgs a horizontal distance of ± 147' from West trench start

TEST TRENCH - 4

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PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/17/2007

TEST TRENCH - 4

0' West 160' — 170' East 0'

0'–±6'	Brown fine SAND, Some Cobbles and medium Boulders, little scrap metal, trace deteriorated 55 gallon drums (slight black staining)	
5'		5'
±6'–±7'	Black fine SAND and ORGANICS (very moist) (petroleum-type odor)	
±7'–10'	Grey with little green CLAY, little silt (very moist) (petroleum odor)	
10'	Test Trench Terminated at ± 10' bgs Possible Bedrock and/or Large Boulders	10'
15'		15'

TOTAL DEPTH: ± 10' bgs
WATER AT: none encountered
SIZE OF TEST PIT: ± 5' wide by ± 10' long

NOTES: Soil Sample S-13 collected at ± 9' bgs a horizontal distance of ± 163' from West trench start
55-gallon drums set aside to be handled as part of IRM

TEST TRENCH - 4

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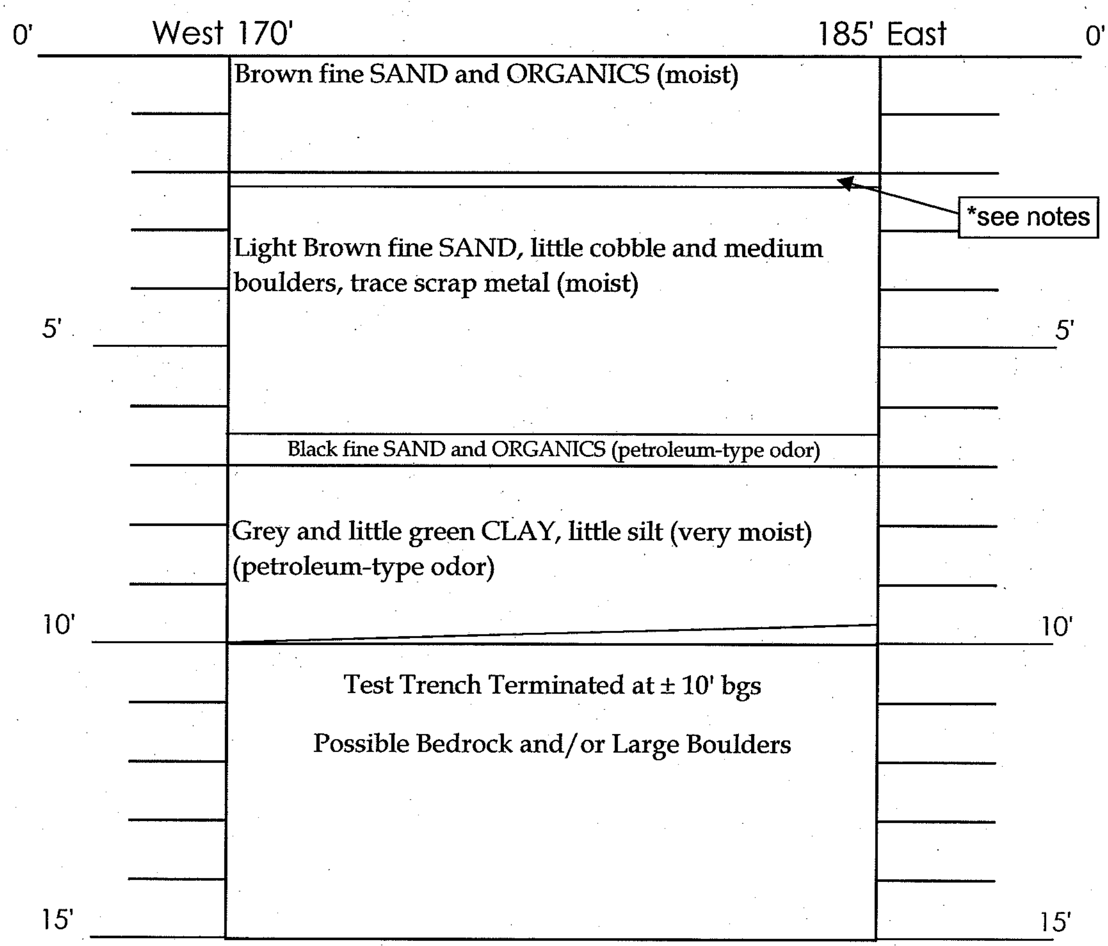
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/17/2007

TEST TRENCH - 4



TOTAL DEPTH: ± 10' bgs
WATER AT: Water seep at ± 8' bgs
SIZE OF TEST PIT: ± 5' wide by ± 15' long

NOTES: Soil Sample S-14 collected at ± 7' bgs a horizontal distance of ± 174' from West trench start
* ±2' bgs to ±2.25' bgs - thin layer of ash

TEST TRENCH - 4

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PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/17/2007

TEST TRENCH - 4

0' West 185' 200' East 0'

Brown to Dark Brown fine SAND and ORGANICS

Light Brown fine SAND (moist)

5' 5'

Dark Brown fine to medium SAND, Some Organics, trace black sand (very moist)

Grey and trace green CLAY, little silt (very moist)

10' Test Trench Terminated at ± 9' bgs 10'

Possible Bedrock and/or Large Boulders

15' 15'

TOTAL DEPTH: ± 10' bgs
WATER AT: none encountered
SIZE OF TEST PIT: ± 5' wide by ± 15' long

NOTES: Soil Sample S-15 collected at ± 6' bgs a horizontal distance of ± 190' from West trench start
Soil Sample S-16 collected at ± 7' to 8' bgs a horizontal distance of ± 190' from West trench start

TEST TRENCH - 4

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PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/17/2007

TEST TRENCH - 4

0' West 200' — 215' East 0'

Dark brown fine SAND and ORGANICS

*see notes

Light Brown fine SAND (moist)

5'

Dark Brown fine to medium SAND, Some Organics (very moist)

Grey with trace green CLAY (very moist)

10'

Test Trench Terminated at ± 8.5' to 9' bgs

15'

TOTAL DEPTH:	± 8.5 to 9"' bgs
WATER AT:	none encountered
SIZE OF TEST PIT:	± 5' wide by ± 15' long

NOTES: Soil Sample S-17 collected at ± 7' bgs a horizontal distance of ± 205' from West trench start
* ± 1' to 1.25' bgs - thin layer of ash

TEST TRENCH - 4

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PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/17/2007

TEST TRENCH - 4

0' West 215' — 230' Esat 0'

Brown very fine to fine SAND and ORGANICS (moist)

asphalt

Light Brown fine SAND (moist)

Dark Brown to Brown fine SAND (slight black and maroon metallic staining)

5' — 5'

Green-grey very fine SAND and SILT, little clay and fine to medium gravel, trace medium to coarse sand (very moist)

10' — 10'

Test Trench Terminated at ± 11' bgs

15' — 15'

TOTAL DEPTH:	11'
WATER AT:	9'
SIZE OF TEST PIT:	5' x 15'

NOTES: Soil Sample S-18 collected at ± 5' bgs a horizontal distance of ± 223' from West trench start
Soil Sample S-19 collected at ± 10' bgs a horizontal distance of ± 223' from West trench start

TEST TRENCH - 5

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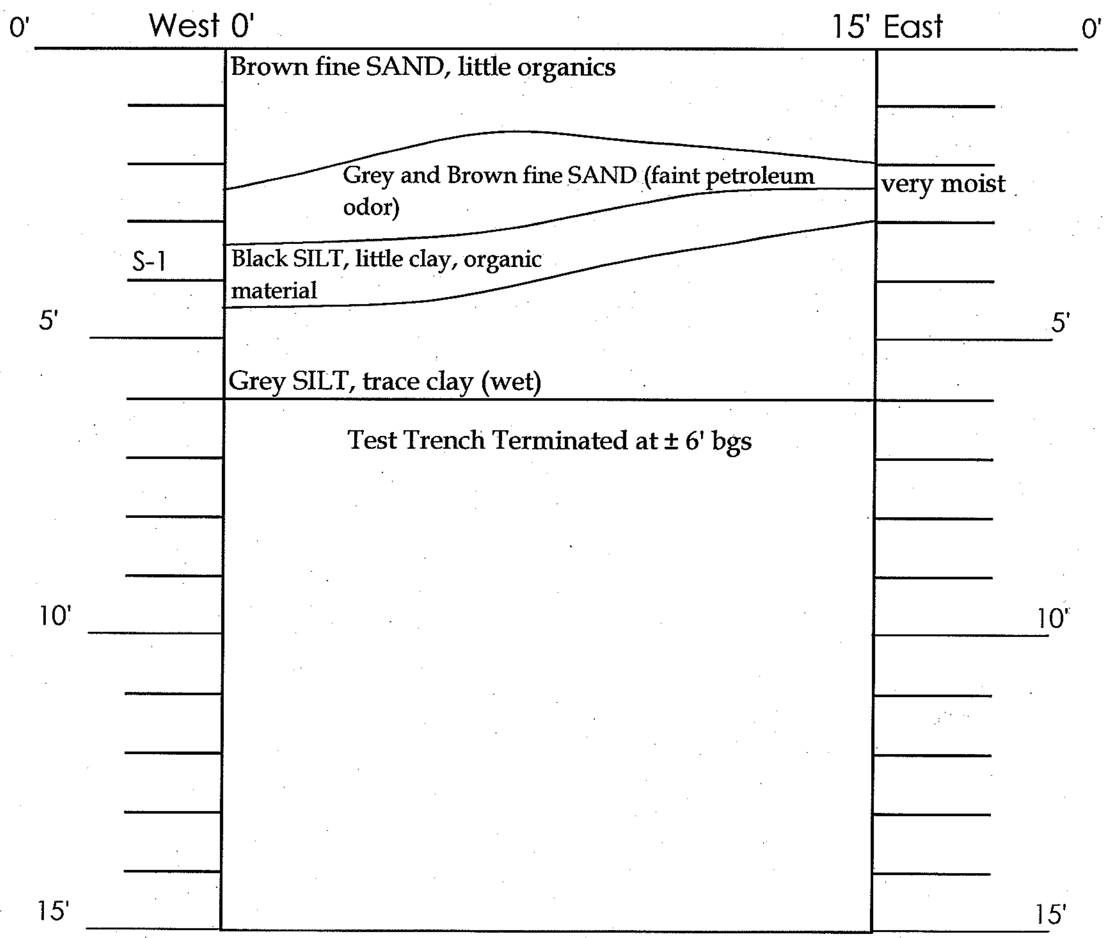
PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/28/2007

TEST TRENCH - 5



TOTAL DEPTH: ± 6' bgs
WATER AT: wet at ± 4' bgs
SIZE OF TEST PIT: ± 8' wide x 15' long

NOTES: Soil sample S-1 collected at ± 3.25' bgs a horizontal distance of ± 8' from West trench start

TEST TRENCH - 5

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PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/29/2007

TEST TRENCH - 5

0' West 15' — 35' East 0'

0'		Brown fine SAND and ORGANICS (moist)
	S-2	Brown and Grey fine to very fine SAND, little silt (very moist) (faint petroleum-type odor, trace metallic staining)
		Black fine SAND, SILT and ORGANICS (very moist to wet)
5'	S-3	Grey SILTY and CLAY (very moist)
		Test Trench Terminated at ± 5.5' bgs
10'		
15'		

TOTAL DEPTH: ± 5.5' bgs
WATER AT: none observed
SIZE OF TEST PIT: ± 6' wide x 20' long

NOTES: Soil sample S-2 collected at ± 2.5' bgs a horizontal distance of ± 23' from West trench start
Soil sample S-3 collected at ± 5' bgs a horizontal distance of ± 20' from West trench start

TEST TRENCH - 5

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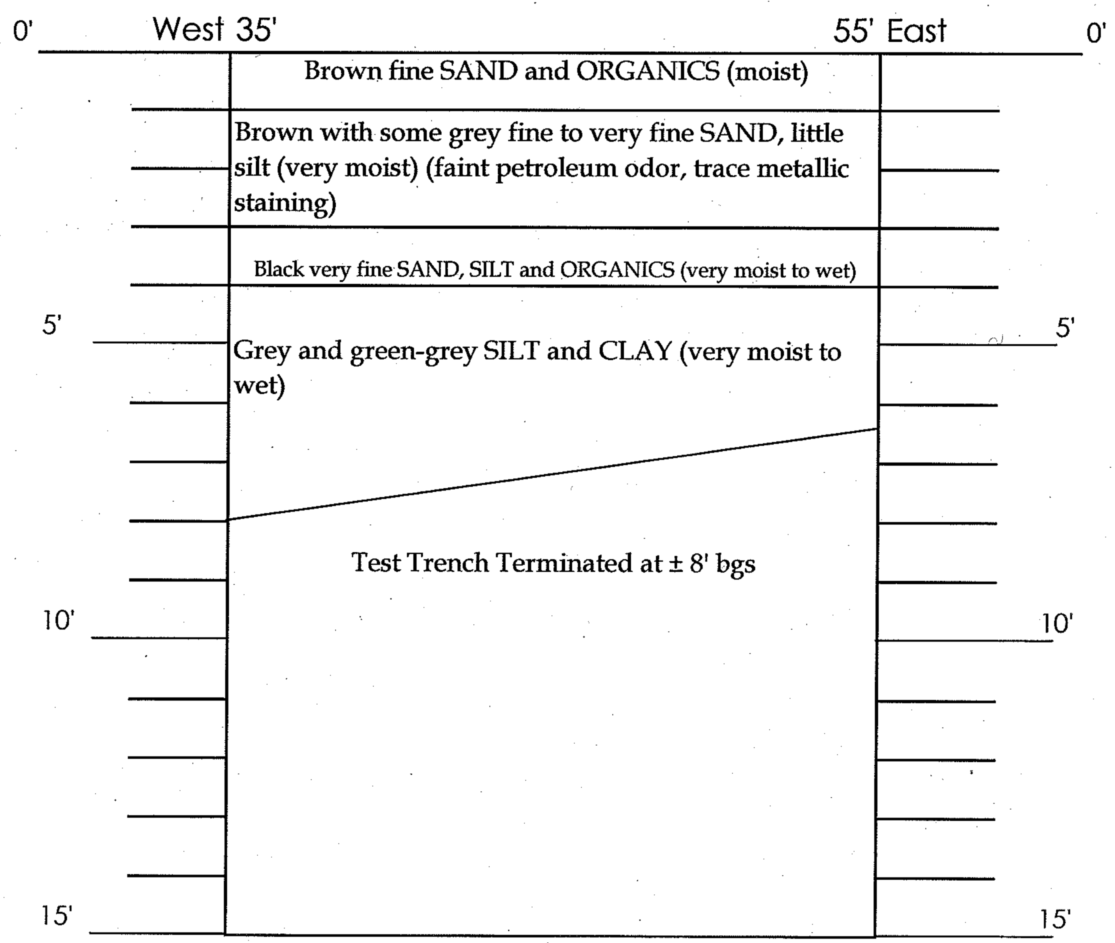
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/29/2007

TEST TRENCH - 5



TOTAL DEPTH:	± 8' bgs
WATER AT:	water seep at ± 4' bgs
SIZE OF TEST PIT:	± 6' wide x 20' long

NOTES: Soil sample S-4 collected at ± 5' bgs a horizontal distance of ± 35' from West trench start
Soil sample S-5 collected at ± 1.5' bgs a horizontal distance of ± 50' from West trench start

TEST TRENCH - 5

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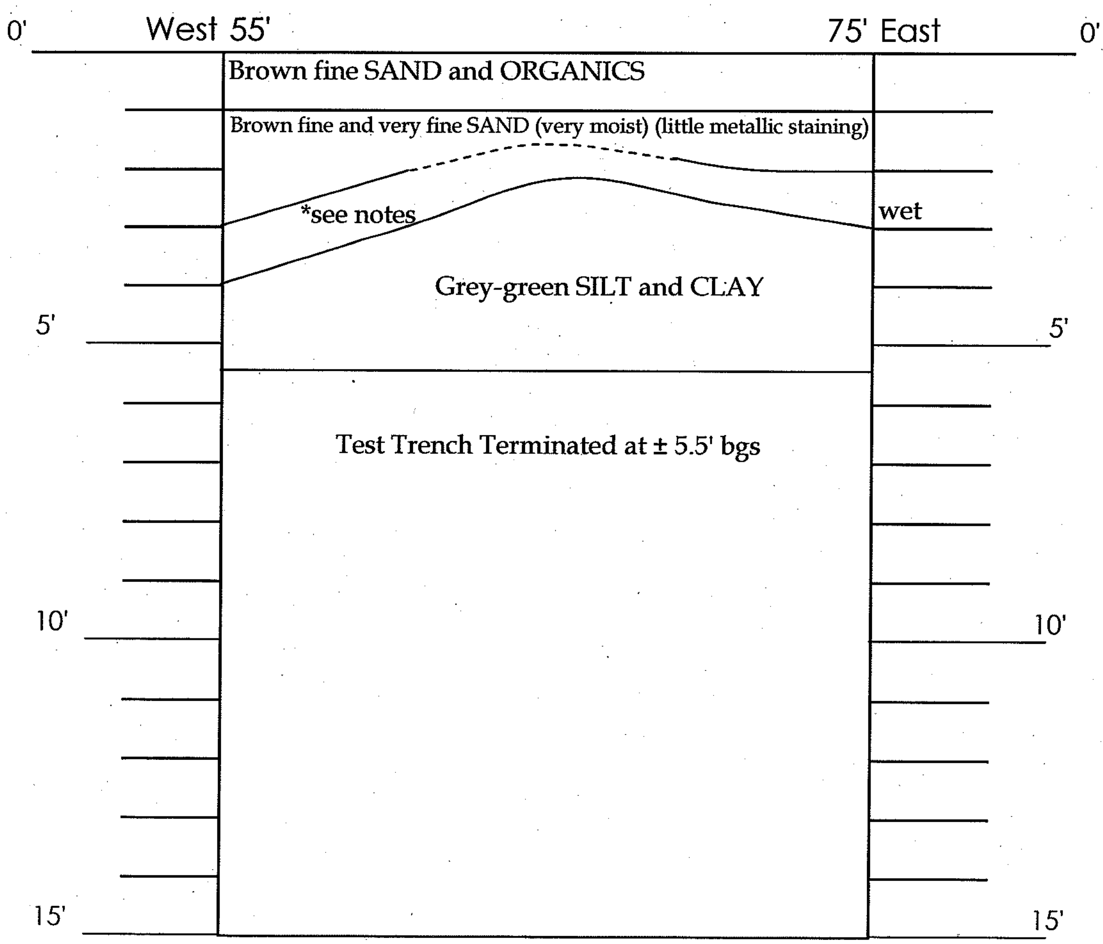
TEST TRENCH - 5



TOTAL DEPTH: ± 5.5' bgs

WATER AT: water seep at ± 3' bgs

SIZE OF TEST PIT: ± 7' wide x 20' long

NOTES: Soil sample S-6 collected at ± 2' bgs a horizontal distance of ± 65' from West trench start
* Black very fine SAND, SILT and ORGANICS
\- - - - both layers blend together

TEST TRENCH - 5

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PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/30/2007

TEST TRENCH - 5

0' West 75' — 95' East 0'

Dark Brown fine SAND and ORGANICS

pocket of ash

Brown fine SAND (little metallic staining)

Black very fine SAND, SILT and ORGANICS (very moist to wet) *see notes

cobbles & small boulders

wet

Grey-green very fine SAND and SILT, grades to SILT and CLAY

5'

Test Trench Terminated at ± 5.5' bgs

10'

15'

TOTAL DEPTH:	± 5.5' bgs
WATER AT:	water at ± 3' bgs
SIZE OF TEST PIT:	± 8' wide x 20' long

NOTES: Soil sample S-7 collected at ± 2.5 - 3' bgs a horizontal distance of ± 93' from West trench start
Soil sample S-8 collected at ± 4.5' bgs a horizontal distance of ± 94' from West trench start
* Black very fine SAND, SILT and ORGANICS (heavy petroleum odor)

TEST TRENCH - 5

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PROJECT NAME: 400 Upper Broadway ERP Site
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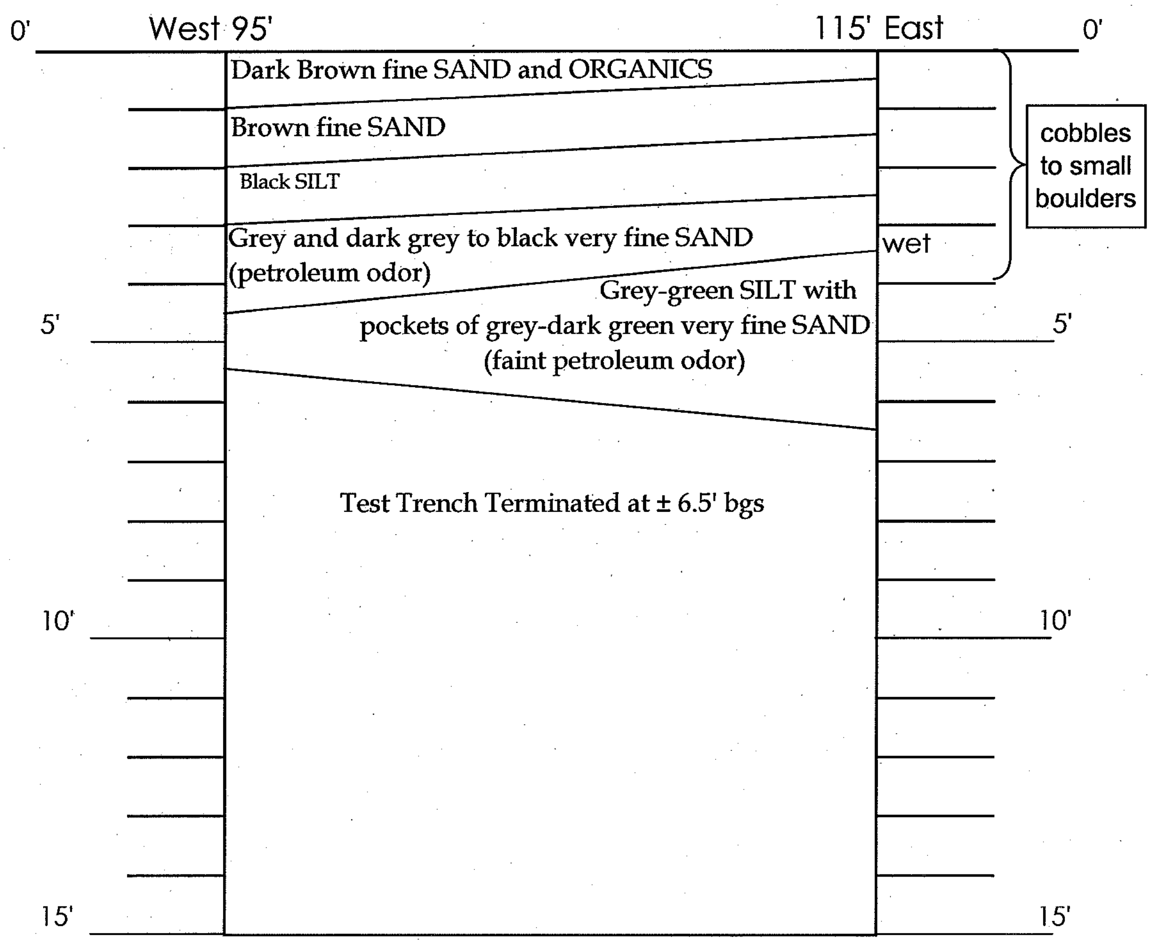
LOGGED BY: JD
EXCAVATOR: OP-TECH
EQUIPMENT: Track Mounted Excavator
DATE: 8/30/2007

TEST TRENCH - 5



TOTAL DEPTH: ± 6.5' bgs
WATER AT: wet at ± 3' bgs
SIZE OF TEST PIT: ± 8' wide x 20' long

NOTES: Soil sample S-9 collected at ± 3' bgs a horizontal distance of ± 101' from West trench start

TEST TRENCH - 5

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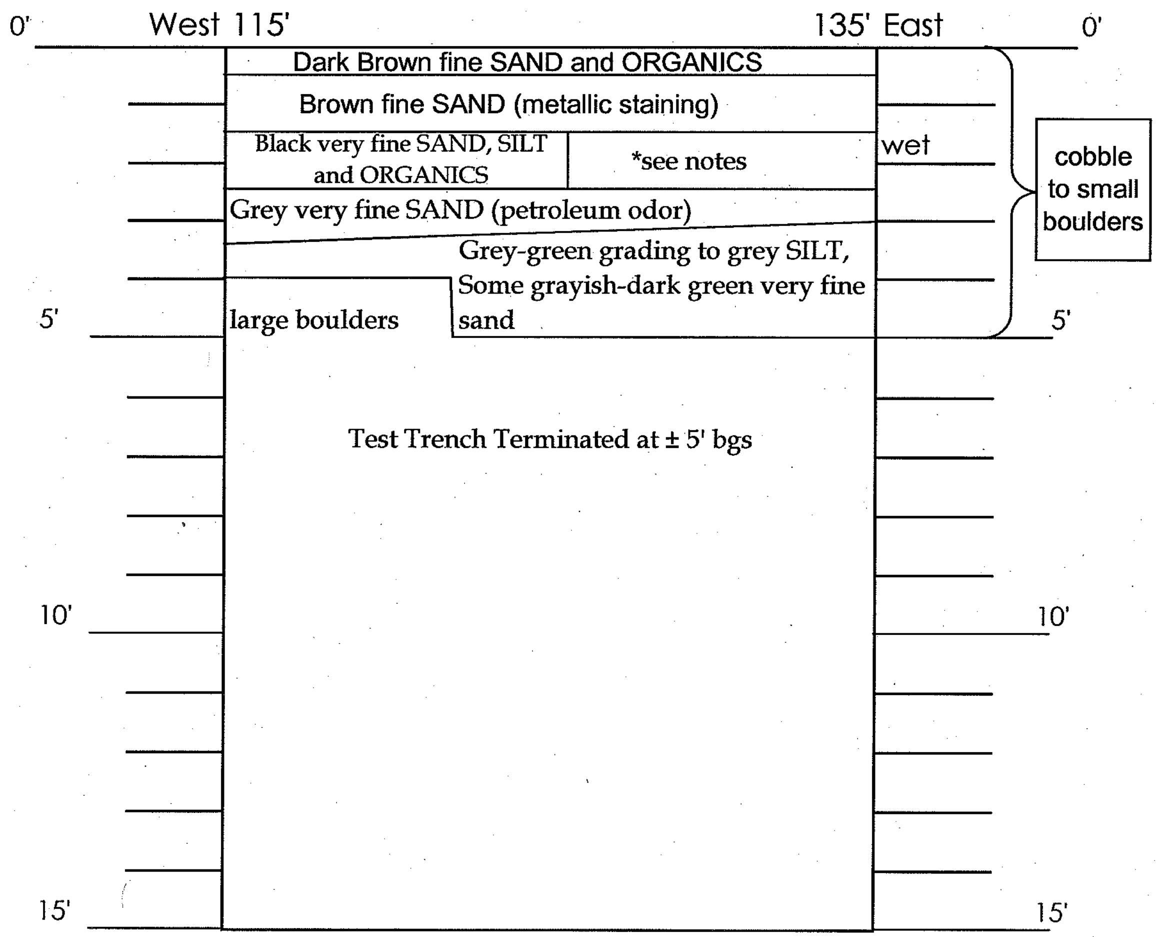
Building Systems • Engineering • Environmental Services • Land Information Services

PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/30/2007

TEST TRENCH - 5



TOTAL DEPTH:	± 5' bgs
WATER AT:	wet at ± 2' bgs
SIZE OF TEST PIT:	± 8' wide x 20' long

NOTES: Soil sample S-10 collected at ± 3' bgs a horizontal distance of ± 120' from West trench start
Soil sample S-11 collected at ± 2.5' bgs a horizontal distance of ± 128' from West trench start
* Dark Grey grading to black very fine SAND and SILT (strong petroleum-type odor)

TEST TRENCH - 5

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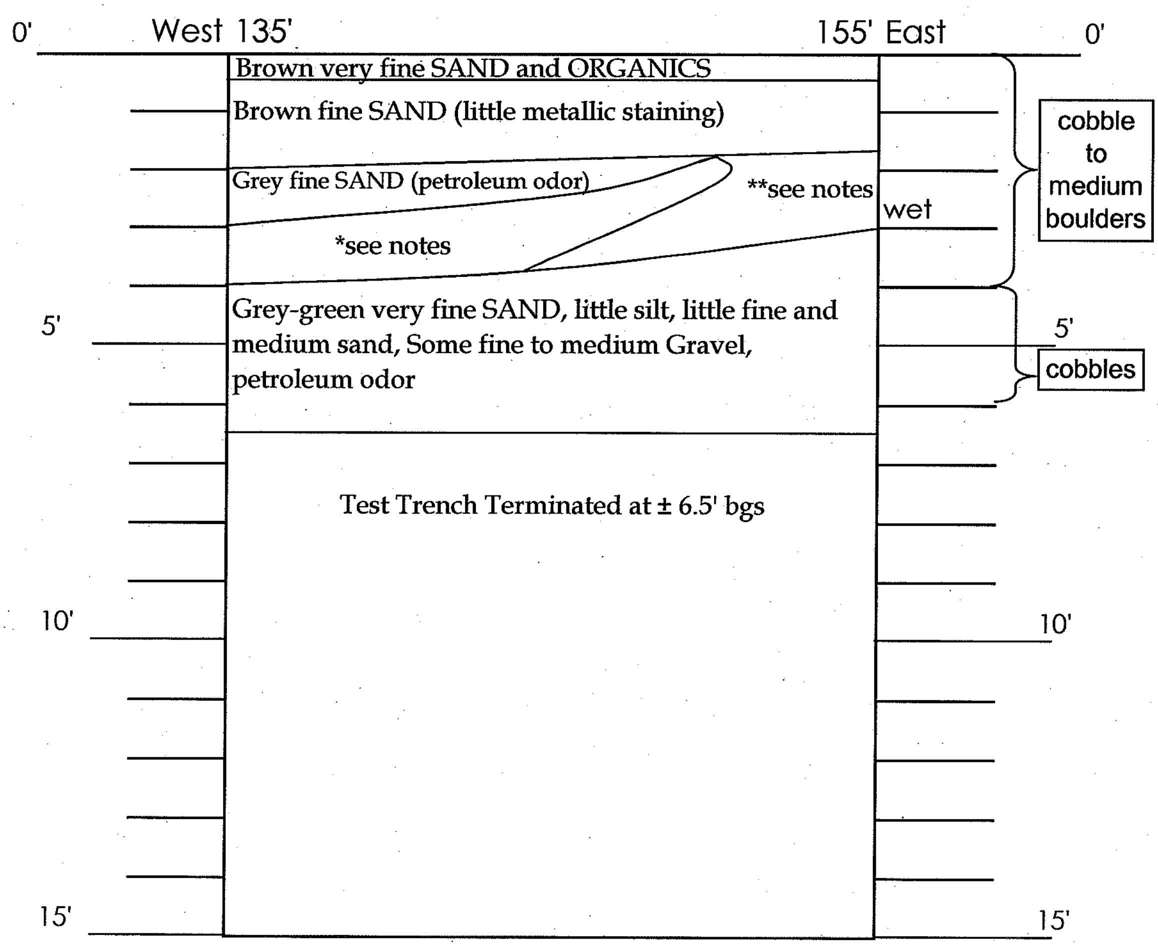
PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	9/4/2007

TEST TRENCH - 5



TOTAL DEPTH:	± 6.5' bgs
WATER AT:	wet at ± 3' bgs
SIZE OF TEST PIT:	± 10' wide x 20' long

NOTES: Soil samples S-12 (± 2.25' bgs) and S-13 (± 3.5' bgs) collected a horizontal distance of ± 142' from West trench start
Soil sample S-14 collected at ± 6.5' bgs a horizontal distance of ± 142' from West trench start
Soil sample S-15 collected at ± 2' bgs a horizontal distance of ± 153' from West trench start
*Black fine SAND and SILT (strong petroleum odor) **Grey fine SAND and SILT (petroleum odor)
Drums in embankment at ± 150' from West trench start. Water sheens and staining beneath medium boulders

TEST TRENCH - 5

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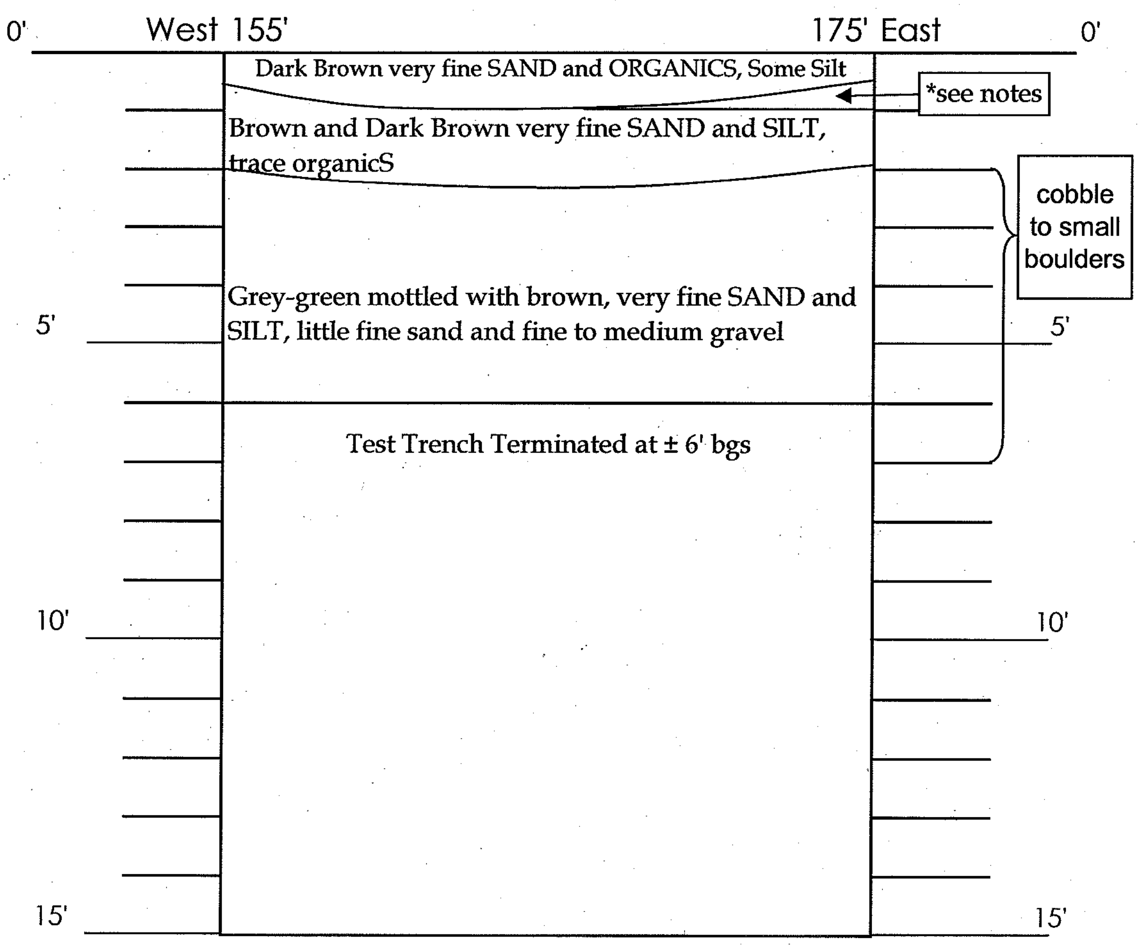
PROJECT NAME: 400 Upper Broadway ERP Site
PROJECT NUMBER: 07.1092
LOGGED BY: JD

EXCAVATOR: OP-TECH
EQUIPMENT: Track Mounted Excavator
DATE: 9/4/2007

TEST TRENCH - 5



TOTAL DEPTH: ± 6.5' bgs
WATER AT: not observed
SIZE OF TEST PIT: ± 10' wide x 20' long

NOTES: Soil sample S-16 collected at ± 5.5' bgs a horizontal distance of ± 157' from West trench start
* light brown very fine SAND (very moist)

TEST TRENCH - 5

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PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	9/4/2007

TEST TRENCH - 5

0' West 175' — 190' East 0'

0'	Dark Brown very fine SAND and ORGANICS	very moist	cobble to medium boulders
	Light Brown very fine SAND		
	Black very fine SAND, SILT and ORGANICS		
	Grey-green mottled with brown, very fine SAND and SILT, little fine to medium gravel	wet	
5'	Test Trench Terminated at ± 5' bgs		
10'			
15'			

TOTAL DEPTH: ± 5' bgs
WATER AT: wet at ± 2' bgs
SIZE OF TEST PIT: ± 10' wide x 15' long

NOTES:

TEST TRENCH - 5

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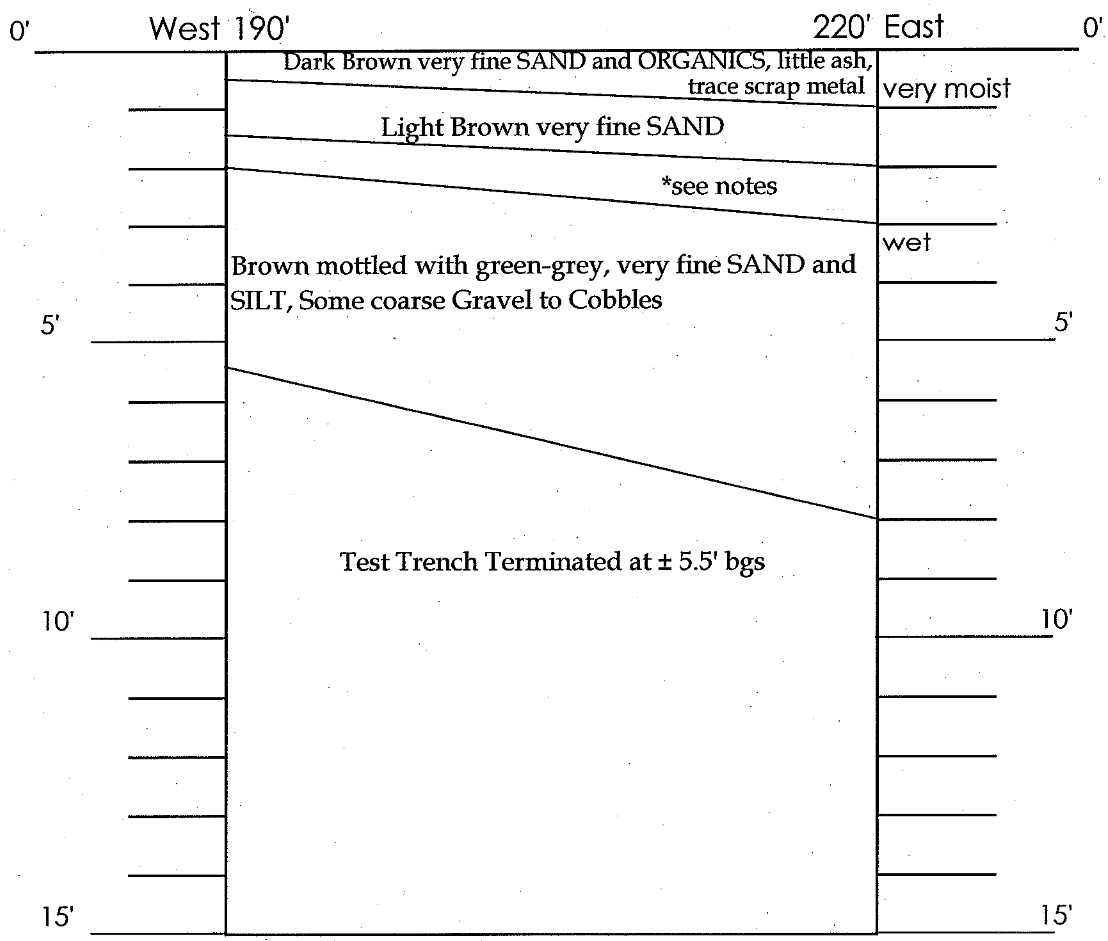
PROJECT NAME: 400 Upper Broadway ERP Site
PROJECT NUMBER: 07.1092
LOGGED BY: JD

EXCAVATOR: OP-TECH
EQUIPMENT: Track MountED Excavator
DATE: 9/5/2007

TEST TRENCH - 5



TOTAL DEPTH: ± 5.5' bgs
WATER AT: water seep at ± 5.5' bgs at 210'
SIZE OF TEST PIT: ± 10' wide x 30' long

NOTES: Soil sample S-17 collected at ± 2' bgs a horizontal distance of ± 201' from West trench start
Soil sample S-18 collected at ± 5' bgs a horizontal distance of ± 200' from West trench start
Soil sample S-19 collected at ± 7' bgs a horizontal distance of ± 210' from West trench start
*Dark Brown to Black very fine SAND, SILT and ORGANICS
surface grade elevation increaesd ± 2' from west to east

TEST TRENCH - 5

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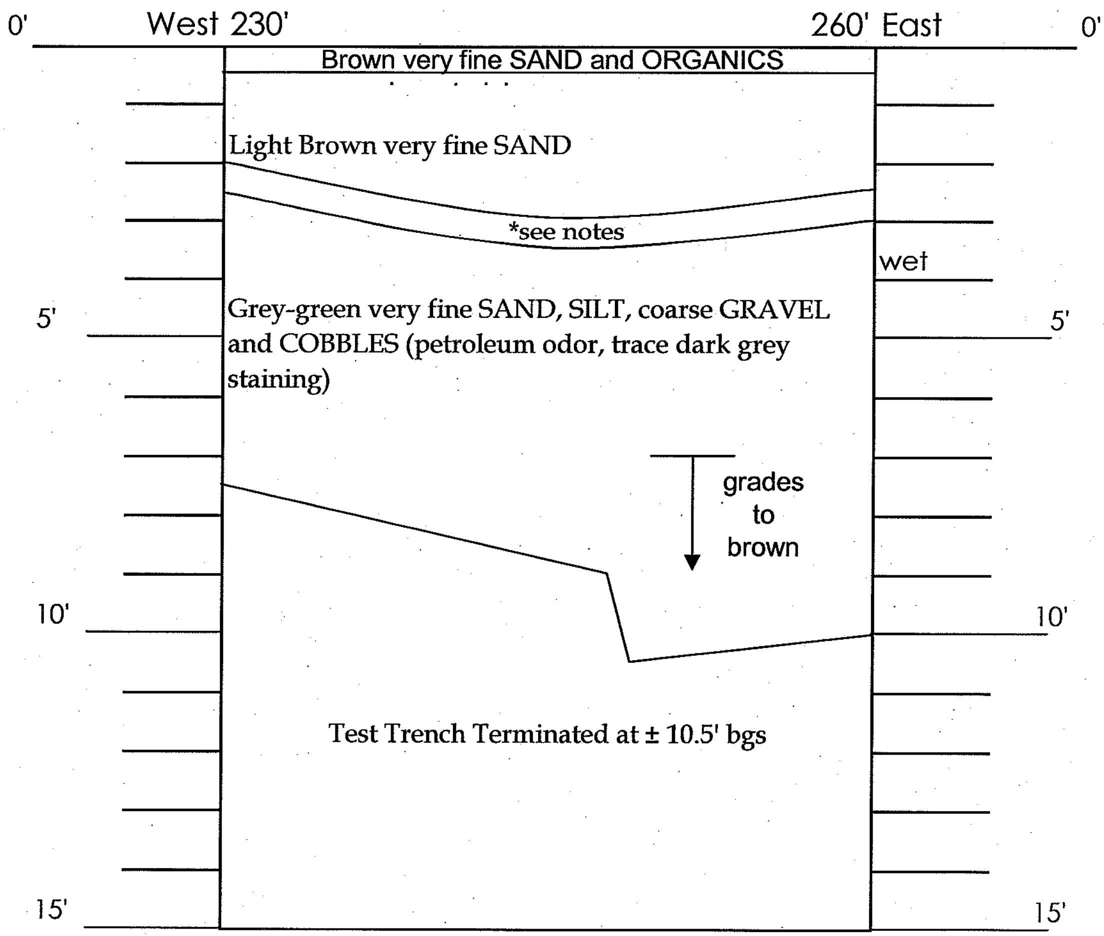
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	9/5/2007

TEST TRENCH - 5



TOTAL DEPTH:	± 10.5' bgs
WATER AT:	water seep at ± 6' bgs
SIZE OF TEST PIT:	± 5' wide x 30' long

NOTES: Soil Sample S-20 collected at ± 1.5' bgs a horizontal distance of ± 231' from West trench start
Soil Sample S-21 collected at ± 6' bgs a horizontal distance of ± 245' from West trench start
Soil Sample S-22 collected at ± 7' bgs a horizontal distance of ± 257' from West trench start
*Dark Brown to Black very fine SAND, SILT and ORGANICS

TEST TRENCH - 5

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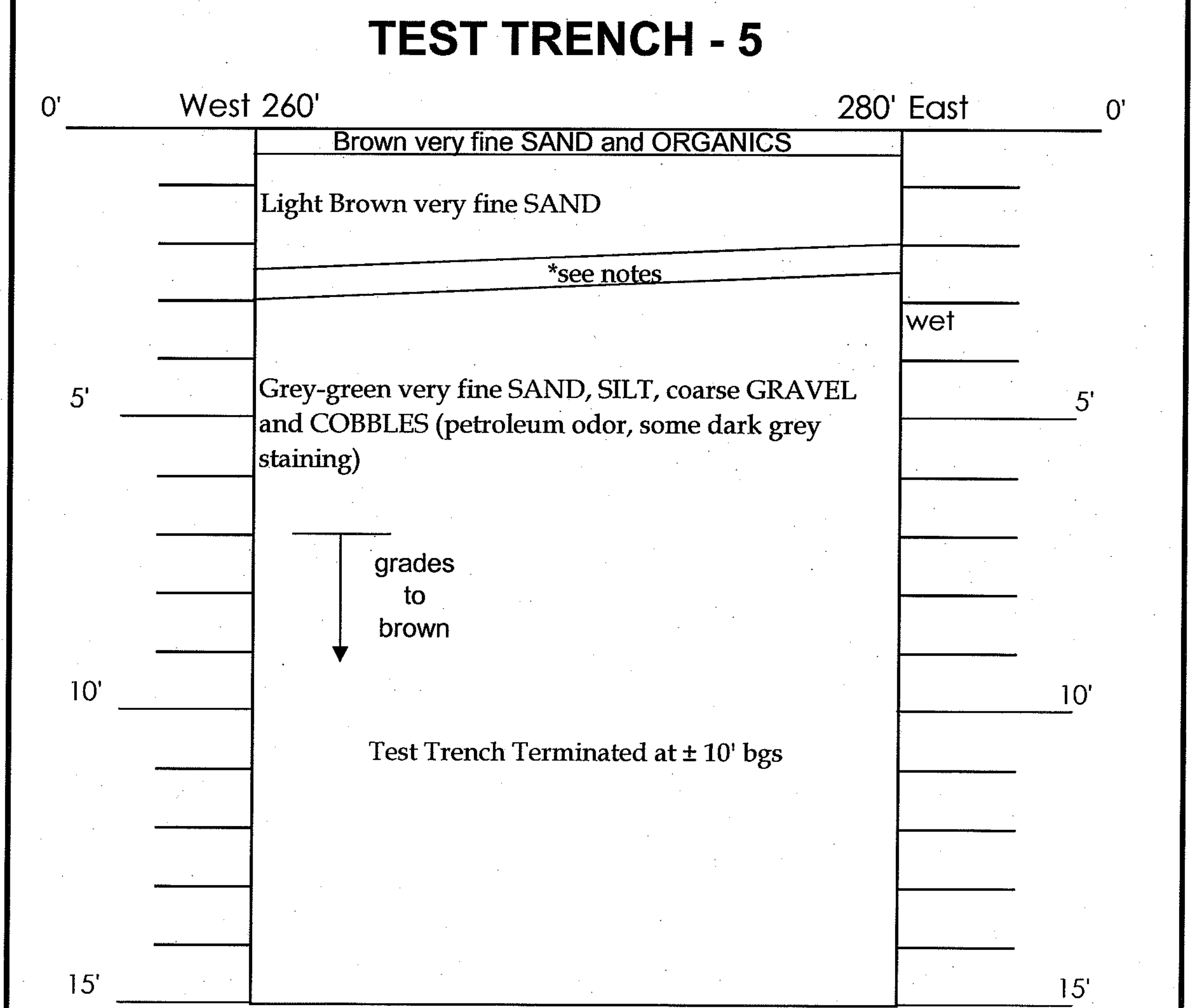
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	9/5/2007



TOTAL DEPTH: ± 10' bgs
WATER AT: water seep at ± 6' bgs
SIZE OF TEST PIT: ± 6' wide x 30' long

NOTES: Soil Sample S-23 collected at ± 5' bgs a horizontal distance of ± 264' from West trench start
*Dark Brown to Black very fine SAND, SILT and ORGANICS

TEST TRENCH - 5

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PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	9/6/2007

TEST TRENCH - 5

0' West 280' — 300' East 0'

Brown very fine SAND and ORGANICS

Brown and Orange Brown very fine SAND

*see notes

Brown mottled with green-grey, very fine SAND and SILT, Some fine to coarse Gravel (little metallic staining)

5'

10'

Test Trench Terminated at ± 9.5' bgs

15'

TOTAL DEPTH:	± 9.5' bgs
WATER AT:	none observed
SIZE OF TEST PIT:	± 5' wide x 20' long

NOTES: Soil Sample S-24 collected at ± 3.5' bgs a horizontal distance of ± 281' from West trench start
Soil Sample S-25 collected at ± 5' bgs a horizontal distance of ± 287' from West trench start
Soil Sample S-26 collected at ± 5' bgs a horizontal distance of ± 296' from West trench start
*Dark Brown and Grey SILT and ORGANICS (grades from dark brown to grey from west to east in first 10')

TEST TRENCH - 5

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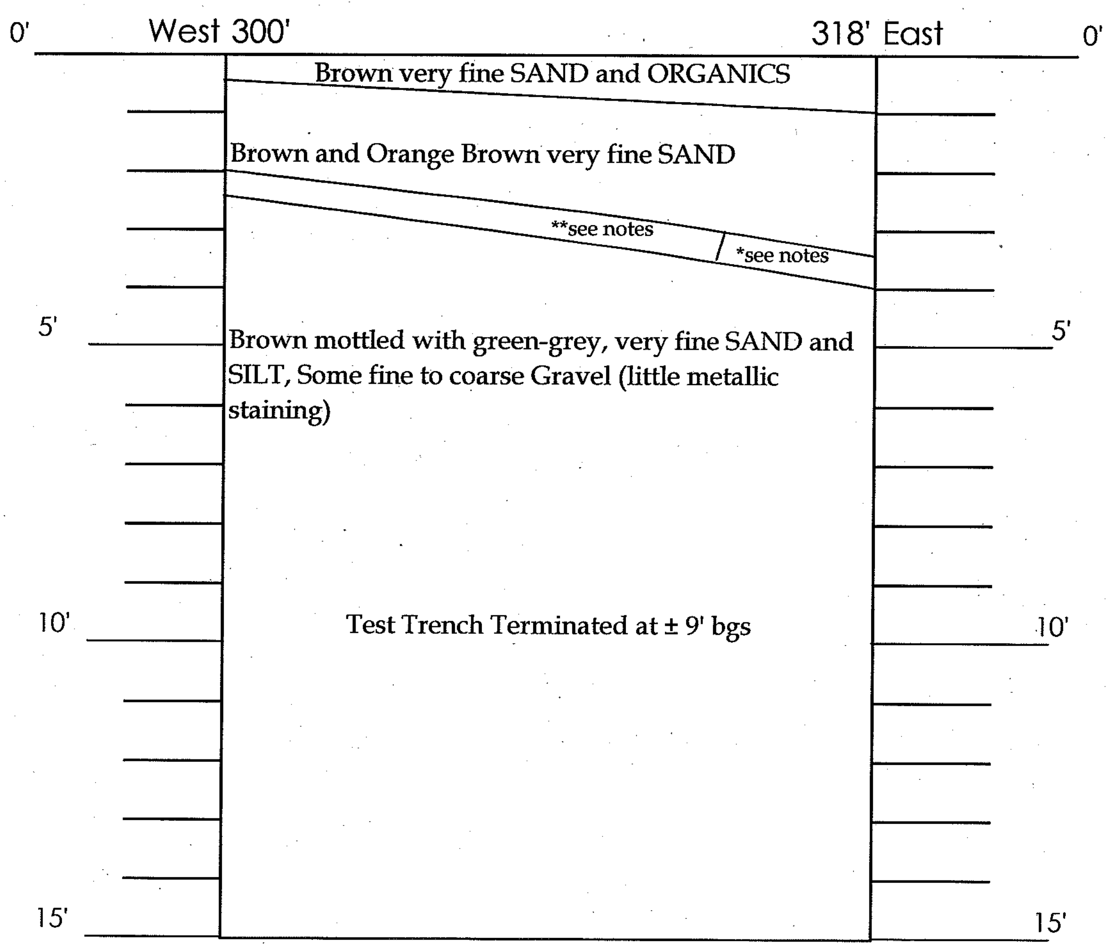
PROJECT NAME: 400 Upper Broadway ERP Site
PROJECT NUMBER: 07.1092
LOGGED BY: JD

EXCAVATOR: OP-TECH
EQUIPMENT: Track Mounted Excavator
DATE: 9/6/2007

TEST TRENCH - 5



TOTAL DEPTH: ± 9' bgs
WATER AT: none observed
SIZE OF TEST PIT: ± 6' wide x 18' long

NOTES: Soil Sample S-27 collected at ± 5' bgs a horizontal distance of ± 317' from West trench start
* Grey SILT, grades to black from west to east
**Grey SILT and ORGANICS

TEST PIT - 1

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PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	8/20/2007

TEST PIT - 1

Depth (West)	West	Description	East	Depth (East)
0'		Brown fine SAND and ORGANIC MATERIAL		0'
		Black fine SAND and ASH, trace brick and organics		
		Brown and Green-Gray very fine SAND, trace silt	moist, black staining strong petro-type odor	
5'				5'
			little wet	
		Brown very fine SAND and COBBLES, trace silt		
		Test Pit Terminated at ± 8.5' bgs		
10'				10'
15'				15'

TOTAL DEPTH: ± 8.5' bgs
WATER AT: seeps into excavation at ± 6.5' bgs
SIZE OF TEST PIT: ± 4' wide by 7.5' long

NOTES: Soil sample S-1 collected at ± 2.5' bgs (submitted to lab)
Soil sample S-2 collected at ± 6' - 6.5' bgs
Soil sample S-3 collected at ± 8' bgs

TEST PIT - 2

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PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	9/6/2007

TEST PIT - 2

Depth	South		North	Depth
0'		Dark Brown very fine SAND, organic material		0'
		Dark Brown and Dark Gray very fine SAND, Some Silt and Cobbles, trace organic material	moist	
		Brown mottled and Gray very fine SAND, little silt, fine sand and fine to medium gravel	wet	
5'				5'
		Brown gray SILT and very fine SAND		
		Test Pit Terminated at ± 7' bgs		
10'				10'
15'				15'

TOTAL DEPTH: ± 7' bgs
WATER AT: seeps into excavation at ± 3' bgs
SIZE OF TEST PIT: ± 3.5' wide by 10' long

NOTES: Soil sample S-1 collected at ± 3' bgs (submitted to lab)
Soil sample S-2 collected at ± 7' bgs

TEST PIT - 3

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PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	9/6/2007

TEST PIT - 3

Depth (West)	Description	East
0'	West / East	0'
*see notes	Gray Brown very fine SAND and ORGANICS	moist
	Gray and Orange Brown (mottled) very fine SAND, Some Silt, trace fine gravel	very moist
	Brown Gray very fine SAND and SILT	wet
5'		5'
	Test Pit Terminated at ± 6.5' bgs	
10'		10'
15'		15'

TOTAL DEPTH: ± 6.5' bgs
WATER AT: ± 4 bgs
SIZE OF TEST PIT: ± 3' wide by 6' long

NOTES: * Light brown very fine SAND
Soil sample S-1 collected at ± 2' bgs (submitted to lab)
Soil sample S-2 collected at ± 6' bgs

TEST PIT - 4

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PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	9/6/2007

TEST PIT - 4

Depth (West)	Description	Depth (East)
0'	Dark Brown very fine SAND and ORGANICS	0'
	Brown very fine SAND, Some Silt	
	Brown (gray mottled) very fine SAND and SILT	
*see notes	Gray SILT	wet
5'	Brown Gray SILT, little very fine sand	5'
	Test Pit Terminated at ± 6.5' bgs	
10'		10'
15'		15'

TOTAL DEPTH: ± 6.5' bgs
WATER AT: ± 4' bgs
SIZE OF TEST PIT: ± 4' wide by 5' long

NOTES: * Brown (gray mottled) SILT and very fine SAND
Soil sample S-1 collected at ± 3' bgs (submitted to lab)
Soil sample S-2 collected at ± 6' bgs

TEST PIT - 5

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PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	9/6/2007

TEST PIT - 5

Depth	South		North	Depth
0'		Dark Brown very fine SAND and ORGANICS		0'
		Gray Brown very fine SAND		
		Gray and Brown (mottled) very fine SAND and SILT	wet	
5'		Brown Gray SILT, little very fine sand		5'
		Test Pit Terminated at ± 6.5' bgs		
10'				10'
15'				15'

TOTAL DEPTH: ± 6.5' bgs
WATER AT: ± 2' bgs
SIZE OF TEST PIT: ± 3' wide by 6' long

NOTES: Soil sample S-1 collected at ± 3' bgs
Soil sample S-2 collected at ± 6' bgs (submitted to lab)

TEST PIT - 6

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PROJECT NAME:	400 Upper Broadway ERP Site	EXCAVATOR:	OP-TECH
PROJECT NUMBER:	07.1092	EQUIPMENT:	Track Mounted Excavator
LOGGED BY:	JD	DATE:	9/7/2007

TEST PIT - 6

Depth	South		North	Depth
0'		Brown very fine SAND and ORGANICS		0'
		Black very fine SAND, SILT, COBBLES and BOULDERS	Solvent-type odor	
		Green-gray very fine SAND and SILT, Some fine to medium Gravel	Faint solvent-type odor	
5'		Brown (greenish gray mottled) very fine SAND and SILT, little fractured rock	wet	5'
		Test Pit Terminated at ± 5.5' bgs (Refusal)		
10'				10'
15'				15'

TOTAL DEPTH: ± 5.5' bgs
WATER AT: ± 5.25' bgs
SIZE OF TEST PIT: ± 3' wide by 5' long

NOTES: Soil sample S-1 collected at ± 2' bgs (submitted to lab)
Soil sample S-2 collected at ± 3.5' bgs
Soil sample S-3 collected at ± 5' bgs

APPENDIX B

Test Trench and Test Pit Organic Vapor Headspace Analysis Logs

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Broadway ERP Site	**PROJECT #:** 07.1092		**PAGE 1 OF 1**
CLIENT: Village of Saranac Lake			**DATE COLLECTED: 8/16/2007**
LOCATION: Saranac Lake, NY			
INSTRUMENT USED: Mini Rae	**LAMP** 10.6 **eV**		**DATE ANALYZED: 8/16/2007**
DATE INSTRUMENT CALIBRATED: 8/16/2007	**BY:** JD		
TEMPERATURE OF SOIL: Ambient			**ANALYST: JD**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
TT-4	S-1	11	Soil	10.7	8.1	organic odor, no staining
TT-4	S-2	8	Soil	2.0	0.0	organic odor, no staining
TT-4	S-3	7	Soil	1.5	0.0	organic odor, no staining
TT-4	S-4	7	Soil	2.3	0.0	organic odor, no staining
TT-4	S-5	7	Soil	1.1	0.0	organic odor, no staining
TT-4	S-6	9	Soil	0.0	0.0	organic odor, no staining
TT-4	S-7	7	Soil	0.0	0.0	organic odor, no staining
TT-4	S-8	7	Soil	1.2	0.0	Organic Odor, No Staining
TT-4	S-9	7	Soil	26.5	0.0	faint petroleum-type odor, little dark grey staining
TT-4	S-10	7.5 - 8	Soil	5.9	0.0	petroleum-type odor, trace grey 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Broadway ERP Site		**PROJECT #:** 07.1092	**PAGE 1 OF 1**
CLIENT: Village of Saranac Lake			**DATE COLLECTED:** 8/17/2007
LOCATION: Saranac Lake, NY			
INSTRUMENT USED: Mini Rae	**LAMP** 10.6 **eV**		**DATE ANALYZED:** 8/17/2007
DATE INSTRUMENT CALIBRATED: 8/17/2007	**BY:** JD		
TEMPERATURE OF SOIL: Ambient			**ANALYST:** JD

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
TT-4	S-11	6.5 - 7	Soil	77.8	0.0	petroleum-type odor, dark grey to black staining
TT-4	S-12	8 - 9	Soil	60.6	33.4	petroleum-type odor, no staining
TT-4	S-13	9	Soil	349	2.2	petroleum-type odor, no staining
TT-4	S-14	7	Soil	9,999+	0.0	petroleum-type odor, dark grey to black staining
TT-4	S-15	6	Soil	0.0	0.0	no odor/no staining
TT-4	S-16	7 - 8	Soil	39.2	0.0	slight petroleum-type odor, no staining
TT-4	S-17	7	Soil	27.2	0.0	no odor/no staining
TT-4	S-18	5	Soil	0.0	0.0	no odor, black and maroon metallic staining
TT-4	S-19	10	Soil	0.0	0.0	no odor/no 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Broadway ERP Site	**PROJECT #:** 07.1092		**PAGE 1 OF 1**
CLIENT: Village of Saranac Lake			**DATE COLLECTED:** 8/20/2007
LOCATION: Saranac Lake, NY			
INSTRUMENT USED: Mini Rae	**LAMP** 10.6 **eV**		**DATE ANALYZED:** 8/20/2007
DATE INSTRUMENT CALIBRATED: 8/20/2007	**BY:** JD		
TEMPERATURE OF SOIL: Ambient			**ANALYST:** JD

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
TP - 1	S-1	2.5	Soil	549	0.5	strong petroleum-type odor, greenish-grey and black staining
TP - 1	S-2	6 - 6.5	Soil	149	0.6	petroleum-type odor, some greenish-grey and black staining
TP - 1	S-3	8	Soil	127	0.0	slight petroleum-type odor, trace staining
TT - 3	S-1	5	Soil	6.7	0.0	strong petroleum-type odor, grey staining
TT - 3	S-2	7	Soil	4.5	0.0	faint petroleum-type odor, no staining
TT - 3	S-3	5.5	Soil	121.0	1.1	petroleum-type odor, trace staining
TT - 3	S-4	6 - 6.5	Soil	19.6	1.3	organic-type odor, no staining
TT - 3	S-5	5	Soil	196.0	0.0	petroleum-type odor, some staining
TT - 3	S-6	6.5	soil	19.1	1.1	slight petroleum-type odor, no 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Broadway ERP Site	**PROJECT #:** 07.1092		**PAGE 1 OF 1**
CLIENT: Village of Saranac Lake			**DATE**
LOCATION: Saranac Lake, NY			**COLLECTED: 8/21/2007**
INSTRUMENT USED: Mini Rae	**LAMP** 10.6 **eV**		**DATE**
DATE INSTRUMENT CALIBRATED: 8/21/2007	**BY:** JD		**ANALYZED: 8/21/2007**
TEMPERATURE OF SOIL: Ambient			**ANALYST: JD**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
TT - 3	S - 7	8	Soil	64.2	1.8	slight petroleum-type odor, no staining
TT - 3	S - 8	4	Soil	368	0.8	petroleum-type odor, dark grey staining
TT - 3	S - 9	4	Soil	37.4	0.0	organic-type odor, metallic staining
TT - 3	S - 10	6	Soil	301	0.0	petroleum-type odor, dark grey staining
TT - 3	S - 11	4	Soil	39.2	0.7	organic-type odor, no staining
TT - 3	S - 12	6	Soil	131.0	0.0	petroleum-type odor, slight staining
TT - 3	S - 13	5.5	Soil	70.1	0.0	petroleum-type odor, no 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Broadway ERP Site	**PROJECT #:** 07.1092		**PAGE 1 OF 1**
CLIENT: Village of Saranac Lake			**DATE COLLECTED: 8/22/2007**
LOCATION: Saranac Lake, NY			
INSTRUMENT USED: Mini Rae	**LAMP** 10.6 **eV**		**DATE ANALYZED: 8/22/2007**
DATE INSTRUMENT CALIBRATED: 8/22/2007	**BY:** JD		
TEMPERATURE OF SOIL: Ambient			**ANALYST: JD**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
TT - 3	S - 14	6.5	Soil	322	0.8	no odor, metallic-type staining
TT - 3	S - 15	4.5	Soil	1104	0.2	faint petroleum-type odor, no staining
TT - 3	S - 16	1.5	Soil	2743	1.1	strong petroleum-type odor, dark grey staining
TT - 3	S - 17	5.5	Soil	970	2.3	petroleum-type odor, grey staining
TT - 3	S - 18	4.5	Soil	667	2.1	petroleum-type odor, grey staining
TT - 3	S - 19	4.5	Soil	1648	1.0	petroleum-type odor, dark grey staining
TT - 2	S - 1	3	Soil	727	0.0	petroleum-type odor, grey staining
TT - 2	S - 2	4.5	Soil	472	1.1	petroleum-type odor, some staining
TT - 2	S - 3	4	Soil	328	1.3	slight petroleum-type odor, no staining
TT - 2	S - 4	6.5 - 7.5	Soil	846	0.0	strong petroleum-type odor, dark grey staining
TT - 2	S - 5	6	Soil	79.4	1.2	strong petroleum-type odor, dark grey 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Broadway ERP Site	**PROJECT #:** 07.1092		**PAGE 1 OF 1**
CLIENT: Village of Saranac Lake			**DATE COLLECTED:** 8/23/2007
LOCATION: Saranac Lake, NY			
INSTRUMENT USED: Mini Rae	**LAMP** 10.6 **eV**		**DATE ANALYZED:** 8/23/2007
DATE INSTRUMENT CALIBRATED: 8/23/2007	**BY:** JD		
TEMPERATURE OF SOIL: Ambient			**ANALYST:** JD

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
TT - 2	S - 6	6.5	Soil	457	0.0	petroleum-type odor, dark grey staining
TT - 2	S - 7	5	Soil	1356	5.6	petroleum-type odor, dark grey staining
TT - 2	S - 8	3	Soil	652	3.9	organic-type odor, metallic staining
TT - 2	S - 9	4	Soil	937	3.0	petroleum-type odor, dark grey staining
TT - 2	S - 10	2.5	Soil	1574	2.7	petroleum-type odor, dark grey staining
TT - 2	S - 11	2.75	Soil	754	4.7	petroleum-type odor
TT - 2	S - 12	3.5	Soil	936	8.2	petroleum-type odor, no staining
TT - 2	S - 13	4	Soil	1642	0.0	petroleum-type odor, dark grey staining
TT - 2	S - 14	4.25	Soil	1457	0.0	petroleum-type odor, dark grey staining
TT - 2	S - 15	3	Soil	2336	0.0	petroleum-type odor, dark grey staining
TT - 2	S - 16	2	Soil	3638	0.0	petroleum-type odor, dark grey 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Broadway ERP Site			**PROJECT #:** 07.1092			**PAGE 1 OF 1**
CLIENT: Village of Saranac Lake						**DATE COLLECTED:** 8/24/2007
LOCATION: Saranac Lake, NY						
INSTRUMENT USED: Mini Rae			**LAMP** 10.6 **eV**			**DATE ANALYZED:** 8/24/2007
DATE INSTRUMENT CALIBRATED: 8/24/2007				**BY:** JD		
TEMPERATURE OF SOIL: Ambient						**ANALYST:** JD
EXPLORATION NUMBER	**SAMPLE NUMBER**	**DEPTH (FT.)*****	**SAMPLE TYPE**	**SAMPLE READING (PPM)****	**BACKGROUND READING (PPM)****	**REMARKS**
TT - 2	S - 17	8.5	soil	702	1.2	petroleum-type odor, dark grey staining
TT - 2	S - 18	8.5	soil	1625	0.0	petroleum-type odor, dark grey staining
TT - 2	S - 19	10.5 - 11	soil	777	0.0	petroleum-type odor, dark grey staining
TT - 3	S - 20	4	soil	4343	0.0	petroleum-type odor, dark grey staining
TT - 3	S - 21	7.5	soil	437	0.0	slight petroleum-type odor, trace staining
TT - 3	S - 22	6 - 6.5	soil	2298	0.0	petroleum-type odor, dark grey 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	400 Broadway ERP Site	**PROJECT #:** 07.1092	**PAGE 1 OF 1**
CLIENT:	Village of Saranac Lake		**DATE COLLECTED: 8/27/2007**
LOCATION:	Saranac Lake, NY		
INSTRUMENT USED:	Mini Rae	**LAMP** 10.6 **eV**	**DATE ANALYZED: 8/27/2007**
DATE INSTRUMENT CALIBRATED:	8/27/2007	**BY:** JD	
TEMPERATURE OF SOIL:	Ambient		**ANALYST: JD**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
TT - 1	S - 1	8	soil	365	0.8	petroleum/solvent-type odor, dark gray staining
TT - 1	S - 2	2.5	soil	898	0.0	petroleum-type odor, dark gray staining
TT - 1	S - 3	7	soil	645	0.0	no odor, no staining
TT - 1	S - 4	3.5	soil	8217	0.0	petroleum/solvent-type odor, dark staining
TT - 1	S - 5	3	soil	5650	0.0	petroleum/solvent-type odor, dark staining
TT - 1	S - 6	2.5	soil	1170	0.2	petroleum/solvent-type odor, dark staining
TT - 1	S - 7	1.5	soil	117	0.0	no odor, no 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Broadway ERP Site	PROJECT #: 07.1092		PAGE 1 OF 1
CLIENT: Village of Saranac Lake			DATE COLLECTED: 8/28/2007
LOCATION: Saranac Lake, NY			
INSTRUMENT USED: Mini Rae	LAMP 10.6 eV		DATE ANALYZED: 8/28/2007
DATE INSTRUMENT CALIBRATED: 8/28/2007	BY: JD		
TEMPERATURE OF SOIL: Ambient			ANALYST: JD

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
TT - 1	S - 8	1	soil	163	0.0	no odor, metallic staining
TT - 1	S - 9	6.5	soil	102	0.0	no odor, slight dark staining
TT - 1	S - 10	3.5	soil	86.9	0.0	no odor, slight staining
TT - 5	S - 1	3.25	soil	212	0.0	slight petroleum-type odor, grey 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	400 Broadway ERP Site		PROJECT #:	07.1092		PAGE 1 OF 1
CLIENT:	Village of Saranac Lake					DATE COLLECTED: 8/29/2007
LOCATION:	Saranac Lake, NY					
INSTRUMENT USED:		Mini Rae	LAMP	10.6	eV	DATE ANALYZED: 8/29/2007
DATE INSTRUMENT CALIBRATED:			8/29/2007	BY: JD		
TEMPERATURE OF SOIL:			Ambient			ANALYST: JD

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
TT - 5	S - 2	2.5	soil	156	0.0	slight petroleum/organic-type odor, metallic and grey staining
TT - 5	S - 3	5	soil	2.5	0.0	no odor, no staining
TT - 5	S - 4	5	soil	68.2	0.0	no odor, no staining
TT - 5	S - 5	1.5	soil	169	0.0	slight petroleum/organic-type odor, metallic and grey staining
TT - 5	S - 6	2	soil	42.5	0.0	no odor, no 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	400 Broadway ERP Site	**PROJECT #:** 07.1092	**PAGE 1 OF 1**
CLIENT:	Village of Saranac Lake		**DATE COLLECTED:** 8/30/2007
LOCATION:	Saranac Lake, NY		
INSTRUMENT USED:	Mini Rae	**LAMP** 10.6 **eV**	**DATE ANALYZED:** 8/30/2007
DATE INSTRUMENT CALIBRATED:	8/30/2007	**BY:** JD	
TEMPERATURE OF SOIL:	Ambient		**ANALYST:** JD

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
TT - 5	S - 7	2.5 - 3	soil	9999+	0.0	strong petroleum-type odor, dark grey staining
TT - 5	S - 8	4.5	soil	367	0.0	slight petroleum-type odor, no staining
TT - 5	S - 9	3	soil	174	0.0	strong petroleum-type odor, grey staining
TT - 5	S - 10	3	soil	825	10.9	petroleum-type odor, grey staining
TT - 5	S - 11	2.5	soil	3230	29.6	strong petroleum-type odor, black 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Broadway ERP Site	**PROJECT #:** 07.1092		**PAGE 1 OF 1**
CLIENT: Village of Saranac Lake			**DATE COLLECTED:** 9/4/2007
LOCATION: Saranac Lake, NY			
INSTRUMENT USED: Mini Rae	**LAMP** 10.6 **eV**		**DATE ANALYZED:** 9/4/2007
DATE INSTRUMENT CALIBRATED: 9/4/2007	**BY:** JD		
TEMPERATURE OF SOIL: Ambient			**ANALYST:** JD

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
TT - 5	S - 12	2.25	soil	75.7	0.8	petroleum-type odor, grey staining
TT - 5	S - 13	3.5	soil	524	1.2	strong petroleum-type odor, little sludge
TT - 5	S - 14	6.5	soil	315	1.3	petroleum-type odor, trace staining
TT - 5	S - 15	2	soil	105	0.2	petroleum-type odor, grey staining
TT - 5	S - 16	5.5	soil	181	0.1	no odor, no 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Broadway ERP Site		PROJECT #: 07.1092	PAGE 1 OF 1
CLIENT: Village of Saranac Lake			DATE COLLECTED: 9/5/2007
LOCATION: Saranac Lake, NY			
INSTRUMENT USED: Mini Rae	LAMP 10.6 eV		DATE ANALYZED: 9/5/2007
DATE INSTRUMENT CALIBRATED: 9/5/2007		BY: JD	
TEMPERATURE OF SOIL: Ambient			ANALYST: JD

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
WS - 1	S - 1	2	soil	126	0.8	no staining, slight hydrogen sulfide odor
WS - 2	S - 1	1.5	soil	11.4	0.0	no odor, no staining
TT - 5	S - 17	2	soil	528	0.0	no odor, no staining
TT - 5	S - 18	5	soil	39	0.4	no odor, no staining
TT - 5	S - 19	7	soil	386	1.2	no odor, no staining
TT - 5	S - 20	1.5	soil	32.3	0.2	petroleum-type odor, grey staining
TT - 5	S - 21	6	soil	17.2	0.4	petroleum-type odor, trace grey staining
TT - 5	S - 22	7	soil	130	0.0	petroleum-type odor, trace grey staining
TT - 5	S - 23	5	soil	192	0.8	petroleum-type odor, dark grey 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Broadway ERP Site	**PROJECT #:** 07.1092		**PAGE 1 OF 1**
CLIENT: Village of Saranac Lake			**DATE COLLECTED:** 9/6/2007
LOCATION: Saranac Lake, NY			
INSTRUMENT USED: Mini Rae	**LAMP** 10.6 **eV**		**DATE ANALYZED:** 9/6/2007
DATE INSTRUMENT CALIBRATED: 9/6/2007	**BY:** JD		
TEMPERATURE OF SOIL: Ambient			**ANALYST:** JD

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
TT-5	S-24	3.5	soil	532	0.2	no odor, no staining
TT-5	S-25	5	soil	264	0.8	no odor, no staining
TT-5	S-26	5	soil	549	1.4	no odor, no staining
TT-5	S-27	5	soil	463	0.9	no odor, no staining
WS-3		2	soil	224	0.1	no odor, no staining
TP-2	S-1	3	soil	29.5	0.0	no odor, no staining
TP-2	S-2	7	soil	25.5	0.4	no odor, no staining
TP-3	S-1	2	soil	49.2	0.0	no odor, no staining
TP-3	S-2	6	soil	15.7	0.0	no odor, no staining
TP-4	S-1	3	soil	8.9	0.0	no odor, no staining
TP-4	S-2	6	soil	5.6	0.0	no odor, no staining
TP-5	S-1	3	soil	0.0	0.0	no odor, no staining
TP-5	S-2	6	soil	0.0	0.0	no odor, no 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Broadway ERP Site	**PROJECT #:** 07.1092		**PAGE 1 OF 1**
CLIENT: Village of Saranac Lake			**DATE**
LOCATION: Saranac Lake, NY			**COLLECTED: 9/7/2007**
INSTRUMENT USED: Mini Rae	**LAMP** 10.6 **eV**		**DATE**
DATE INSTRUMENT CALIBRATED: 9/7/2007	**BY:** JD		**ANALYZED: 9/7/2007**
TEMPERATURE OF SOIL: Ambient			**ANALYST: JD**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
TP-6	S-1	2	soil	0.0	0.0	solvent-type odor, black staining
TP-6	S-2	3.5	soil	140	0.0	faint odor, no staining
TP-6	S-3	5	soil	58.1	0.0	no odor, no 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.

APPENDIX C

Subsurface Exploration Logs

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: MW-1
ELEV.: 473.04 **DATUM: Assumed**
START DATE: 12/11/07 **FINISH DATE: 12/11/07**
SHEET 1 OF 1

PROJECT: 400 Upper Broadway ERP Site — CTM PROJECT NO.: 07.1092
LOCATION: Saranac Lake, NY — CTM INSPECTOR: Jonathan Dippert

DEPTH (FT.)	SAMPLE TYPE	SAMPLE NO.	BLOWS 0/6	BLOWS 6/12	BLOWS 12/18	BLOWS 18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
		1	3	2	1	WH	3	0.3	Brown very fine SAND	moist
		2	WH	WH	1	WH	1	0.2		
5		3	WH	WH	3	3	3	0.2		
		4	2	5	7	10	12	0.3	trace organic material	wet @ ±6' bgs
10		5	100/.4						grades to very fine to medium SAND, little weathered rock	auger refusal at 10.1' bgs, Possible Bedrock
		6	100/.1							
15									Boring Terminated at ±10.1' bgs. Boring advanced from ± 0 to 7' bgs into reworked soils created by the previous excavation of Test Trench 2.	
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: Track Mounted CME 850
METHOD OF INVESTIGATION: 4.25" ID Hollow Stem Augers

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: DIPPERT

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: MW-2
ELEV.: 482.18' **DATUM: Assumed**
START DATE: 12/11/07 **FINISH DATE: 12/11/07**
SHEET 1 OF 1

PROJECT: 400 Upper Broadway ERP Site CTM PROJECT NO.: 07.1092
LOCATION: Saranac Lake, NY CTM INSPECTOR: Jonathan Dippert

DEPTH (FT.)	SAMPLE TYPE	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
		1	2	3	4	4	7	0.5	Dark Brown to Black very fine SAND and SILT, trace wood	wet with organic odor
		2	3	5	7	10	12	0.2		
5		3	4	3	5	7	8	0.8	5.0'	
									Gray-green SILT, Some Clay 6.2'	
		4	100/.2							
									Boring Terminated at ±6.2' bgs.	auger and spoon refusal at 6.2' bgs, Possible Bedrock
10									Boring advanced from ± 0 to 6.2' bgs into reworked soils created by the previous excavation of Test Trench 2.	
15										
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: Track Mounted CME 850
METHOD OF INVESTIGATION: 4.25" ID Hollow Stem Augers

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

SAMPLE CLASSIFICATION BY: DIPPERT

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: MW-3
ELEV.: 486.57' **DATUM: Assumed**
START DATE: 12/12/07 **FINISH DATE: 12/12/07**
SHEET 1 OF 1

PROJECT: 400 Upper Broadway ERP Site
CTM PROJECT NO.: 07.1092
LOCATION: Saranac Lake, NY
CTM INSPECTOR: Jonathan Dippert

DEPTH (FT.)	SAMPLE TYPE	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
		1	43	12	4	4	16	1.3	CONCRETE (possible foundation remains) 0.75'	
										little wet at ±0.75' bgs
		2	4	8	11	50/.3	19	1.0	Dark Brown very fine SAND and SILT	metallic-type staining
									3.75'	wet at ±3.75' bgs
5		3	5	5	7	8	12	1.3	Black SILT and ORGANIC MATERIAL	organic-type odor
									Green-Gray very fine SAND and fine GRAVEL, Some Silt	petroleum-type odor
		4	5	7	8	8	15	1.0		
		5	150/.1							spoon refusal at ± 8.1' bgs,
10									9.5'	auger refusal at ± 9.5' bgs, Possible Bedrock
									Boring Terminated at ±9.5' bgs	
15										
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: Track Mounted CME 850
METHOD OF INVESTIGATION: 4.25" ID Hollow Stem Augers

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

SAMPLE CLASSIFICATION BY: DIPPERT

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: MW-4
ELEV.: 472.64' **DATUM: Assumed**
START DATE: 12/12/07 **FINISH DATE: 12/12/07**
SHEET 1 OF 1

PROJECT: 400 Upper Broadway ERP Site — CTM PROJECT NO.: 07.1092
LOCATION: Saranac Lake, NY — CTM INSPECTOR: Jonathan Dippert

DEPTH (FT.)	SAMPLE TYPE	SAMPLE NO.	BLOWS 0/6	6/12	12/18	18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
		1	2	6	11	14	17	0.1	Brown very fine SAND, little fine to medium gravel	little wet
		2	8	12	27	41	39	0.3		wet at ±3.0' bgs
5		3	4	4	3	11	7	1.0		petroleum-type odor
		4	100/0							dark gray staining
		5	4	2	5	7	7	1.8	Black SILT, SAND and ORGANIC MATTER	
10									Gray-Green SILT	petroleum-type odor
		6	12	19	21	28	40	1.2	Brown very fine SAND, trace medium gravel	metallic-type staining
		7	WH	12	13	14	25	1.0		
15		8	47	50/0					Boring Terminated at ±14.5' bgs	auger and spoon refusal at ± 14.5' bgs, Possible Bedrock
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: Track Mounted CME 850
METHOD OF INVESTIGATION: 4.25" ID Hollow Stem Augers

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: DIPPERT

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: MW-5
ELEV.: 470.52' **DATUM: Assumed**
START DATE: 12/13/07 **FINISH DATE: 12/13/07**
SHEET 1 OF 1

PROJECT: 400 Upper Broadway ERP Site — CTM PROJECT NO.: 07.1092
LOCATION: Saranac Lake, NY — CTM INSPECTOR: Jonathan Dippert

DEPTH (FT.)	SAMPLE TYPE	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
		1	5	5	3	2	8	1.3	Dark Brown fine SAND and ORGANICS	little wet
									Light Gray SILT	wet at ±2' bgs
		2	16	16	50	21	66	1.5		
									Greenish-Gray SILT	little dark gray staining
5		3	14	114	31	13	145	1.8		
									Brown very fine SAND, little coarse gravel	spoon refusal at ± 7.2' bgs,
		4	32	25	50/.2			1.0		auger refusal at ± 6.3' bgs,
										Possible Bedrock
									Boring Terminated at ±7.2' bgs	
10										
15										
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: Track Mounted CME 850
METHOD OF INVESTIGATION: 4.25 ID Hollow Stem Augers

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

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SAMPLE CLASSIFICATION BY: DIPPERT

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: MW-6
ELEV.: 484.53 **DATUM: Assumed**
START DATE: 12/14 /07 FINISH DATE: 12/14 /07
SHEET 1 OF 1

PROJECT: 400 Upper Broadway ERP Site CTM PROJECT NO.: 07.1092

LOCATION: Saranac Lake, NY CTM INSPECTOR: Jonathan Dippert

DEPTH (FT.)	SAMPLE TYPE	SAMPLE NO.	BLOWS 0/6	BLOWS 6/12	BLOWS 12/18	BLOWS 18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
		1	9	8	4	4	12	1.0	Brown fine SAND	moist
		2	4	3	12	12	15	1.0	Black SILT, trace organics	little wet at ±3.75' bgs
5		3	6	5	3	3	8	0.8	Brown SILT and SAND	(wet) metallic staining noted
		4	5	10	10	14	20	1.2	grades to fine to medium SAND, little weathered rock	
10		5	21	18	17	23	35	1.4		
		6	39	42	47	89	89	1.2	grades to very fine SAND, little silt	
		7	13	25	39	47	64	1.8		
15		8	26	100/.3				0.5		auger and spoon refusal at ±14.8' bgs, Possible Bedrock
									Boring Terminated at ±14.8' 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: Track Mounted CME 850

METHOD OF INVESTIGATION: 4.25" ID Hollow Stem Augers

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

SAMPLE CLASSIFICATION BY: DIPPERT

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: MW-7
ELEV.: 490.44' **DATUM: Assumed**
START DATE: 12/18/07 **FINISH DATE: 12/18/07**
SHEET 1 OF 1

PROJECT: 400 Upper Broadway ERP Site — CTM PROJECT NO.: 07.1092

LOCATION: Saranac Lake, NY — CTM INSPECTOR: Jonathan Dippert

DEPTH (FT.)	SAMPLE TYPE	SAMPLE NO.	BLOWS 0/6	BLOWS 6/12	BLOWS 12/18	BLOWS 18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
		1	2	1	1	1	2	0.3	Dark Brown SILT and SAND, little organic material	little wet
		2	2	3	5	8	8	0.8		
5		3	7	10	15	13	25	1.0	Brown fine SAND, little silt, trace black medium sand	metallic and gray staining wet at ±6' bgs
		4	15	8	7	10	15	1.5		
10		5	4	7	8	11	15	1.8	Brown fine SAND, little fine to medium gravel	metallic staining noted
		6	27	41	47	48	88	1.7		
		7	15	34	87	100/.1	121	1.0		spoon refusal at ± 13.6' bgs, auger refusal at ± 13.3' bgs, Possible Bedrock
15									Boring Terminated at ±13.6' 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: Track Mounted CME 850

METHOD OF INVESTIGATION: 4.25" ID Hollow Stem Augers

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

SAMPLE CLASSIFICATION BY: DIPPERT

C.T. MALE ASSOCIATES, P.C.

OC'd
5/15/08

SUBSURFACE EXPLORATION LOG

BORING NO.: MW-8
ELEV.: 486.06' **DATUM: Assumed**
START DATE: 12/18/07 **FINISH DATE: 12/18/07**
SHEET 1 OF 1

PROJECT: 500 Upper Broadway ERP Site
LOCATION: Saranac Lake, NY

CTM PROJECT NO.: 07.7524
CTM INSPECTOR: Jonathan Dippert

DEPTH (FT.)	SAMPLE TYPE	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	RECOVERY
		1	12	12	10	7	22	0.2
		2	11	10	7	7	17	0.3
5		3	7	10	12	11	22	1.5
		4	11	15	17	20	32	1.2
		5	8	22	25	38	47	1.4
10		6	37	68	100/1			
		7	22	100/1				
15								
20								
25								
30								

SAMPLE CLASSIFICATION	NOTES
Dark Brown SILT, SAND and ORGANICS 2.0'	little wet
Dark Brown and Dark Green-Gray SILT and SAND 5.0'	wet @ ±3.5' bgs
Brown fine SAND, little silt, mottled with metallic staining and green-gray staining, little fine to coarse gravel 8.0'	
Brown fine SAND, Some Silt, Some Metallic Staining, Some fine to coarse Gravel, little weathered rock 12.6'	spoon refusal at 12.6' bgs, auger refusal at 11.6' bgs, Possible Bedrock
Boring Terminated at ±12.6' bgs	

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB DRILL RIG TYPE: CME 850
METHOD OF INVESTIGATION: hollow stem auger 4.25"

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

SAMPLE CLASSIFICATION BY: DIPPERT

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: MW-9
ELEV.: 502.67' DATUM: Assumed
START DATE: 12/19/07 FINISH DATE: 12/19/07
SHEET 1 OF 1

PROJECT: 400 Upper Broadway ERP Site
CTM PROJECT NO.: 07.7524
LOCATION: Saranac Lake, NY
CTM INSPECTOR: Jonathan Dippert

DEPTH (FT.)	SAMPLE TYPE	NO.	0/6	6/12	12/18	18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
		1	5	7	12	13	19	1.0	Dark Brown SILT to very fine SAND, Some Organic Material, trace fine to medium gravel	little wet 2.0'
		2	9	23	18	34	41	1.4	Dark Brown very fine SAND and fine to coarse GRAVEL, Some Silt	
5		3	100/1					0.0		rock in tip of shoe
		4	5	4	2	2	6	0.7		
10		5	5	5	3	2	8	0.5		
		6	4	2	4	6	6	0.4	trace brick fragments	
		7	6	2	1	1	3	0.2	trace slag 14.5'	wet @ ±14.5' bgs
15		8	16	5	11	16	16	1.3	Black Silt 15.25'	
		9	12	8	8	7	16	1.4	Brown fine SAND, Some fine to coarse Gravel, little silt	
20		10	11	16	15	32	31	1.6	little weathered rock	
		11	20	27	31	50/2	58	1.1	21.7' Boring Terminated at ±21.7' bgs	auger and spoon refusal at 21.7' bgs, Possible Bedrock
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: SJB DRILL RIG TYPE: CME 850

METHOD OF INVESTIGATION: hollow stem auger 4.25"

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

SAMPLE CLASSIFICATION BY: DIPPERT

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: MW-10
ELEV.: 502.6' **DATUM:** Assumed
START DATE: 12/20/07 **FINISH DATE:** 12/20/07
SHEET 1 **OF** 1

PROJECT: 400 Upper Broadway ERP Site CTM PROJECT NO.: 07.7524
LOCATION: Saranac Lake, NY CTM INSPECTOR: Jonathan Dippert

DEPTH (FT.)	SAMPLE NO.	0/6	6/12	12/18	18/24	N	RECOVERY
	1	2	5	9	17	14	1.4
	2	100/1					0.0
5	3	11	8	15	13	23	0.6
	4	5	5	5	5	10	0.6
10	5	26	18	4	4	22	1.1
	6	50/1					0.0
	7	2	1	1	1	2	0.4
15	8	5	3	4	4	7	1.0
	9	8	8	9	6	17	1.5
20	10	10	11	22	25	33	1.3
	11	18	24	100/2			1.2
25							
30							

SAMPLE CLASSIFICATION	NOTES
Dark Brown very fine SAND, Some Silt and fine to medium Gravel — 6.0'	moist; large boulder
Brown fine SAND, little fine to medium gravel, trace slag — 14.5'	little wet @ ±6' bgs
Black SILT, trace organic material — 15.0'	wet @ ±14.5' bgs
Brown mottled with green-gray, fine SAND, little silt, little fine to medium gravel	17.25'
Green-gray fine SAND, little silt, dark gray staining, petroleum odor — 18.0'	
Brown fine SAND, Some fine to medium Gravel	spoon refusal at 21.2' bgs, Possible Bedrock
Boring Terminated at ±21.2' bgs	

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB DRILL RIG TYPE: CME 850
METHOD OF INVESTIGATION: hollow stem auger 4.25"

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

SAMPLE CLASSIFICATION BY: DIPPERT

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: MW-10b
ELEV.: 502.6 **DATUM: Assumed**
START DATE: 3/31/08 FINISH DATE: 4/1/08
SHEET 1 OF 1

PROJECT: 400 Upper Broadway ERP Site — CTM PROJECT NO.: 07.7524

LOCATION: Saranac Lake, NY — CTM INSPECTOR: Jonathan Dippert

DEPTH (FT.)	SAMPLE TYPE	SAMPLE NO.	0/6	6/12	12/18	18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
									Brown fine SAND, fine GRAVEL to large COBBLES	moist; fill material; 6.25" auger
5									5.0'	
									Large BOULDER	5" casing
									8.0'	
									Brown fine SAND, fine GRAVEL to large COBBLES	
10									12.0'	
									Large BOULDER	4" casing
15									15.7'	
		1	14	7	10	10	17	0.2	Green-Gray and Brown fine SAND and SILT, little metallic staining, organic odor, little weathered rock	wet
		2	15	23	48	29	71	1.2		
20									20.7'	
		3	14	50/2			50/2	0.3	Boring Terminated @ ±20.7' bgs	spoon refusal at 20.7' bgs
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: Aztech Technologies, Inc DRILL RIG TYPE: longyear BK 66

METHOD OF INVESTIGATION: air rotary with telescoping casing

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

SAMPLE CLASSIFICATION BY: DIPPERT

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: MW-11
ELEV.: 501.51 **DATUM:** Assumed
START DATE: 12/28/07 **FINISH DATE:** 12/28/07
SHEET 1 **OF** 1

PROJECT: 400 Upper Broadway ERP Site
CTM PROJECT NO.: 07.7524
LOCATION: Saranac Lake, NY
CTM INSPECTOR: Jonathan Dippert

DEPTH (FT.)	SAMPLE TYPE	SAMPLE NO.	BLOWS 0/6	BLOWS 6/12	BLOWS 12/18	BLOWS 18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
		1	6	10	11	11	21	0.2	Brown fine SAND, Some medium Sand, little fine gravel	moist
		2	6	5	4	4	9	0.8		
5		3	2	2	1	2	3	0.2		
		4	2	2	2	2	4	0.5		
		5	8	100/0					little cobbles to small boulders	
10										wet @ ±10' bgs
		6	100/0							
			38	10	3	3	13	0.5		
		7	1	1	1	1	2	0.5		
									14.5'	
15		8	8	6	1	1	7	0.7	Black SILT, trace organic material, little clay, organic odor 16.5'	
		9	6	8	10	11	18	1.0	Green-gray SILT, little clay 18.0'	auger refusal at 17.8' bgs, Possible Bedrock
									Boring Terminated at ±18.0' bgs	
20										no well installed
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB
DRILL RIG TYPE: CME 850
METHOD OF INVESTIGATION: hollow stem auger 4.25"

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

SAMPLE CLASSIFICATION BY: DIPPERT

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: MW-11a
ELEV.: 501.51 **DATUM: Assumed**
START DATE: 4/1/08 **FINISH DATE: 4/2/08**
SHEET 1 OF 1

PROJECT: 400 Upper Broadway ERP Site CTM PROJECT NO.: 07.7524
LOCATION: Saranac Lake, NY CTM INSPECTOR: Jonathan Dippert

DEPTH (FT.)	SAMPLE TYPE	NO.	0/6	6/12	12/18	18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
		1	12	37	50/1		87/6	0.4	Brown fine SAND, fine GRAVEL to large COBBLES	very moist; 6.25" auger
		2	3	3	4	12	7	0.3		
5		3	3	2	3	3	5	0.3		
		4	5	8	42	3	50	0.0		lost cutting shoe; 5" casing
10		5	32	5	6	10	11	0.4	10'	
15									Possible C&D DEBRIS and/or large COBBLES (wood chips in cuttings) 15.7'	4" casing
		6	57	100/2			100/2	0.2	Possible BEROCK or Large BOULDER 18.0'	wet; open hole
20									Boring Terminated @ ±18.0' bgs	spoon refusal at 15.7' bgs
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: Aztech Technologies, Inc DRILL RIG TYPE: longyear BK 66
METHOD OF INVESTIGATION: air rotary with telescoping casing

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: DIPPERT

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: MW-12
ELEV.: 503.2 **DATUM:** Assumed
START DATE: 4/2/08 **FINISH DATE:** 4/3/08
SHEET 1 **OF** 1

PROJECT: 400 Upper Broadway ERP Site CTM PROJECT NO.: 07.7524

LOCATION: Saranac Lake, NY CTM INSPECTOR: Jonathan Dippert

DEPTH (FT.)	SAMPLE TYPE	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
		1	5	50/4			50/4	0.3	Brown fine SAND, Some fine to coarse Gravel	moist
5		2	2	2	2	2	4	0.2		
		3	4	70	-	-	70	0.2	trace wood 6.0'	spoon advancement stopped because spoon was bouncing
10									Large COBBLE or Small BOULDER 10.0'	
		4	8	10	20	28	30	0.0	Brown fine SAND, coarse GRAVEL 12.5'	5" casing
		5	58	44	38	47	82	1.4	Pulvarized ROCK	13.0'
15		6	34	51	42	47	93	1.6	Brown and Green-Gray fine SAND ad SILT, little fine to medium gravel, grades to SILT and CLAY, Some Gravel	wet @ ±14' very moist @ ±15'
		7	11	38	50/3		88/8	1.2	17.3'	wet @ ±16' (saturated)
20									Large COBBLE or Small BOULDER 20.0'	
		8	100/5					0.3	Grey SILT, weathered ROCK 20.5'	spoon refusal @ 20.5'
25									Boring Terminated @ ±20.5' bgs	
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: Aztech Technologies, Inc DRILL RIG TYPE: longyear BK 66

METHOD OF INVESTIGATION: air rotary

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

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SAMPLE CLASSIFICATION BY: DIPPERT

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: MW-13
ELEV.: **DATUM:**
START DATE: 4/3/08 **FINISH DATE:** 4/3/08
SHEET 1 **OF** 1

PROJECT: 400 Upper Broadway ERP Site CTM PROJECT NO.: 07.7524

LOCATION: Saranac Lake, NY CTM INSPECTOR: Jonathan Dippert

DEPTH (FT.)	SAMPLE TYPE	NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
		1	2	2	4	11	6	1.5	Brown fine SAND, trace medium gravel	top soil very moist
		2	23	31	31	26	62	0.5	3.5' asphalt 4.0'	5" casing
5		3	13	8	7	3	15	0.2	Brown fine SAND and SILT, fine to coarse GRAVEL	
		4	3	3	3	2	6	0.1		
10		5	9	10	8	7	18	1.1	Brown fine SAND, trace fine gravel 10.0'	
		6	7	10	15	12	25	1.3	Brown fine SAND and SILT, little clay, little pulverized rock and weathered rock	wet
		7	33	48	51	100/3	99	1.8	13.8'	
15									Boring Terminated @ ±13.8' bgs	Spoon refusal at 13.8' bgs
20										
25										no well installed, abandoned with backfill and bentonite chips water level reading in casing ± 10.2' bgs
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: Aztech Technologies, Inc DRILL RIG TYPE: longyear BK 66

METHOD OF INVESTIGATION: air rotary

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

SAMPLE CLASSIFICATION BY: DIPPERT

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-1
ELEV.: **DATUM:**
START DATE: 4/4/08 FINISH DATE: 4/4/08
SHEET 1 OF 1

PROJECT: 400 Upper Broadway ERP Site — CTM PROJECT NO.: 07.7524

LOCATION: Saranac Lake, NY — CTM INSPECTOR: Jonathan Dippert

DEPTH (FT.)	SAMPLE TYPE	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
		1	50/5	38	57	43	95	1.7		very moist
									Brown fine SAND, Some fine to coarse Gravel, trace coal	crushed stone fill material
		2	20	12	7	4	19	0.8		
5		3	7	9	8	11	17	0.3		
		4	6	8	3	4	11	0.5		
									Brown med SAND, Some Metallic Staining	
		5	4	6	10	8	16	0.8		
10										
									Boring Terminated @ ±10.0' bgs	
15										
20										
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: Aztech Technologies, Inc — DRILL RIG TYPE: longyear BK 66

METHOD OF INVESTIGATION: hollow stem auger 4.25"

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

SAMPLE CLASSIFICATION BY: DIPPERT

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-2
ELEV.: **DATUM:**
START DATE: 4/4/08 **FINISH DATE:** 4/4/08
SHEET 1 **OF** 1

PROJECT: 400 Upper Broadway ERP Site — CTM PROJECT NO.: 07.7524

LOCATION: Saranac Lake, NY — CTM INSPECTOR: Jonathan Dippert

DEPTH (FT.)	SAMPLE TYPE	SAMPLE NO.	BLOWS 0/6	BLOWS 6/12	BLOWS 12/18	BLOWS 18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
		1	14	10	10	9	20	1.0	Brown fine SAND, Some fine to coarse Gravel, trace coal	very moist fill material
		2	4	2	2	3	4	0.8		
5		3	6	3	3	7	6	0.3	Grades to fine and medium SAND	
		4	10	3	5	4	8	0.4		
10		5	16	12	9	8	21	1.0		
									Boring Terminated @ ±10.0' bgs	
15										
20										
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW

DRILLING CONTRACTOR: Aztech Technologies, Inc — DRILL RIG TYPE: longyear BK 66

METHOD OF INVESTIGATION: hollow stem auger 4.25"

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

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SAMPLE CLASSIFICATION BY: DIPPERT

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-3
ELEV.: **DATUM:**
START DATE: 4/4/08 **FINISH DATE:** 4/4/08
SHEET 1 **OF** 1

PROJECT: 400 Upper Broadway ERP Site | CTM PROJECT NO.: 07.7524
LOCATION: Saranac Lake, NY | CTM INSPECTOR: Jonathan Dippert

DEPTH (FT.)	SAMPLE TYPE	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
	/	1	4	8	8	12	16	0.9	Brown fine SAND, Some medium Sand, Some fine to coarse Gravel, trace coal	very moist fill material
	/	2	18	6	4	3	10	0.1		
5	/	3	4	1	1	2	2	0.0		
	/	4	2	1	1	1	2	1.2	trace wood	
10	/	5	6	8	8	7	16	0.8		
									Boring Terminated @ ±10.0' bgs	
15										
20										
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: Aztech Technologies, Inc DRILL RIG TYPE: longyear BK 66
METHOD OF INVESTIGATION: hollow stem auger 4.25"

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

SAMPLE CLASSIFICATION BY: DIPPERT

APPENDIX D

Test Boring Organic Vapor Headspace Analysis Logs

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Upper Broadway ERP Site				**PROJECT #:** 07.1092		**PAGE 1 OF 1**
CLIENT: Village of Saranac Lake						**DATE COLLECTED:** 12/11/2007
LOCATION: Saranac Lake, NY						
INSTRUMENT USED: MiniRae 2000				**LAMP** 10.6 **eV**		**DATE ANALYZED:** 12/11/2007
DATE INSTRUMENT CALIBRATED: 12/11/2007				**BY:** JD		
TEMPERATURE OF SOIL: ambient						**ANALYST:** JD
EXPLORATION NUMBER	**SAMPLE NUMBER**	**DEPTH (FT.)*****	**SAMPLE TYPE**	**SAMPLE READING (PPM)****	**BACKGROUND READING (PPM)****	**REMARKS**
MW-1	S-1	0-2	soil	16.3	0.0	No Odor/Staining
MW-1	S-2	2-4	soil	10.9	0.1	No Odor/Staining
MW-1	S-3	4-6	soil	7.9	0.0	No Odor/Staining
MW-1	S-4	6-8	soil	11.2	0.0	No Odor/Staining
MW-1	S-5	8-10	soil	8.6	0.0	No Odor/Staining
MW-1	S-6	10-10.1	soil	6.1	0.0	No Odor/Staining
MW-2	S-1	0-2	soil	28.2	0.0	Organic Odor, No Staining
MW-2	S-2	2-4	soil	44.1	0.0	Organic Odor, No Staining
MW-2	S-3	4-6	soil	11.4	0.2	No Odor/Staining
MW-2	S-4	6-6.2	soil	87.3	0.1	Organic Odor, No 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Upper Broadway ERP Site	**PROJECT #:** 07.1092		**PAGE 1 OF 1**
CLIENT: Village of Saranac Lake			**DATE COLLECTED:** 12/12/2007
LOCATION: Saranac Lake, NY			
INSTRUMENT USED: MiniRae 2000	**LAMP** 10.6 **eV**		**DATE ANALYZED:** 12/12/2007
DATE INSTRUMENT CALIBRATED: 12/12/2007	**BY:** JD		
TEMPERATURE OF SOIL: ambient			**ANALYST: JD**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
MW-3	S-1	0-2	soil	140	0.7	No Odor, metallic staining
MW-3	S-2	2-4	soil	1170	1.4	Organic Odor, No Staining
MW-3	S-3	4-6	soil	50.5	0.5	Dark Gray Staining
MW-3	S-4	6-8	soil	130	0.5	Faint Petroleum-Type Odor
MW-3	S-5	8-8.1	soil	9999+	0.3	Faint Petroleum-Type Odor
MW-4	S-1	0-2	soil	0.8	0.1	No Odor/Staining
MW-4	S-2	2-4	soil	8.7	0.1	No Odor/Staining
MW-4	S-3	4-6	soil	4.3	0.4	No Odor/Staining
MW-4	S-4	6-8	-	-	-	no sample recovery
MW-4	S-5	8-10	soil	19.3	0.1	Faint Petro Odor, Gray Stain
MW-4	S-6	10-12	soil	4.2	0.0	No Odor/Staining
MW-4	S-7	12-14	soil	1.7	0.0	No Odor/Staining
MW-4	S-8	14-14.5	soil	14.4	0.0	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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Upper Broadway ERP Site	**PROJECT #:** 07.1092		**PAGE 1 OF 1**
CLIENT: Village of Saranac Lake			**DATE COLLECTED:** 12/13/2007
LOCATION: Saranac Lake, NY			
INSTRUMENT USED: MiniRae 2000	**LAMP** 10.6 **eV**		**DATE ANALYZED:** 12/13/2007
DATE INSTRUMENT CALIBRATED: 12/13/2007	**BY:** JD		
TEMPERATURE OF SOIL: ambient			**ANALYST:** JD

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
MW-5	S-1	0-2	soil	10.2	0.0	No Odor/Staining
MW-5	S-2	2-4	soil	25.4	0.1	No Odor/Gray Staining
MW-5	S-3	4-6	soil	0.6	0.0	No Odor/Staining
MW-5	S-4	6-7.2	soil	0.1	0.0	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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Upper Broadway ERP Site		**PROJECT #:** 07.1092	**PAGE 1 OF 1**
CLIENT: Village of Saranac Lake			**DATE COLLECTED:** 12/14/2007
LOCATION: Saranac Lake, NY			
INSTRUMENT USED: MiniRae 2000	**LAMP** 10.6 **eV**		**DATE ANALYZED:** 12/14/2007
DATE INSTRUMENT CALIBRATED:		**BY:** JD	
TEMPERATURE OF SOIL: ambient			**ANALYST:** JD

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
MW-6	S-1	0-2	soil	0.0	0.0	No Odor/Staining
MW-6	S-2	2-4	soil	11.8	0.0	No Odor/Staining
MW-6	S-3	4-6	soil	35.2	0.0	No Odor/Staining
MW-6	S-4	6-8	soil	0.0	0.0	No Odor/Metallic Staining
MW-6	S-5	8-10	soil	3.5	0.0	No Odor/Metallic Staining
MW-6	S-6	10-12	soil	1.7	0.0	No Odor/Metallic Staining
MW-6	S-7	12-14	soil	0.0	0.0	No Odor/Metallic Staining
MW-6	S-8	14-14.8	soil	0.0	0.0	No Odor/Metallic 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Upper Broadway ERP Site	**PROJECT #:** 07.1092		**PAGE 1 OF 1**
CLIENT: Village of Saranac Lake			**DATE COLLECTED: 12/18/2007**
LOCATION: Saranac Lake, NY			
INSTRUMENT USED: MiniRae 2000	**LAMP** 10.6 **eV**		**DATE ANALYZED: 12/18/2007**
DATE INSTRUMENT CALIBRATED: 12/18/2007	**BY:** JD		
TEMPERATURE OF SOIL: ambient			**ANALYST: JD**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
MW-7	S-1	0-2	soil	0.0	0.0	No Odor/Staining
MW-7	S-2	2-4	soil	11.0	0.6	No Odor/Staining
MW-7	S-3	4-6	soil	0.8	0.4	No Odor/Staining
MW-7	S-4	6-8	soil	13.2	0.2	Metallic and Gray Staining
MW-7	S-5	8-10	soil	3.3	0.7	Metallic and Gray Staining
MW-7	S-6	10-12	soil	4.1	0.3	No Odor/Metallic Staining
MW-7	S-7	12-13.6	soil	5.6	0.0	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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Upper Broadway ERP Site	**PROJECT #:** 07.7524		**PAGE 1 OF 1**
CLIENT: Village of Saranac Lake			**DATE COLLECTED:** 12/18/07
LOCATION: Saranac Lake, NY			
INSTRUMENT USED: MiniRae 2000	**LAMP** 10.6 **eV**		**DATE ANALYZED:** 12/18/07
DATE INSTRUMENT CALIBRATED: 12/18/2007	**BY:** JD		
TEMPERATURE OF SOIL: Ambient			**ANALYST:** JD

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
MW-8	S-1	0-2	Soil	0.0	0.0	no odor, no staining
MW-8	S-2	2-4	Soil	0.0	0.0	no odor, no staining
MW-8	S-3	4-6	Soil	13.1	0.2	no odor, green-gray and metallic staining
MW-8	S-4	6-8	Soil	7.9	0.2	no odor, green-gray and metallic staining
MW-8	S-5	8-10	Soil	2.0	0.0	no odor, metallic staining
MW-8	S-6	10-11.1	Soil	0.4	0.0	no odor, metallic staining
MW-8	S-7	12-12.6	Soil	0.0	0.0	no odor, no 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Upper Broadway ERP Site	**PROJECT #:** 07.7524		**PAGE 1 OF 1**
CLIENT: Village of Saranac Lake			**DATE COLLECTED:** 12/19/07
LOCATION: Saranac Lake, NY			
INSTRUMENT USED: MiniRae 2000	**LAMP** 10.6 **eV**		**DATE ANALYZED:** 12/19/07
DATE INSTRUMENT CALIBRATED: 12/19/2007	**BY:** JD		
TEMPERATURE OF SOIL: Ambient			**ANALYST:** JD

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
MW-9	S-1	0-2	Soil	10.8	0.0	no odor, no staining
MW-9	S-2	2-4	Soil	2.1	0.0	no odor, no staining
MW-9	S-3	4-6	-	-	-	no recovery
MW-9	S-4	6-8	Soil	0.4	0.0	no odor, no staining
MW-9	S-5	8-10	Soil	0.8	0.0	no odor, no staining
MW-9	S-6	10-12	Soil	0.9	0.0	no odor, no staining
MW-9	S-7	12-14	Soil	0.6	0.0	no odor, no staining
MW-9	S-8	14-16	Soil	0.5	0.0	no odor, no staining
MW-9	S-9	16-18	Soil	0.8	0.0	no odor, no staining
MW-9	S-10	18-20	Soil	0.4	0.0	no odor, no staining
MW-9	S-11	20-21.7	Soil	0.7	0.0	no odor, no 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	400 Upper Broadway ERP Site	**PROJECT #:**	07.7524		**PAGE 1 OF 1**
CLIENT:	Village of Saranac Lake				**DATE**
LOCATION:	Saranac Lake, NY				**COLLECTED: 12/20/07**
INSTRUMENT USED:	MiniRae 2000	**LAMP**	10.6	**eV**	**DATE**
DATE INSTRUMENT CALIBRATED:	12/20/2007		**BY:** JD		**ANALYZED: 12/20/07**
TEMPERATURE OF SOIL:	Ambient				**ANALYST: JD**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
MW-10	S-1	0-2	Soil	3.2	1.4	no odor, no staining
MW-10	S-2	2-4	-	-	-	no recovery
MW-10	S-3	4-6	Soil	2.7	1.1	no odor, no staining
MW-10	S-4	6-8	Soil	1.8	1.4	no odor, no staining
MW-10	S-5	8-10	Soil	5.4	1.1	no odor, no staining
MW-10	S-6	10-12	-	-	-	no recovery
MW-10	S-7	12-14	Soil	2..1	1.2	no odor, no staining
MW-10	S-8	14-16	Soil	1.9	1.1	no odor, no staining
MW-10	S-9	16-18	Soil	475	1.0	dark gray staining, petroleum-type odor
MW-10	S-10	18-20	Soil	45	1.3	no staining, faint petroleum-type odor
MW-10	S-11	20-21.2	Soil	3.1	1.1	no staining, faint petroleum-type 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Upper Broadway ERP Site			**PROJECT #:** 07.7524			**PAGE 1 OF 1**
CLIENT: Village of Saranac Lake						**DATE COLLECTED:** 12/28/07
LOCATION: Saranac Lake, NY						
INSTRUMENT USED: MiniRae 2000			**LAMP** 10.6 **eV**			**DATE ANALYZED:** 12/28/07
DATE INSTRUMENT CALIBRATED: 12/28/2007			**BY:** JD			
TEMPERATURE OF SOIL: Ambient						**ANALYST: JD**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
MW-11	S-1	0-2	Soil	0.8	0.7	no odor, no staining
MW-11	S-2	2-4	Soil	0.7	0.7	no odor, no staining
MW-11	S-3	4-6	Soil	0.9	0.7	no odor, no staining
MW-11	S-4	6-8	Soil	0.8	0.7	no odor, no staining
MW-11	S-5	8-8.5	Soil	0.8	0.7	no odor, no staining
MW-11	S-6	10.1-11.7	Soil	1.0	0.8	no odor, no staining
MW-11	S-7	12-14	Soil	1.0	0.8	no odor, no staining
MW-11	S-8	14-16	Soil	0.9	0.8	organic odor, no staining
MW-11	S-9	16-18	Soil	1.9	0.8	organic odor, no 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Upper Broadway ERP Site			**PROJECT #:** 07.7524			**PAGE 1 OF 1**
CLIENT: Village of Saranac Lake						**DATE**
LOCATION: Saranac Lake, NY						**COLLECTED: 3/31/2008**
INSTRUMENT USED: MiniRae 2000			**LAMP** 10.6 **eV**			**DATE**
DATE INSTRUMENT CALIBRATED:		3/31/2008		**BY:** JD		**ANALYZED: 3/31/2008**
TEMPERATURE OF SOIL:		Ambient				**ANALYST: JD**
EXPLORATION NUMBER	**SAMPLE NUMBER**	**DEPTH (FT.)***	**SAMPLE TYPE**	**SAMPLE READING (PPM)****	**BACKGROUND READING (PPM)****	**REMARKS**
MW-10b	S-1	16-18	soil	2.0	0.0	no odor, no 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Upper Broadway ERP Site	**PROJECT #:** 07.7524		**PAGE 1 OF 1**
CLIENT: Village of Saranac Lake			**DATE COLLECTED: 4/1/2008**
LOCATION: Saranac Lake, NY			
INSTRUMENT USED: MiniRae 2000	**LAMP** 10.6 **eV**		**DATE ANALYZED: 4/1/2008**
DATE INSTRUMENT CALIBRATED: 4/1/2008	**BY:** JD		
TEMPERATURE OF SOIL: Ambient			**ANALYST: JD**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
MW-10b	S-2	18-20	Soil	40.2	1.7	organic odor, metallic staining
MW-10b	S-3	20-20.7	soil	12.4	4.5	no odor, no staining
MW-11a	S-1	0-2	soil	0.1	0.0	no odor, no staining
MW-11a	S-2	2-4	soil	0.7	0.0	no odor, no staining
MW-11a	S-3	4-6	soil	0.3	0.0	no odor, no staining
MW-11a	S-4	-	-	-	-	no recovery
MW-11a	S-5	8-10	soil	0.1	0.0	no odor, no staining
MW-11a	S-6	15-17	soil	0.0	0.0	no odor, no 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: 400 Upper Broadway ERP Site	**PROJECT #:** 07.7524		**PAGE 1 OF 1**
CLIENT: Village of Saranac Lake			**DATE COLLECTED: 4/2/2008**
LOCATION: Saranac Lake, NY			
INSTRUMENT USED: MiniRae 2000	**LAMP** 10.6 **eV**		**DATE ANALYZED: 4/2/2008**
DATE INSTRUMENT CALIBRATED: 4/2/2008	**BY:** JD		
TEMPERATURE OF SOIL: Ambient			**ANALYST: JD**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
MW-12	S-1	0-2	Soil	1.0	0.4	no odor, no staining
MW-12	S-2	3-5	Soil	0.6	0.3	no odor, no staining
MW-12	S-3	5-6	Soil	1.4	0.1	no odor, no staining
MW-12	S-4	-	-	-	-	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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	400 Upper Broadway ERP Site		**PROJECT #:**	07.7524		**PAGE 1 OF 1**
CLIENT:	Village of Saranac Lake					**DATE**
LOCATION:	Saranac Lake, NY					**COLLECTED: 4/3/2008**
INSTRUMENT USED:	MiniRae 2000		**LAMP**	10.6	**eV**	**DATE**
DATE INSTRUMENT CALIBRATED:		4/3/2008		**BY:** JD		**ANALYZED: 4/3/2008**
TEMPERATURE OF SOIL:		Ambient				**ANALYST: JD**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
MW-12	S-5	12-14	Soil	0.5	0.1	no odor, trace metallic staining
MW-12	S-6	14-16	Soil	0.5	0.1	no odor, trace metallic staining
MW-12	S-7	16-17.3	Soil	1.9	0.1	no odor, no staining
MW-12	S-8	20-20.5	Soil	0.1	0.1	no odor, no staining
MW-13	S-1	0-2	Soil	0.0	0.0	no odor, no staining
MW-13	S-2	2-4	Soil	0.0	0.0	no odor, no staining
MW-13	S-3	4-6	Soil	0.0	0.0	no odor, no staining
MW-13	S-4	6-8	Soil	0.3	0.0	no odor, no staining
MW-13	S-5	8-10	Soil	1.1	0.0	no odor, no staining
MW-13	S-6	10-12	Soil	1.5	0.0	no odor, no staining
MW-13	S-7	12-13.8	Soil	0.4	0.0	no odor, no 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.

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	400 Upper Broadway ERP Site		PROJECT #:	07.7524		PAGE 1 OF 1
CLIENT:	Village of Saranac Lake					DATE
LOCATION:	Saranac Lake, NY					COLLECTED: 4/4/2008
INSTRUMENT USED:	MiniRae 2000		LAMP	10.6	eV	DATE
DATE INSTRUMENT CALIBRATED:		4/4/2008		BY:	JD	ANALYZED:4/4/2008
TEMPERATURE OF SOIL:		ambient				ANALYST: JD

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-1	S-1	0-2	Soil	0.6	0.5	no odor, no staining
SB-1	S-2	2-4	Soil	0.5	0.3	no odor, no staining
SB-1	S-3	4-6	Soil	1.0	0.5	no odor, no staining
SB-1	S-4	6-8	Soil	0.6	0.2	no odor, no staining
SB-1	S-5	8-10	Soil	0.6	0.1	no odor, metallic staining
SB-2	S-1	0-2	Soil	0.6	0.3	no odor, no staining
SB-2	S-2	2-4	Soil	0.5	0.2	no odor, no staining
SB-2	S-3	4-6	Soil	0.7	0.3	no odor, no staining
SB-2	S-4	6-8	Soil	0.9	0.4	no odor, no staining
SB-2	S-5	8-10	Soil	0.9	0.3	no odor, no staining
SB-3	S-1	0-2	Soil	0.8	0.5	no odor, no staining
SB-3	S-2	2-4	Soil	1.1	0.5	no odor, no staining
SB-3	S-3	4-6	-	-	-	no recovery
SB-3	S-4	6-8	soil	0.9	0.5	no odor, no staining
SB-3	S-5	8-10	soil	1.1	0.8	no odor, no 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.

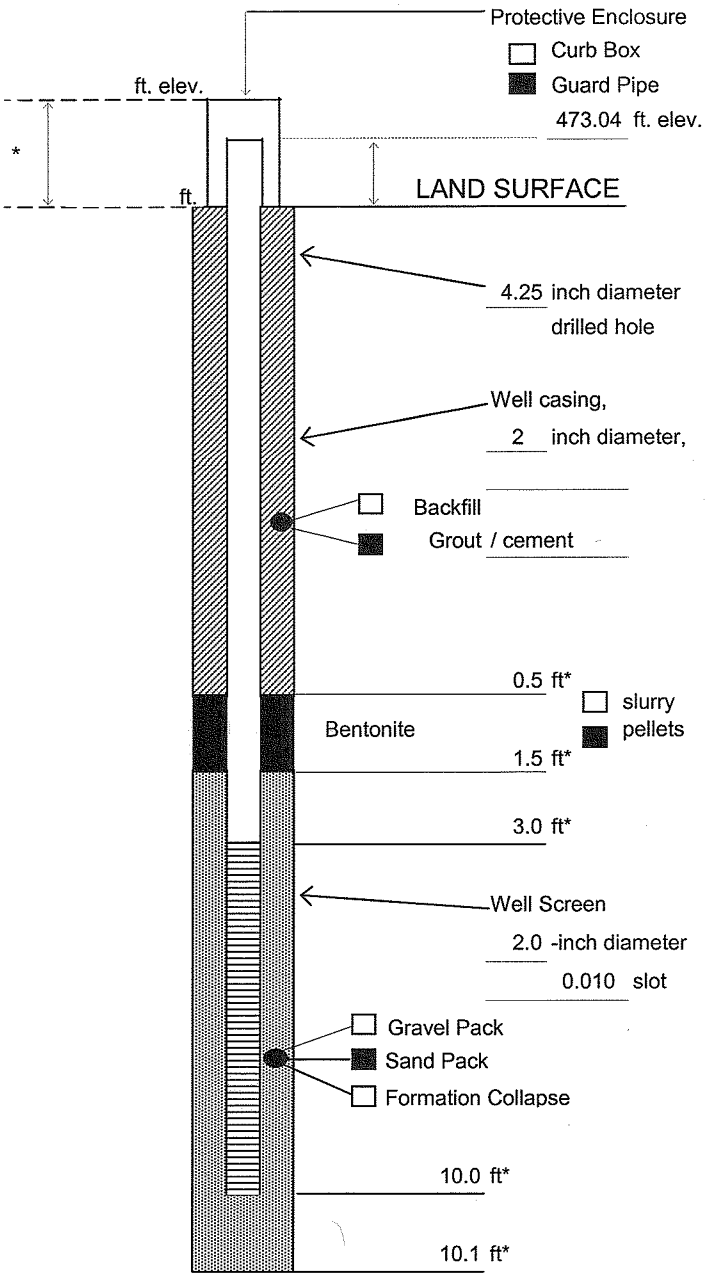
APPENDIX E

Monitoring Well Construction Logs

Well No. MW-1

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number 07.1092

Project Name 400 Upper Broadway ERP Site

Well No. MW-1 Boring No. MW-1

Town/City Saranac Lake

County Franklin State NY

Installation Date(s) 12/11/2007

Drilling Contractor SJB Services, Inc.

Drilling Method hollow stem auger

Water Depth From Top of Riser 5.51 ft 12/12/07 Date

C.T. Male Observer Jonathan Dippert

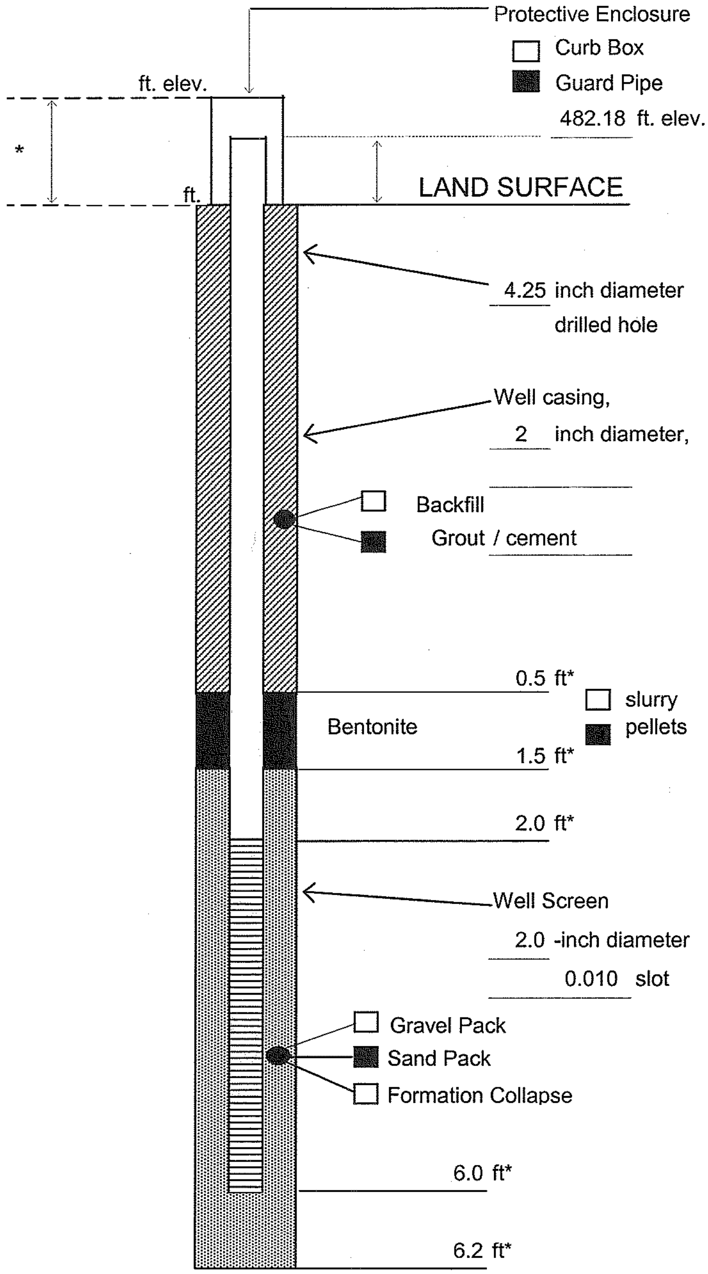
Notes:

#0 sand used for sand pack

Well No. MW-2

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number 07.1092

Project Name 400 Upper Broadway ERP Site

Well No. MW-2 Boring No. MW-2

Town/City Saranac Lake

County Franklin State NY

Installation Date(s) 12/12/2007

Drilling Contractor SJB Sewrvices, Inc.

Drilling Method hollow stem auger

Water Depth From Top of Riser 3.89 ft 12/13/07 Date

C.T. Male Observer Jonathan Dippert

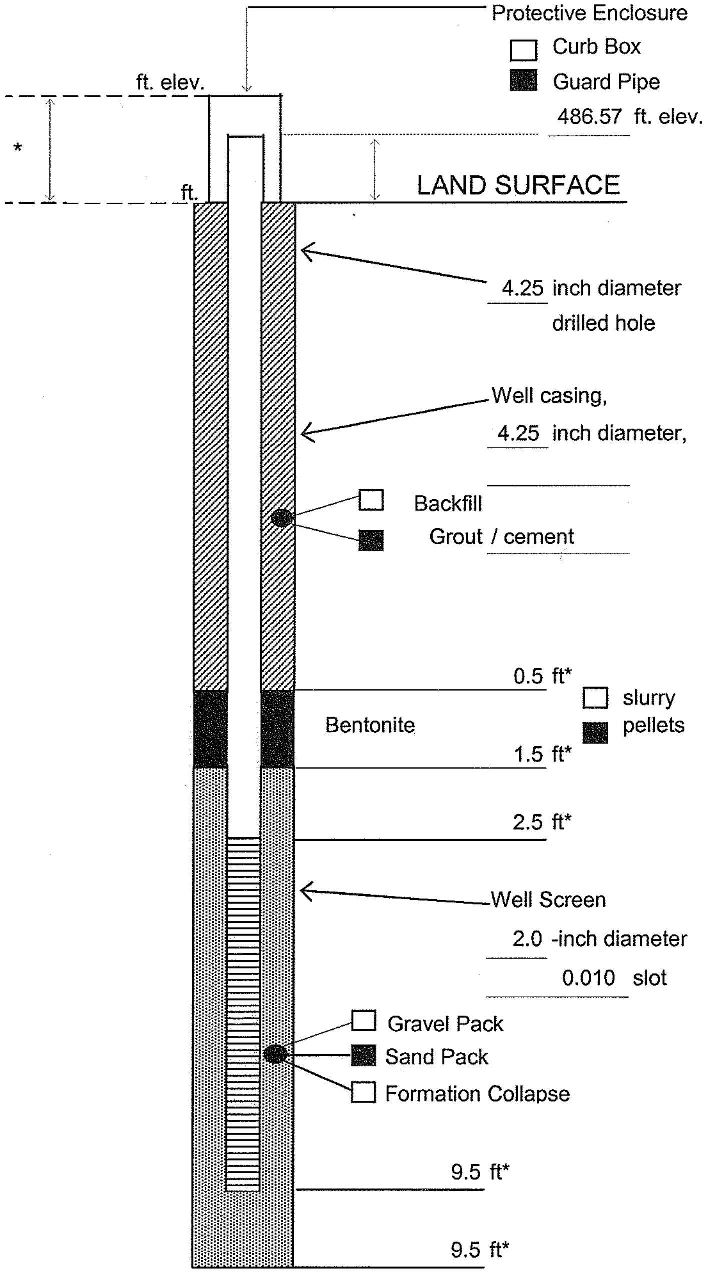
Notes:

#0 sand used for sand pack

Well No. MW-3

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number 07.1092

Project Name 400 Upper Broadway ERP Site

Well No. MW-3 Boring No. MW-3

Town/City Saranac Lake

County Franklin State NY

Installation Date(s) 12/12/2007

Drilling Contractor SJB Services, Inc.

Drilling Method hollow stem auger

Water Depth From Top of Riser 5.22 ft 12/13/07 Date

C.T. Male Observer Jonathan Dippert

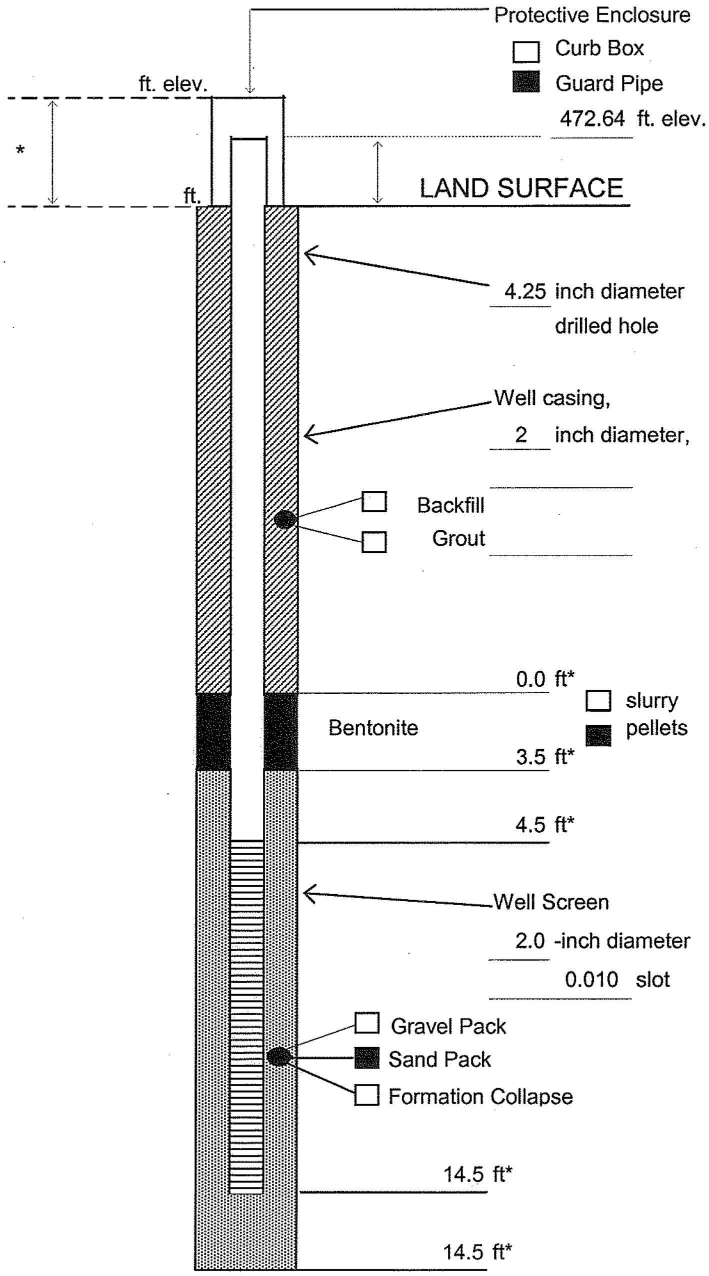
Notes:

#0 sand used for sand pack

Well No. MW-4

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number 07.1092

Project Name 400 Upper Broadway ERP Site

Well No. MW-4 Boring No. MW-4

Town/City Saranac Lake

County Franklin State NY

Installation Date(s) 12/13/2007

Drilling Contractor SJB Services, Inc.

Drilling Method hollow stem auger

Water Depth From Top of Riser 5.35 ft 12/17/07 Date

C.T. Male Observer Jonathan Dippert

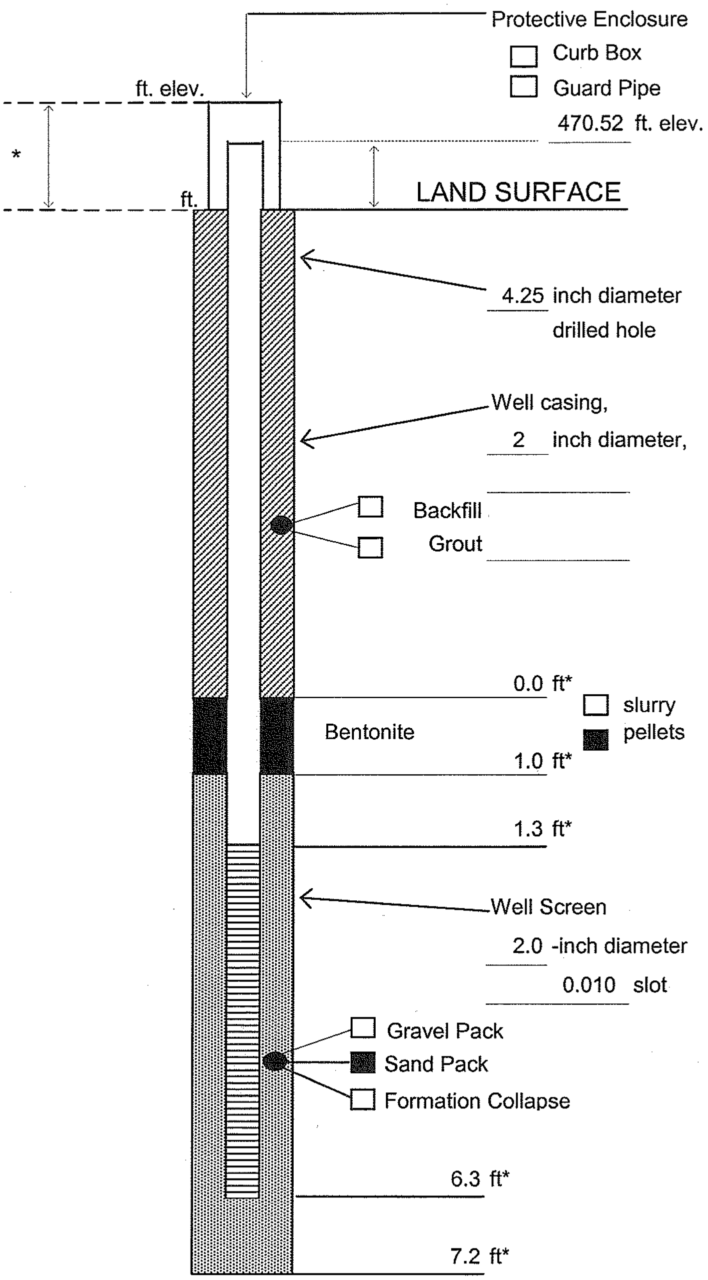
Notes:

#0 sand used for sand pack

Well No. MW-5

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number 07.1092

Project Name 400 Upper Broadway ERP Site

Well No. MW-5 Boring No. MW-5

Town/City Saranac Lake

County Franklin State NY

Installation Date(s) 12/13/2007

Drilling Contractor SJB Services, Inc.

Drilling Method hollow stem auger

Water Depth From Top of Riser 6.5' ft 12/14/07 Date

C.T. Male Observer Jonathan Dippert

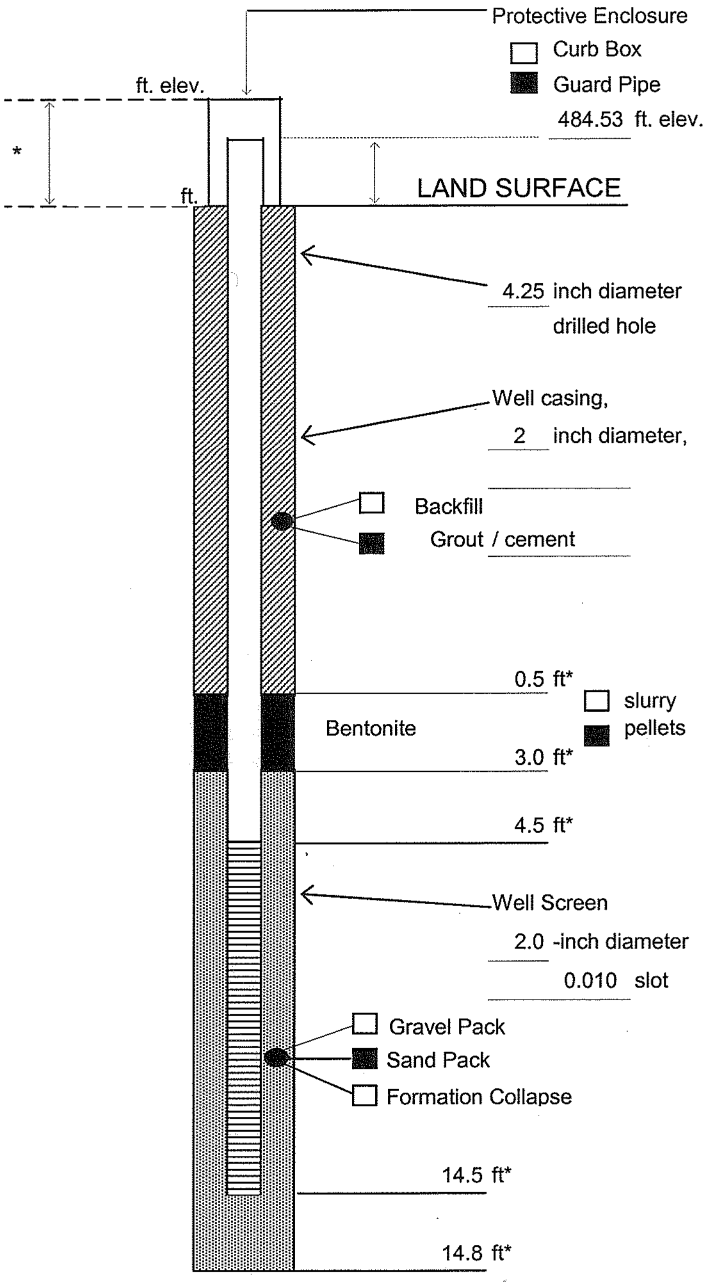
Notes:

#0 sand used for sand pack
spoon refusal at 7.2' bgs
auger refusal at 6.3' bgs
no protective enclosure due to shallow depth of screen bgs and well location (wooded area)

Well No. MW-6

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number 07.1092

Project Name 400 Upper Broadway ERP Site

Well No. MW-6 Boring No. MW-6

Town/City Saranac Lake

County Franklin State NY

Installation Date(s) 12/14/2007

Drilling Contractor SJB Services, Inc.

Drilling Method hollow stem auger

Water Depth From Top of Riser 9.26 ft 12/17/07
Date

C.T. Male Observer Jonathan Dippert

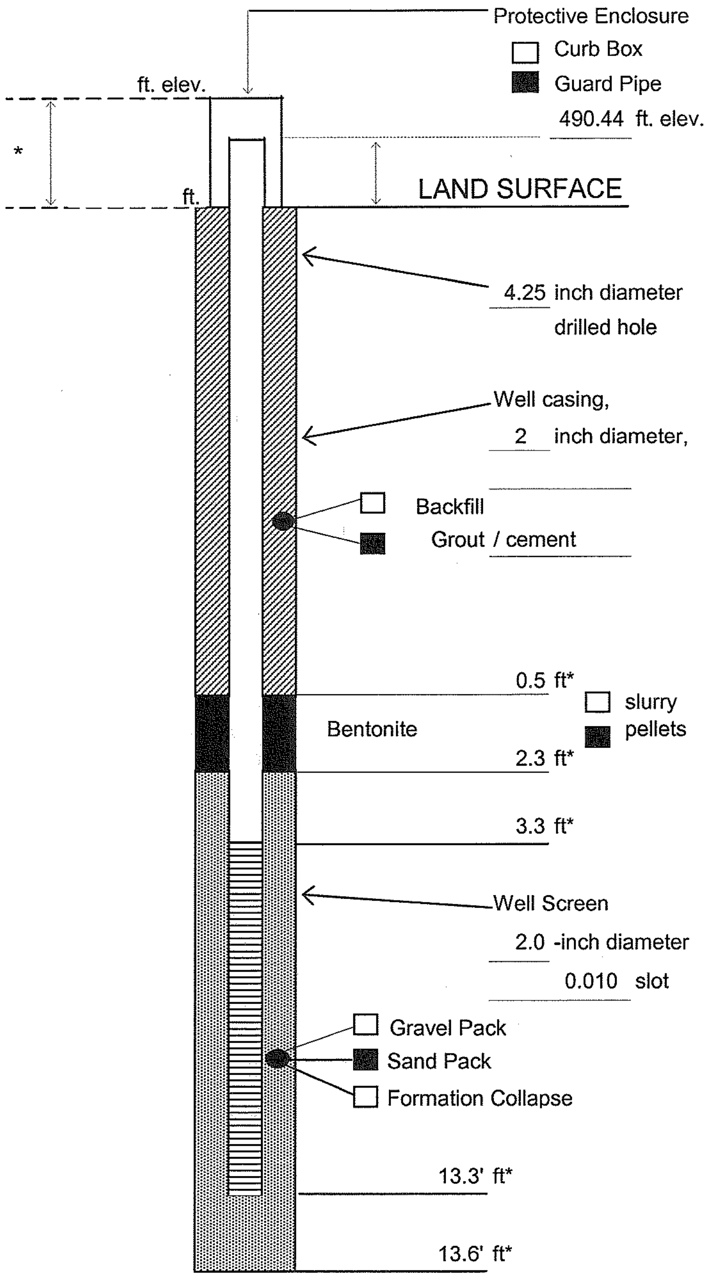
Notes:

#0 sand used for sand pack

Well No. MW-7

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number 07.1092

Project Name 400 Upper Broadway ERP Site

Well No. MW-7 Boring No. MW-7

Town/City Saranac Lake

County Franklin State NY

Installation Date(s) 12/18/2007

Drilling Contractor SJB Services, Inc.

Drilling Method hollow stem auger

Water Depth From Top of Riser 5.78 ft 12/20/07
Date

C.T. Male Observer Jonathan Dippert

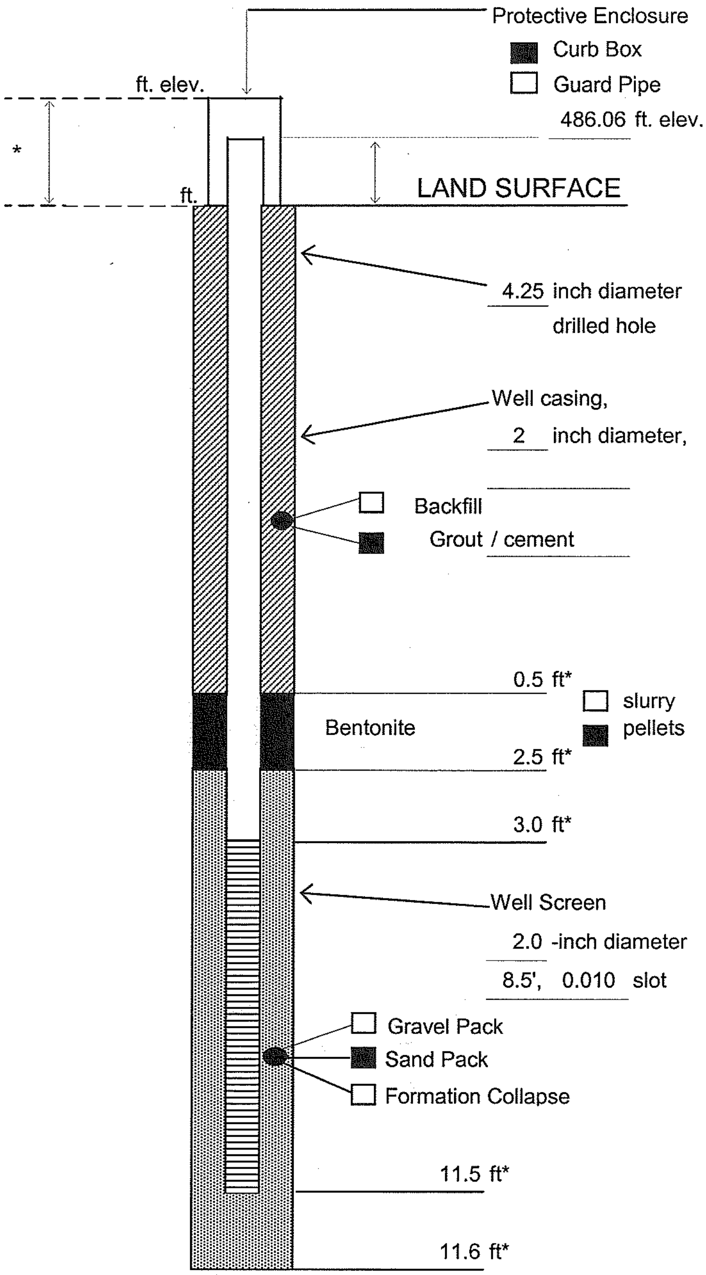
Notes:

#0 sand used for sand pack

C.T. MALE ASSOCIATES, P.C.

Well No. MW-8

MONITORING WELL CONSTRUCTION LOG



* Depth below land surface.

Project Number 07.7524

Project Name 400 Upper Broadway ERP Site

Well No. MW-8 Boring No. MW-8

Town/City Saranac Lake

County Franklin State NY

Installation Date(s) 12/18/2007

Drilling Contractor SJB

Drilling Method hollow stem auger

Water Depth From Top of Riser ______ ft ______ Date

C.T. Male Observer Jonathan Dippert

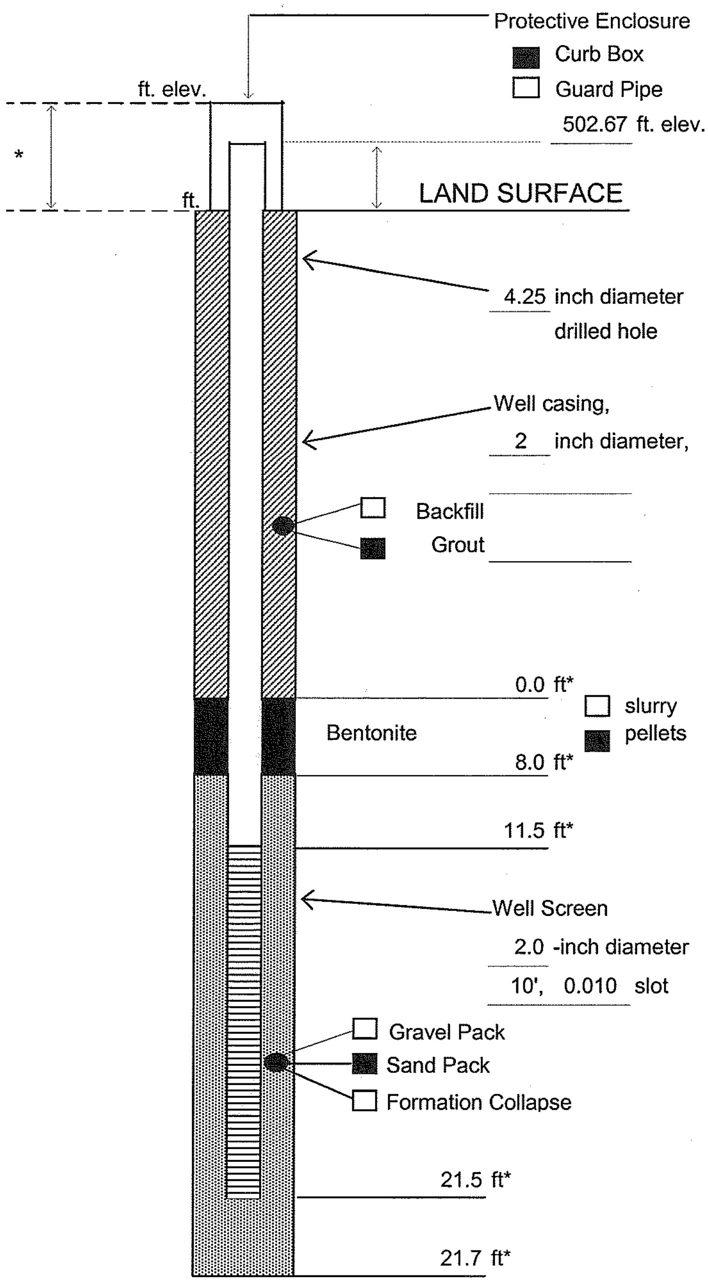
Notes:

#0 sand used as sand pack

Well No. MW-9

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number: 07.7524

Project Name: 400 Upper Broadway ERP Site

Well No.: MW-9 Boring No.: MW-9

Town/City: Saranac Lake

County: Franklin State: NY

Installation Date(s): 12/19/2007

Drilling Contractor: SJB

Drilling Method: hollow stem auger

Water Depth From Top of Riser: 14.52 ft 12/20/2007 (Date)

C.T. Male Observer: Jonathan Dippert

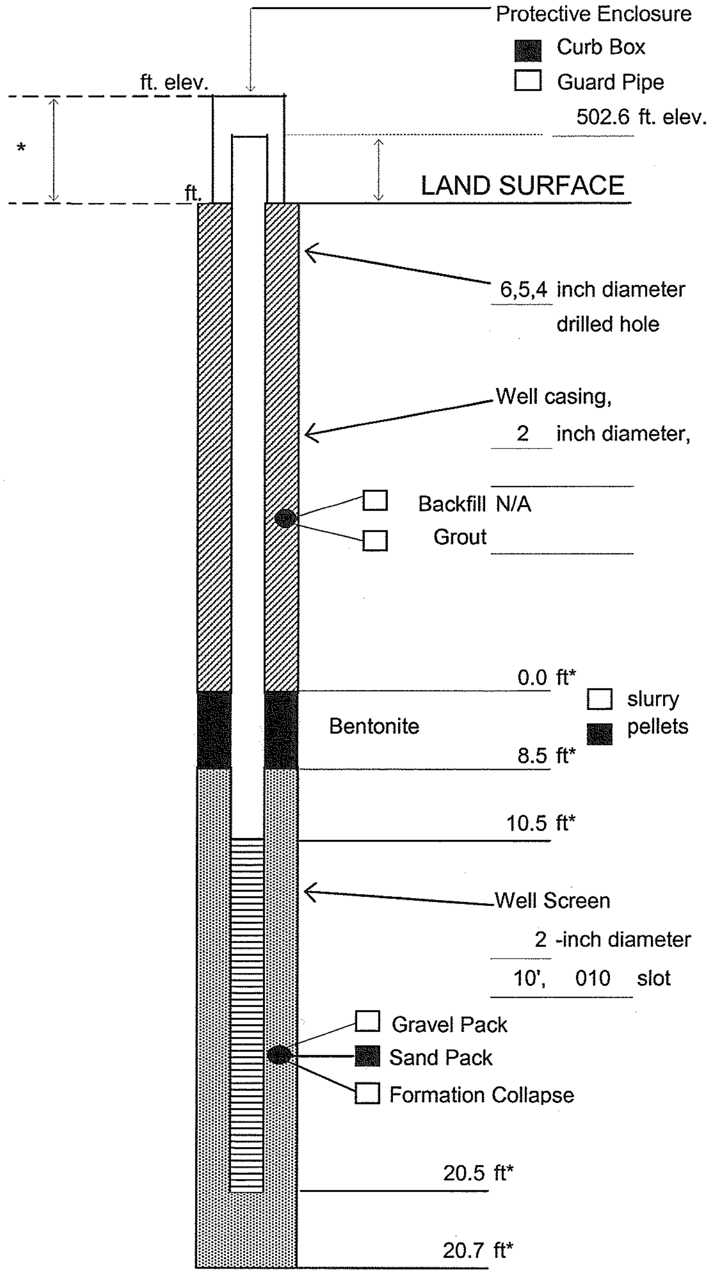
Notes:

#0 sand used as sand pack

Well No. MW-10

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number 07.7524

Project Name 400 Upper Broadway ERP Site

Well No. MW-10 Boring No. MW-10b

Town/City Saranac Lake

County Franklin State NY

Installation Date(s) 4/1/2008

Drilling Contractor Aztech Technologies, Inc

Drilling Method air rotary with telescoping rods

Water Depth From Top of Riser 13.27 ft 4/1/08
Date

C.T. Male Observer Jonathan Dippert

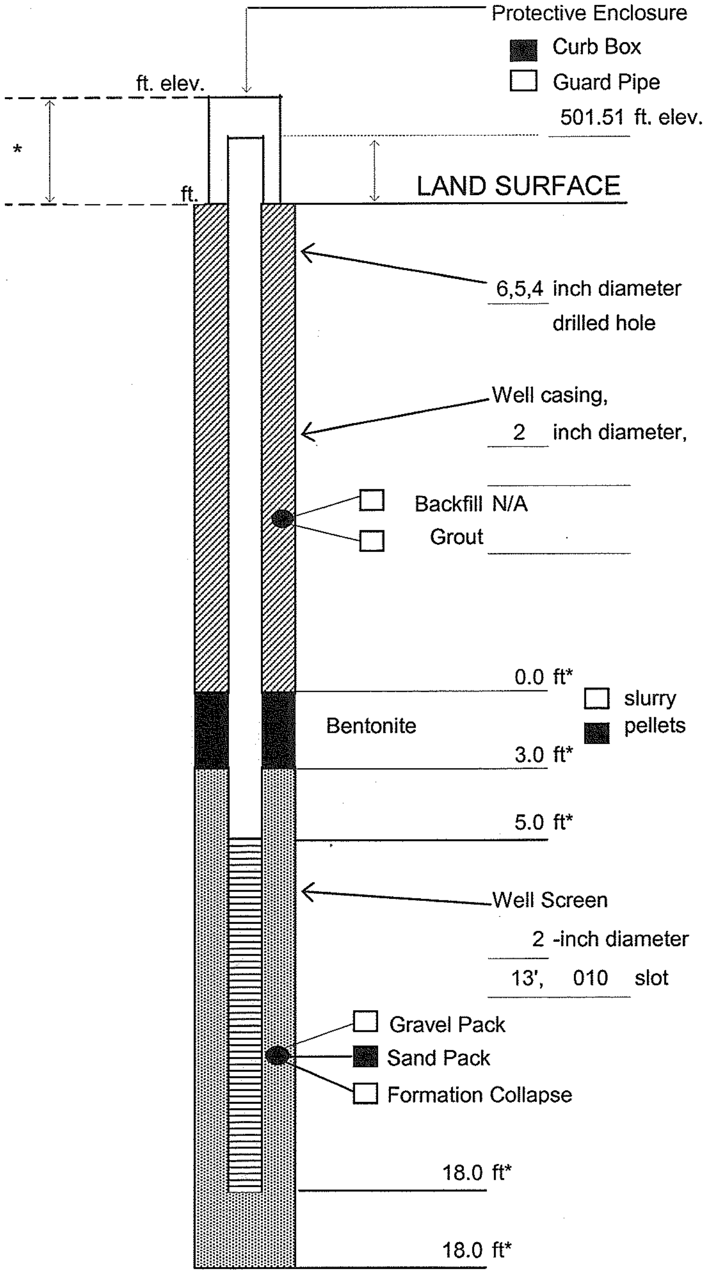
Notes:

#0 sand used as sand pack
3/8 Holeplug bentonite chips

Well No. MW-11

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number: 07.7524

Project Name: 400 Upper Broadway ERP Site

Well No.: MW-11   Boring No.: MW-11a

Town/City: Saranac Lake

County: Franklin   State: NY

Installation Date(s): 4/2/2008 - 4/3/2008

Drilling Contractor: Aztech Technologies, Inc

Drilling Method: air rotary with telescoping rods

Water Depth From Top of Riser: 10.63 ft   Date: 4/3/08

C.T. Male Observer: Jonathan Dippert

Notes:

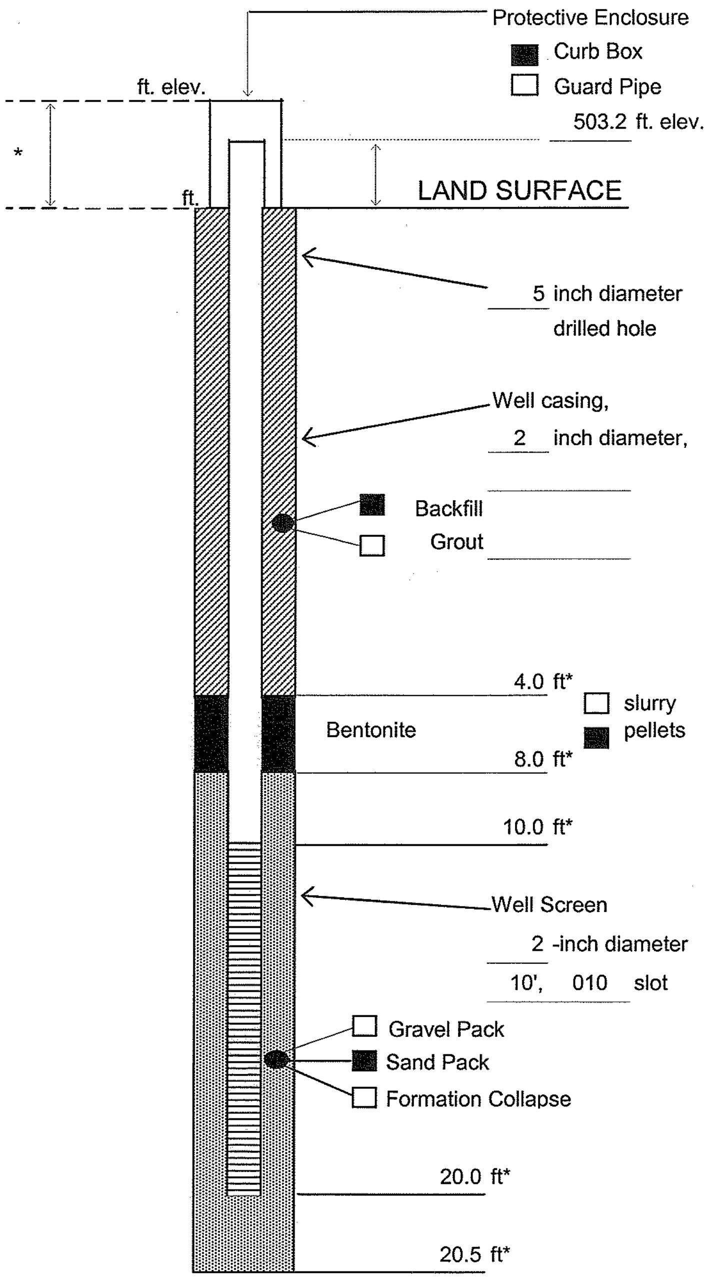
24 bags - #0 sand used as sand pack

1 bag - 3/8 Holeplug bentonite chips

Well No. MW-12

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



* Depth below land surface.

Project Number: 07.7524

Project Name: 400 Upper Broadway ERP Site

Well No.: MW-12 Boring No.: MW-12

Town/City: Saranac Lake

County: Franklin State: NY

Installation Date(s): 4/3/2008

Drilling Contractor: Aztech Technologies, Inc

Drilling Method: air rotary

Water Depth From Top of Riser: 10.43 ft Date: 4/3/08

C.T. Male Observer: Jonathan Dippert

Notes:

7 bags - #0 sand used as sand pack
3/8 Holeplug bentonite chips

APPENDIX F

Analytical Results for IRM Derived Wastes

Environmental
LABORATORY SERVICES

7280 Caswell Street, Hancock Air Park, North Syracuse, NY 13212
(315) 458-8033, FAX (315) 458-0526, (800) 842-4667

Certified in:
- Connecticut
- Massachusetts
- New Jersey
- New York
- Pennsylvania

Laboratory Analysis Report

OP-TECH
63 Trade St.

Plattsburgh, NY 12901
ATTN: Mr. Jake Riggins

PROJECT #: 225079
RECEIVED: 09/10/2007 @ 11:20

Site Address:
400 BROADWAY
SARANAC LAKE

CLIENT JOB NUMBER: CT MALE

SAMPLE #: 458053 CLIENT SAMPLE ID: GREASE WASTE (20-ball Overpack) DATE/TIME SAMPLED: 09/07/07 @ 14:34

TEST PERFORMED	RESULTS	UNITS	DATE/TIME PERFORMED	METHOD NUMBER	PERFORMED BY
TCLP MERCURY	<20	UG/L	09/13/07	EPA 7470A	CRI
TCLP Mercury Prep			09/12/07	EPA 7470A	BDR
TCLP METALS (RCRA7)					
arsenic	<1	MG/L	09/12/07	EPA 6010	CRI
barium	<2	MG/L	09/12/07	EPA 6010	CRI
cadmium	<0.05	MG/L	09/12/07	EPA 6010	CRI
chromium	<0.1	MG/L	09/12/07	EPA 6010	CRI
lead	<0.5	MG/L	09/12/07	EPA 6010	CRI
selenium	<1	MG/L	09/12/07	EPA 6010	CRI
silver	<0.1	MG/L	09/12/07	EPA 6010	CRI
TCLP-Semi/Non-Volatile Prep/Extraction			09/10/07	EPA 1311	BDR
Metals Digestion			09/11/07	EPA 3010A	BDR

OP-TECH
63 Trade St.

Plattsburgh, NY 12901
ATTN: Mr. Jake Riggins

PROJECT #: 225079
RECEIVED: 09/10/2007 @ 11:20

Site Address:
400 BROADWAY
SARANAC LAKE

CLIENT JOB NUMBER: CT MALE

TEST PERFORMED	RESULTS	UNITS	DATE/TIME PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 458054 CLIENT SAMPLE ID: GREASE WASTE			DATE/TIME SAMPLED: 09/07/07 @ 14:34		
Semi-Volatile - PCB'S					
aroclor 1016	<1.0	MG/KG as Rec'd	09/11/07	EPA 8082	KDI
aroclor 1221	<1.0	MG/KG as Rec'd	09/11/07	EPA 8082	KDI
aroclor 1232	<1.0	MG/KG as Rec'd	09/11/07	EPA 8082	KDI
aroclor 1242	<1.0	MG/KG as Rec'd	09/11/07	EPA 8082	KDI
aroclor 1248	<1.0	MG/KG as Rec'd	09/11/07	EPA 8082	KDI
aroclor 1254	<1.0	MG/KG as Rec'd	09/11/07	EPA 8082	KDI
aroclor 1260	<1.0	MG/KG as Rec'd	09/11/07	EPA 8082	KDI
Surrogate (2,4,5,6-tetrachloro-m-xylene): 84% recovery,(decachlorobiphenyl): 41% recovery, Surrogate recovery acceptance limits are 75-125%.					
Solid Ultrasonic Extraction			09/10/07	EPA 3550B	KAL
SOLIDS, TOTAL	92	PERCENT	09/10/07	SM18 2540B	LBA

encapsulated in Poly

Certified in:
• Connecticut
• Massachusetts
• New Jersey
• New York
• Pennsylvania

Environmental
LABORATORY SERVICES

7280 Caswell Street, Hancock Air Park, North Syracuse, NY 13212
(315) 458-8033, FAX (315) 458-0526, (800) 842-4667

Laboratory Analysis Report

OP-TECH
63 Trade St.

Plattsburgh, NY 12901
ATTN: Mr. Brad Idzik

PO#: LCTM-0011

PROJECT #: 225236
RECEIVED: 09/18/2007 @ 10:30

Site Address:
SARANAC LAKE -CT MALE

CLIENT JOB NUMBER: LCTM-0011

TEST PERFORMED	RESULTS	UNITS	DATE/TIME PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 458894 CLIENT SAMPLE ID: OP-4724 WASTE CHARACTERIZATION ON ABANDONED DRUM			DATE/TIME SAMPLED: 09/14/07 @ 13:30		
Semi-Volatile - PCB'S					
aroclor 1016	<1.0	MG/KG as Rec'd	09/21/07	EPA 8082	KDI
aroclor 1221	<1.0	MG/KG as Rec'd	09/21/07	EPA 8082	KDI
aroclor 1232	<1.0	MG/KG as Rec'd	09/21/07	EPA 8082	KDI
aroclor 1242	<1.0	MG/KG as Rec'd	09/21/07	EPA 8082	KDI
aroclor 1248	<1.0	MG/KG as Rec'd	09/21/07	EPA 8082	KDI
aroclor 1254	<1.0	MG/KG as Rec'd	09/21/07	EPA 8082	KDI
aroclor 1260	<1.0	MG/KG as Rec'd	09/21/07	EPA 8082	KDI
Surrogate (2,4,5,6-tetrachloro-m-xylene): 94% recovery,(decachlorobiphenyl): 13% recovery. Surrogate recovery acceptance limits are 75-125%.					
Solid Ultrasonic Extraction			09/20/07	EPA 3550B	KAL
SOLIDS, TOTAL	83	PERCENT	09/18/07	SM18 2540B	LBA
TCLP MERCURY	<20	UG/L	09/21/07	EPA 7470A	CRI
TCLP Mercury Prep			09/20/07	EPA 7470A	BDR
TCLP METALS (RCRA7)					
arsenic	<1.0	MG/L	09/21/07	EPA 6010	CRI
barium	<2.0	MG/L	09/21/07	EPA 6010	CRI
cadmium	<0.05	MG/L	09/21/07	EPA 6010	CRI
chromium	<0.10	MG/L	09/21/07	EPA 6010	CRI
lead	<0.50	MG/L	09/21/07	EPA 6010	CRI
selenium	<1.0	MG/L	09/21/07	EPA 6010	CRI
silver	<0.10	MG/L	09/21/07	EPA 6010	CRI
TCLP-Semi/Non-Volatile Prep/Extraction			09/18/07	EPA 1311	BDR
Metals Digestion			09/20/07	EPA 3010A	BDR

Tank sludge

Environmental
LABORATORY SERVICES

7280 Caswell Street, Hancock Air Park, North Syracuse, NY 13212
(315) 458-8033, FAX (315) 458-0526, (800) 842-4667

Laboratory Analysis Report

OP-TECH
63 Trade St.

Plattsburgh, NY 12901
ATTN: Mr. Jake Riggins

PROJECT #: 225080
RECEIVED: 09/10/2007 @ 11:20

Site Address:
400 BROADWAY SITE

CLIENT JOB NUMBER: CT MALE TANK

TEST PERFORMED	RESULTS	UNITS	DATE/TIME PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 458055 CLIENT SAMPLE ID: TANK SLUDGE			**DATE/TIME SAMPLED: 09/07/07 @ 13:44**		
TCLP MERCURY	<20	UG/L	09/13/07	EPA 7471A	CRI
Mercury Prep 7471A			09/12/07	EPA 7471A	BDR
TCLP METALS (RCRA7)					
arsenic	<1	MG/L	09/12/07	EPA 6010	CRI
barium	27	MG/L	09/13/07	EPA 6010	CRI
cadmium	0.58	MG/L	09/12/07	EPA 6010	CRI
chromium	<0.1	MG/L	09/12/07	EPA 6010	CRI
lead	520	MG/L	09/13/07	EPA 6010	CRI
selenium	<1	MG/L	09/12/07	EPA 6010	CRI
silver	<0.1	MG/L	09/12/07	EPA 6010	CRI
TCLP-Semi/Non-Volatile Prep/Extraction			09/10/07	EPA 1311	BDR
TCLP Oil Digestion			09/11/07	EPA 3050B	BDR

OP-TECH
63 Trade St.

Plattsburgh, NY 12901
ATTN: Mr. Jake Riggins

PROJECT #: 225080
RECEIVED: 09/10/2007 @ 11:20

Site Address:
400 BROADWAY SITE

CLIENT JOB NUMBER: CT MALE TANK

TEST PERFORMED	RESULTS	UNITS	DATE/TIME PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 458056 **CLIENT SAMPLE ID:** TANK SLUDGE				**DATE/TIME SAMPLED:** 09/07/07 @ 13:44	
Semi-Volatile - PCB'S					
aroclor 1016	<4.9	MG/KG as Rec'd	09/13/07	EPA 8082	KDI
aroclor 1221	<4.9	MG/KG as Rec'd	09/13/07	EPA 8082	KDI
aroclor 1232	<4.9	MG/KG as Rec'd	09/13/07	EPA 8082	KDI
aroclor 1242	<4.9	MG/KG as Rec'd	09/13/07	EPA 8082	KDI
aroclor 1248	<4.9	MG/KG as Rec'd	09/13/07	EPA 8082	KDI
aroclor 1254	<4.9	MG/KG as Rec'd	09/13/07	EPA 8082	KDI
aroclor 1260	<4.9	MG/KG as Rec'd	09/13/07	EPA 8082	KDI
Surrogate (2,4,5,6-tetrachloro-m-xylene): 87% recovery,(decachlorobiphenyl): 66% recovery. Surrogate recovery acceptance limits are 75-125%.					
Waste Dilution for Semi-Volatile Organics			09/10/07	EPA 3580A	KAL

Environmental
LABORATORY SERVICES

MITKEM
CORPORATION

"Environmental Testing For The New Millennium"

November 30, 2007

C.T. Male Associates, P.C.
50 Century Hill Drive
Latham, NY 12110
Attn: Mr. Steve Bieber

RE: Client Project: 400 Broadway Site, Village of Saranac Lake, Franklin County, NY
Lab Work Order #: F1625 (TCLP)

Dear Mr. Bieber:

Enclosed please find the data report of the required analyses for the samples associated with the above referenced project. If you have any questions regarding this report, please call me.

We appreciate your business.

Sincerely,

Shirley Ng

Shirley S. Ng
Project Manager

Analytical Data Package for C.T. Male Associates, P.C.

Client Project No.: 400 Broadway Site, Village of Saranac Lake, Franklin County, NY

Mitkem Work Order ID: F1625

November 30, 2007

Prepared For:

C.T. Male Associates, P.C.
50 Century Hill Drive
Latham, NY 12110
Attn: Mr. Steve Bieber

Prepared By:

Mitkem Corporation
175 Metro Center Boulevard
Warwick, RI 02886
(401) 732-3400

Client: C.T. Male Associates, P.C.

Client Project: Saranac Lake

Lab Project ID: F1625

Date samples received: 09/08/07

Project Narrative

This data report includes the analysis results for one (1) sample that was received from C.T. Male Associate, P.E. on September 8, 2007. This sample was previously on hold along with two other samples, which are still currently on hold. Analyses were performed per per discussion with the client. For reference, a copy of the Mitkem Sample Log-In form is included for cross-referencing the client sample ID and the laboratory sample ID.

Spike recoveries were within the QC limits for the laboratory control sample for TCLP metals analysis. Please note that this TCLP mercury was performed out of holding time. The holding time for TCLP mercury is twenty-eight days from collection. No other unusual occurrences were noted during sample analyses.

All pages in this report have been numbered consecutively, starting with the title page and ending with a page saying only "Last Page of Data Report".

I certify that this data package is in compliance, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Shirley Ng

Shirley Ng
Project Manager
11/30/07

Mitkem Corporation

Date: *12-Nov-07*

Client:	C.T. Male Associates, P.C.		
Client Sample ID:	SP-3	**Project:**	400 Broadway, Saranac Lake, Franklin Cou
Lab ID:	F1625-01	**Collection Date:**	09/07/07 12:40

Analyses	Result	Qual	RL	Units	DF	Date Analyzed	Batch ID
Metals by ICP				**SW6010B_W**			
Arsenic -- TCLP	ND		20	µg/L	1	11/07/2007 14:47	33153
Barium -- TCLP	420		200	µg/L	1	11/07/2007 14:47	33153
Cadmium -- TCLP	22		5.0	µg/L	1	11/07/2007 14:47	33153
Chromium -- TCLP	ND		20	µg/L	1	11/07/2007 14:47	33153
Lead -- TCLP	13000		200	µg/L	20	11/07/2007 14:53	33153
Selenium -- TCLP	ND		30	µg/L	1	11/07/2007 14:47	33153
Silver -- TCLP	ND		30	µg/L	1	11/07/2007 14:47	33153
Mercury by FIA				**SW7470A**			
Mercury -- TCLP	ND	H	0.20	µg/L	1	11/12/2007 13:23	33135

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quanititation limits

B - Analyte detected in the associated Method Blank

DF - Dilution Factor

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

RL - Reporting Limit

Mitkem Corporation

Date: *12-Nov-07*

CLIENT: C.T. Male Associates, P.C.
Work Order: F1625
Project: 400 Broadway, Saranac Lake, Franklin County

ANALYTICAL QC SUMMARY REPORT

TestCode: **SW6010B_W**

Sample ID: **MB-33135** SampType: **MBLK** TestCode: **SW6010B_W** Prep Date: **11/7/2007** Run ID: **OPTIMA3_071107B**
Client ID: **MB-33135** Batch ID: **33153** Units: **µg/L** Analysis Date: **11/7/2007** SeqNo: **717417**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic -- TCLP	ND	20	0	0	0	0	0	0			
Barium -- TCLP	ND	200	0	0	0	0	0	0			
Cadmium -- TCLP	ND	5.0	0	0	0	0	0	0			
Chromium -- TCLP	ND	20	0	0	0	0	0	0			
Lead -- TCLP	ND	10	0	0	0	0	0	0			
Selenium -- TCLP	ND	30	0	0	0	0	0	0			
Silver -- TCLP	ND	30	0	0	0	0	0	0			

Sample ID: **MB-33153** SampType: **MBLK** TestCode: **SW6010B_W** Prep Date: **11/7/2007** Run ID: **OPTIMA3_071107B**
Client ID: **MB-33153** Batch ID: **33153** Units: **µg/L** Analysis Date: **11/7/2007** SeqNo: **717418**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	20									
Barium	ND	200									
Cadmium	ND	5.0									
Chromium	ND	20									
Lead	ND	10									
Selenium	ND	30									
Silver	ND	30									

Sample ID: **LCS-33153** SampType: **LCS** TestCode: **SW6010B_W** Prep Date: **11/7/2007** Run ID: **OPTIMA3_071107B**
Client ID: **LCS-33153** Batch ID: **33153** Units: **µg/L** Analysis Date: **11/7/2007** SeqNo: **717419**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	467.5	20	455.0	0	103	80	120	0			
Barium	9365	200	9100	0	103	80	120	0			
Cadmium	230.5	5.0	227.0	0	102	80	120	0			
Chromium	917.2	20	910.0	0	101	80	120	0			
Lead	474.5	10	455.0	0	104	80	120	0			
Selenium	470.5	30	455.0	0	103	80	120	0			
Silver	1132	30	1130	0	100	80	120	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: C.T. Male Associates, P.C.
Work Order: F1625
Project: 400 Broadway, Saranac Lake, Franklin County

ANALYTICAL QC SUMMARY REPORT

TestCode: SW6010B_W

Sample ID: **F1625-01ASD** SampType: **SD** TestCode: **SW6010B_W** Prep Date: **11/7/2007** Run ID: **OPTIMA3_071107B**
Client ID: **SP-3** Batch ID: **33153** Units: **µg/L** Analysis Date: **11/7/2007** SeqNo: **718656**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic -- TCLP	ND	100	0	0	0	0	0	0	0	10	
Barium -- TCLP	ND	1000	0	0	0	0	0	415.6	9.42	10	
Cadmium -- TCLP	ND	25	0	0	0	0	0	21.50	11.8	10	
Chromium -- TCLP	ND	100	0	0	0	0	0	0.6297	0	10	
Selenium -- TCLP	ND	150	0	0	0	0	0	7.514	0	10	
Silver -- TCLP	ND	150	0	0	0	0	0	0	0	10	

0095

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: C.T. Male Associates, P.C.
Work Order: F1625
Project: 400 Broadway, Saranac Lake, Franklin County

ANALYTICAL QC SUMMARY REPORT

TestCode: **SW7470A**

Sample ID: **MB-33135** SampType: **MBLK** TestCode: **SW7470A** Prep Date: Run ID: **FIMS1_071112A**
Client ID: **MB-33135** Batch ID: **33135** Units: **µg/L** Analysis Date: **11/12/2007** SeqNo: **718845**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury -- TCLP	ND	0.20									

Sample ID: **LCS-33223** SampType: **LCS** TestCode: **SW7470A** Prep Date: Run ID: **FIMS1_071112A**
Client ID: **LCS-33223** Batch ID: **33135** Units: **µg/L** Analysis Date: **11/12/2007** SeqNo: **718846**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.426	0.20	4.550	0	97.3	80	120	0			

Sample ID: **LCSD-33223** SampType: **LCSD** TestCode: **SW7470A** Prep Date: Run ID: **FIMS1_071112A**
Client ID: **LCSD-33223** Batch ID: **33135** Units: **µg/L** Analysis Date: **11/12/2007** SeqNo: **718847**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.434	0.20	4.550	0	97.5	80	120	4.426	0.194	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Mitkem Corporation

09/Nov/07 14:41

WorkOrder: F1625

Client ID: CT_MALE
Project: 400 Broadway, Saranac Lake, Franklin County NY
Location:
Comments: e-mail results to Steve Bieber.

Case:
SDG:
PO: 07.1092

Report Level: LEVEL 2
EDD: CLF
HC Due: 11/20/07
Fax Due: 11/07/07

Sample ID	HS	Client Sample ID	Collection Date	Date Recv'd	Matrix	Test Code	Lab Test Comments	Hold	MS	SEL	Storage
F1625-01A		SP-3	09/07/2007 12:40	11/06/2007	Soil	SW6010B_W	TCLP_ICP	☐	☐	☑	A2
						SW7470A	TCLP_Hg	☐	☐	☐	A2
F1625-02A	H	SP-2	09/07/2007 11:35	11/06/2007	Soil	SW6010B_W	TCLP_ICP	☑	☐	☑	A2
F1625-03A	H	SP-4	09/07/2007 12:45	11/06/2007	Soil	SW6010B_W	TCLP_ICP	☑	☐	☑	A2

Client Rep: Shirley S Ng

MITKEM CORPORATION

175 Metro Center Boulevard
Warwick, Rhode Island 02886-1755
(401) 732-3400 • Fax (401) 732-3499
email: mitkem@mitkem.com

CHAIN-OF-CUSTODY RECORD

REPORT TO		INVOICE TO		
COMPANY CT Male Assoc	PHONE 518 786-7400	COMPANY Same	PHONE	LAB PROJECT #: F1067
NAME Steve Reber	FAX 518 786 7299	NAME	FAX	
ADDRESS 50 Century Hill Dr		ADDRESS		TURNAROUND TIME: Standard
CITY/ST/ZIP Latham NY 12110		CITY/ST/ZIP		

CLIENT PROJECT NAME:	CLIENT PROJECT #:	CLIENT P.O.#:
400 Broadway Saranac Lake	07.1092	

REQUESTED ANALYSES

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID (cec 9/10/7)	# OF CONTAINERS	TCL VOC	TCL SVOC	TCL PCB	TCL Pesticide	TAL Metals							COMMENTS
Trip Blank T809	7/7/7 /			X			~~12~~ 13	2	X											
TP-6 S-1	9/7/07 / 1025		X		X		~~13~~ 14	8 ~~3~~	X	X	X	X	X							MS/MSD collected
SP-1	9/7/07 / 1230	X			X		~~14~~ 15	3	X	X	X	X	X							
SP-2	9/7/07 / 1235	X			X		~~15~~ 16	3	X	X	X	X	X							HOLD
SP-3	9/7/07 / 1240	X			X		~~16~~ 17	3	X	X	X	X	X							
SP-4	9/7/07 / 1245	X			X		~~17~~ 18	3	X	X	X	X	X							HOLD
	/																			
	/																			
	/																			
	/																			
	/																			
	/																			

TSF#	RELINQUISHED BY	DATE/TIME	ACCEPTED BY	DATE/TIME
	[signature]	9/7/07 / 1400	Veronica G. A[illegible]	9/8/07 / ?
		/		/
		/		/

ADDITIONAL REMARKS:

COOLER TEMP: 6°C

WHITE: LABORATORY COPY YELLOW: REPORT COPY PINK: CLIENT'S COPY

00008

Last Page of Data Report

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SP-3

Lab Name: MITKEM CORPORATION   Contract:

Lab Code: MITKEM   Case No.:   SAS No.:   SDG No.: MF1262

Matrix: (soil/water) SOIL   Lab Sample ID: F1262-17C

Sample wt/vol: 4.9 (g/mL) G   Lab File ID: V1I9845

Level: (low/med) LOW   Date Received: 09/08/07

% Moisture: not dec. 14   Date Analyzed: 09/21/07

GC Column: DB-624   ID: 0.25 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ________ (mL)   Soil Aliquot Volume: ________ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	6	U
74-87-3	Chloromethane	6	U
75-01-4	Vinyl Chloride	6	U
74-83-9	Bromomethane	6	U
75-00-3	Chloroethane	6	U
75-69-4	Trichlorofluoromethane	6	U
75-35-4	1,1-Dichloroethene	6	U
67-64-1	Acetone	6	U
74-88-4	Iodomethane	6	U
75-15-0	Carbon Disulfide	6	U
75-09-2	Methylene Chloride	2	J
156-60-5	trans-1,2-Dichloroethene	6	U
1634-04-4	Methyl tert-butyl ether	6	U
75-34-3	1,1-Dichloroethane	6	U
108-05-4	Vinyl acetate	6	U
78-93-3	2-Butanone	6	U
156-59-2	cis-1,2-Dichloroethene	6	U
590-20-7	2,2-Dichloropropane	6	U
74-97-5	Bromochloromethane	6	U
67-66-3	Chloroform	6	U
71-55-6	1,1,1-Trichloroethane	6	U
563-58-6	1,1-Dichloropropene	6	U
56-23-5	Carbon Tetrachloride	6	U
107-06-2	1,2-Dichloroethane	6	U
71-43-2	Benzene	6	U
79-01-6	Trichloroethene	6	U
78-87-5	1,2-Dichloropropane	6	U
74-95-3	Dibromomethane	6	U
75-27-4	Bromodichloromethane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
108-10-1	4-Methyl-2-pentanone	6	U
108-88-3	Toluene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
79-00-5	1,1,2-Trichloroethane	6	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SP-3

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: MF1262

Matrix: (soil/water) SOIL Lab Sample ID: F1262-17C

Sample wt/vol: 4.9 (g/mL) G Lab File ID: V1I9845

Level: (low/med) LOW Date Received: 09/08/07

% Moisture: not dec. 14 Date Analyzed: 09/21/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:________(mL) Soil Aliquot Volume: ________(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
142-28-9	1,3-Dichloropropane	6	U
127-18-4	Tetrachloroethene	6	U
591-78-6	2-Hexanone	6	U
124-48-1	Dibromochloromethane	6	U
106-93-4	1,2-Dibromoethane	6	U
108-90-7	Chlorobenzene	6	U
630-20-6	1,1,1,2-Tetrachloroethane	6	U
100-41-4	Ethylbenzene	6	U
----------------	m,p-Xylene	6	U
95-47-6	o-Xylene	6	U
1330-20-7	Xylene (Total)	6	U
100-42-5	Styrene	6	U
75-25-2	Bromoform	6	U
98-82-8	Isopropylbenzene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-86-1	Bromobenzene	6	U
96-18-4	1,2,3-Trichloropropane	6	U
103-65-1	n-Propylbenzene	6	U
95-49-8	2-Chlorotoluene	6	U
108-67-8	1,3,5-Trimethylbenzene	6	U
106-43-4	4-Chlorotoluene	6	U
98-06-6	tert-Butylbenzene	6	U
95-63-6	1,2,4-Trimethylbenzene	6	U
135-98-8	sec-Butylbenzene	6	U
99-87-6	4-Isopropyltoluene	6	U
541-73-1	1,3-Dichlorobenzene	6	U
106-46-7	1,4-Dichlorobenzene	6	U
104-51-8	n-Butylbenzene	6	U
95-50-1	1,2-Dichlorobenzene	6	U
96-12-8	1,2-Dibromo-3-chloropropane	6	U
120-82-1	1,2,4-Trichlorobenzene	6	U
87-68-3	Hexachlorobutadiene	6	U
91-20-3	Naphthalene	6	U
87-61-6	1,2,3-Trichlorobenzene	6	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SP-3

Lab Name: MITKEM CORPORATION   Contract:

Lab Code: MITKEM   Case No.:   SAS No.:   SDG No.: MF1262

Matrix: (soil/water) SOIL   Lab Sample ID: F1262-17C

Sample wt/vol: 4.9 (g/mL) G   Lab File ID: V1I9845

Level: (low/med) LOW   Date Received: 09/08/07

% Moisture: not dec. 14   Date Analyzed: 09/21/07

GC Column: DB-624   ID: 0.25 (mm)   Dilution Factor: 1.0

Soil Extract Volume: ________ (mL)   Soil Aliquot Volume: ________ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 127-91-3	.BETA.-PINENE	12.01	12	NJ
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SP-3

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: MF1262

Matrix: (soil/water) SOIL Lab Sample ID: F1262-17A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: S3E5969

Level: (low/med) LOW Date Received: 09/08/07

% Moisture: 14 decanted: (Y/N) N Date Extracted: 09/14/07

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/19/07

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	380	U
111-44-4	bis(2-Chloroethyl)Ether	380	U
95-57-8	2-Chlorophenol	380	U
541-73-1	1,3-Dichlorobenzene	380	U
106-46-7	1,4-Dichlorobenzene	380	U
95-50-1	1,2-Dichlorobenzene	380	U
95-48-7	2-Methylphenol	380	U
108-60-1	2,2'-oxybis(1-Chloropropane)	380	U
106-44-5	4-Methylphenol	380	U
621-64-7	N-Nitroso-di-n-propylamine	380	U
67-72-1	Hexachloroethane	380	U
98-95-3	Nitrobenzene	380	U
78-59-1	Isophorone	380	U
88-75-5	2-Nitrophenol	380	U
105-67-9	2,4-Dimethylphenol	380	U
120-83-2	2,4-Dichlorophenol	380	U
120-82-1	1,2,4-Trichlorobenzene	380	U
91-20-3	Naphthalene	380	U
106-47-8	4-Chloroaniline	380	U
87-68-3	Hexachlorobutadiene	380	U
111-91-1	bis(2-Chloroethoxy)methane	380	U
59-50-7	4-Chloro-3-Methylphenol	380	U
91-57-6	2-Methylnaphthalene	380	U
77-47-4	Hexachlorocyclopentadiene	380	U
88-06-2	2,4,6-Trichlorophenol	380	U
95-95-4	2,4,5-Trichlorophenol	780	U
91-58-7	2-Chloronaphthalene	380	U
88-74-4	2-Nitroaniline	780	U
131-11-3	Dimethylphthalate	380	U
208-96-8	Acenaphthylene	43	J • L UNRESTRICTED
606-20-2	2,6-Dinitrotoluene	380	U
99-09-2	3-Nitroaniline	780	U
83-32-9	Acenaphthene	380	U

FORM I SV-1 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SP-3

Lab Name: MITKEM CORPORATION   Contract:

Lab Code: MITKEM   Case No.:   SAS No.:   SDG No.: MF1262

Matrix: (soil/water) SOIL   Lab Sample ID: F1262-17A

Sample wt/vol: 30.1 (g/mL) G   Lab File ID: S3E5969

Level: (low/med) LOW   Date Received: 09/08/07

% Moisture: 14   decanted: (Y/N) N   Date Extracted: 09/14/07

Concentrated Extract Volume: 1000 (uL)   Date Analyzed: 09/19/07

Injection Volume: 1.0 (uL)   Dilution Factor: 1.0

GPC Cleanup: (Y/N) N   pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
51-28-5	2,4-Dinitrophenol	780	U	
100-02-7	4-Nitrophenol	780	U	
132-64-9	Dibenzofuran	380	U	
121-14-2	2,4-Dinitrotoluene	380	U	
84-66-2	Diethylphthalate	380	U	
7005-72-3	4-Chlorophenyl-phenylether	380	U	
86-73-7	Fluorene	380	U	
100-01-6	4-Nitroaniline	780	U	
534-52-1	4,6-Dinitro-2-methylphenol	780	U	
86-30-6	N-Nitrosodiphenylamine (1)	380	U	
101-55-3	4-Bromophenyl-phenylether	380	U	
118-74-1	Hexachlorobenzene	380	U	
87-86-5	Pentachlorophenol	780	U	
85-01-8	Phenanthrene	170	J	
120-12-7	Anthracene	62	J	L unrestricted
86-74-8	Carbazole	380	U	
84-74-2	Di-n-butylphthalate	270	J	no standard
206-44-0	Fluoranthene	400		L unrestricted
129-00-0	Pyrene	290	J	L unrestricted
85-68-7	Butylbenzylphthalate	380	U	
91-94-1	3,3'-Dichlorobenzidine	380	U	
56-55-3	Benzo(a)anthracene	200	J	L unrestricted
218-01-9	Chrysene	220	J	L unrestricted
117-81-7	bis(2-Ethylhexyl)phthalate	580		no standard
117-84-0	Di-n-octylphthalate	380	U	
205-99-2	Benzo(b)fluoranthene	290	J	L unrestricted
207-08-9	Benzo(k)fluoranthene	90	J	
50-32-8	Benzo(a)pyrene	190	J	
193-39-5	Indeno(1,2,3-cd)pyrene	140	J	
53-70-3	Dibenzo(a,h)anthracene	40	J	
191-24-2	Benzo(g,h,i)perylene	170	J	

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SP-3

Lab Name: MITKEM CORPORATION   Contract:

Lab Code: MITKEM   Case No.:   SAS No.:   SDG No.: MF1262

Matrix: (soil/water) SOIL   Lab Sample ID: F1262-17A

Sample wt/vol: 30.1 (g/mL) G   Lab File ID: S3E5969

Level: (low/med) LOW   Date Received: 09/08/07

% Moisture: 14   decanted: (Y/N) N   Date Extracted:09/14/07

Concentrated Extract Volume: 1000(uL)   Date Analyzed: 09/19/07

Injection Volume: 1.0(uL)   Dilution Factor: 1.0

GPC Cleanup: (Y/N) N   pH: ___

Number TICs found: 12   CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.46	200	J
2.	UNKNOWN	9.47	300	J
3. 85-44-9	PHTHALIC ANHYDRIDE	9.55	1500	NJ
4. 1000144-07-3	1R,2C,3T,4T-TETRAMETHYL-CYCL	10.80	400	NJ
5. 2156-97-0	DODECYL ACRYLATE	12.00	250	NJ
6. 3564-54-3	17-NORKAUR-15-ENE, 13-METHYL	13.27	200	NJ
7.	UNKNOWN	13.59	310	J
8.	UNKNOWN	13.81	380	J
9.	UNKNOWN	14.32	440	J
10. 511-15-9	2-PHENANTHRENOL, 4B,5,6,7,8,	14.42	600	NJ
11. 297-03-0	CYCLOTETRACOSANE	14.77	340	NJ
12.	UNKNOWN	15.53	640	J
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FORM 1
PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SP-3

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: MF1262

Matrix: (soil/water) SOIL Lab Sample ID: F1262-17A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: E4D7056F

% Moisture: 14 decanted: (Y/N) N Date Received: 09/08/07

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 09/10/07

Concentrated Extract Volume: 5000(uL) Date Analyzed: 09/22/07

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: ___ Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.0	U
319-85-7	beta-BHC	2.0	U
319-86-8	delta-BHC	2.0	U
58-89-9	gamma-BHC (Lindane)	2.0	U
76-44-8	Heptachlor	2.0	U
309-00-2	Aldrin	2.0	U
1024-57-3	Heptachlor epoxide	2.0	U
959-98-8	Endosulfan I	2.0	U
60-57-1	Dieldrin	3.8	U
72-55-9	4,4'-DDE	3.8	U
72-20-8	Endrin	3.8	U
33213-65-9	Endosulfan II	3.8	U
72-54-8	4,4'-DDD	3.8	U
1031-07-8	Endosulfan sulfate	3.8	U
50-29-3	4,4'-DDT	12	P
72-43-5	Methoxychlor	20	U
53494-70-5	Endrin ketone	3.8	U
7421-93-4	Endrin aldehyde *	25	< Rest Res.
5103-71-9	alpha-Chlordane	2.0	U
5103-74-2	gamma-Chlordane	2.0	U
8001-35-2	Toxaphene	200	U

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SP-3

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: MF1262

Matrix: (soil/water) SOIL Lab Sample ID: F1262-17A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: E1G0232F

% Moisture: 14 decanted: (Y/N) N Date Received: 09/08/07

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 09/10/07

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 09/20/07

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___ Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	Aroclor-1016	38	U
11104-28-2	Aroclor-1221	38	U
11141-16-5	Aroclor-1232	38	U
53469-21-9	Aroclor-1242	38	U
12672-29-6	Aroclor-1248	38	U
11097-69-1	Aroclor-1254	38	U
11096-82-5	Aroclor-1260 *	460	L Rest. Res.

FORM I PCB

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.: SP-3

Lab Name: Mitkem Corporation   Contract: 07.1092

Lab Code: MITKEM   Case No.:   SAS No.:   SDG No.: MF1262

Matrix (soil/water): SOIL   Lab Sample ID: F1262-17

Level (low/med): MED   Date Received: 09/08/2007

% Solids: 86.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	3170			P	NS
7440-36-0	Antimony	3.2		N	P	NS
7440-38-2	Arsenic *	16.8			P	> Comm & Ind of 16 *
7440-39-3	Barium	27.0			P	< Unrest
7440-41-7	Beryllium	0.29			P	< Unrest.
7440-43-9	Cadmium	2.4		*E	P	< Unrest.
7440-70-2	Calcium	825			P	NS
7440-47-3	Chromium *	7.0		*	P	< ~~Commercial~~ + Residential
7440-48-4	Cobalt	5.0		E	P	NS
7440-50-8	Copper	16.6			P	< Unrest
7439-89-6	Iron	21800			P	NS
7439-92-1	Lead *	321		*	P	< Rest. Res
7439-95-4	Magnesium	1010			P	NS
7439-96-5	Manganese	137			P	< Unrest.
7439-97-6	Mercury	0.0053	B		CV	< Unrest.
7440-02-0	Nickel	6.1		E	P	< Unrest.
7440-09-7	Potassium	194			P	NS
7782-49-2	Selenium	0.15	U		P	< Unrest.
7440-22-4	Silver	0.046	U		P	< Unrest.
7440-23-5	Sodium	22.0	B		P	NS
7440-28-0	Thallium	1.6			P	NS
7440-62-2	Vanadium	6.9			P	NS
7440-66-6	Zinc	105			P	< Unrest.

Comments:

APPENDIX G

SI and IRM Derived Wastes Bills of Lading and Waste Manifests

W/E-5-31-08

Form Approved. OMB No. 2050-0039

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number NYR000153197	2. Page 1 of 1	3. Emergency Response Phone 800-225-6750	4. Manifest Tracking Number 000272699 FLE

5. Generator's Name and Mailing Address
Village of Saranac Lake
400 Broadway
Saranac Lake, NY 12983

Generator's Site Address (if different than mailing address)

Generator's Phone: 518.891.4150

6. Transporter 1 Company Name
OP-TECH Environmental Services, Inc.
U.S. EPA ID Number NYD986980753

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
CWM Chemical Service, Inc.
PO Box 200
1550 Balmer Road
Model City, NY 14107
Facility's Phone: 716-754-8231
U.S. EPA ID Number NYD049836679

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ Hazardous Waste, Liquid, N.O.S.(Lead) 9, NA3082, PGIII(ERG#171)(D008)	3	DM	800	P	D008 T
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
9a-1) NY296741

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: MARTIN MURPHY
Signature: [signature]
Month 5 Day 21 Year 08

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Ryron Dumont
Signature: [signature]
Month 5 Day 21 Year 08

Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

W/E-5-31-08

ATTENTION SHIPPERS! FREIGHT CHARGES ARE PREPAID ON THIS BILL OF LADING UNLESS MARKED COLLECT.

STRAIGHT BILL OF LADING

ORIGINAL — NOT NEGOTIABLE

Shipper No. LCTM0011

Carrier No. 6A-166

Page 1 of 1 OP-TECH ENVIRONMENTAL SERVICES, INC (Name of carrier) (SCAC) Date 5/21/08

On Collect on Delivery shipments, the letters "COD" must appear before consignee's name or as otherwise provided in Item 430, Sec.1.

TO:
Consignee OP-TECH ENVIRONMENTAL SERVICES, INC
Street 370 RT. 34
City WAVERLY State NY Zip Code

FROM:
Shipper VILLAGE OF SARANAC LAKE
Street 400 BROADWAY ST.
City SARANAC LAKE State NY Zip Code 12983
24 hr. Emergency Contact Tel. No. 800-225-6750

Route

Vehicle Number 538

No. of Units & Container Type	HM	BASIC DESCRIPTION Proper Shipping Name, Hazard Class UN or NA Number, Packing Group or UN or NA Number, Proper Shipping Name, Hazard Class, Packing Group	TOTAL QUANTITY (Weight, Volume, Gallons, etc.)	WEIGHT (Subject to Correction)	RATE	CHARGES (For Carrier Use Only)
3 DM		NON DOT, NON EPA REGULATED LIQUIDS	600 lbs			
		(OILY WATER)				
		PROFILE : 1258 Bobbi Chase 5-28-08				

PLACARDS TENDERED: YES ☐ NO ☒

Note — (1) Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property, as follows: "The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding ______ per ______.
(2) Where the applicable tariff provisions specify a limitation of the carrier's liability absent a release or a value declaration by the shipper and the shipper does not release the carrier's liability or declare a value, the carrier's liability shall be limited to the extent provided by such provisions. See NMFC Item 172.
(3) Commodities requiring special or additional care or attention in handling or stowing must be so marked and packaged as to ensure safe transportation. See Section 2(e) of Item 360, Bills of Lading, Freight Bills and Statements of Charges and Section 1(a) of the Contract Terms and Conditions for a list of such articles.

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packed, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Signature

REMIT C.O.D. TO: ADDRESS

COD Amt: $

C.O.D. FEE: PREPAID ☐ COLLECT ☐ $

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

TOTAL CHARGES $

FREIGHT CHARGES
FREIGHT PREPAID except when box at right is checked
Check box if charges are to be collect ☐

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of, said property over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the bill of lading terms and conditions in the governing classification on the date of shipment.
Shipper hereby certifies that he is familiar with all the lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER VILLAGE OF SARANAC LAKE
PER on Behalf of S.L
CT Male

CARRIER OP-TECH ENVIRONMENTAL SERVICES, INC
PER
DATE 5/21/08

1

Permanent post-office address of shipper.

STYLE CF360-4 © 2003 LABELMASTER® (800) 621-5808 www.labelmaster.com

W/E-5-31-08

ATTENTION SHIPPERS! FREIGHT CHARGES ARE PREPAID ON THIS BILL OF LADING UNLESS MARKED COLLECT.

STRAIGHT BILL OF LADING

ORIGINAL — NOT NEGOTIABLE

Shipper No. LCTMOO1

Carrier No. 6A-166

Page 1 of 1 OP-TECH ENVIRONMENTAL SERVICES, INC (Name of carrier) (SCAC) Date 5/20/08

On Collect on Delivery shipments, the letters "COD" must appear before consignee's name or as otherwise provided in Item 430, Sec.1.

TO:
Consignee OP-TECH ENVIRONMENTAL SERVICES
Street 370 RT. 34
City WAVERLY State NY Zip Code

FROM:
Shipper VILLAGE OF SARANAC LAKE
Street 400 BROADWAY
City SARANAC LAKE State NY Zip Code 12983
24 hr. Emergency Contact Tel. No. 800.225.6750

Route

Vehicle Number 538

No. of Units & Container Type	HM	BASIC DESCRIPTION Proper Shipping Name, Hazard Class, UN or NA Number, Packing Group or UN or NA Number, Proper Shipping Name, Hazard Class, Packing Group	TOTAL QUANTITY (Weight, Volume, Gallons, etc.)	WEIGHT (Subject to Correction)	RATE	CHARGES (For Carrier Use Only)
1 DM		NON DOT, NON EPA REGULATED WASTE	200 lbs			
		(WASTE GREASE)				
1 CF		NON DOT, NON EPA REGULATED WASTE (WASTE GREASE)	200 lbs			
1 DM		Non Dot, Non EPA Regulated Waste	200 lbs			
		(debris, poly)				
		PROFILE : 1235	Bobbi Chase		5-28-08	

PLACARDS TENDERED: YES ☐ NO ☒

Note — (1) Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property, as follows: "The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding ______ per ______."
(2) Where the applicable tariff provisions specify a limitation of the carrier's liability absent a release or a value declaration by the shipper and the shipper does not release the carrier's liability or declare a value, the carrier's liability shall be limited to the extent provided by such provisions. See NMFC Item 172.
(3) Commodities requiring special or additional care or attention in handling or stowing must be so marked and packaged as to ensure safe transportation. See Section 2(e) of item 360, Bills of Lading, Freight Bills and Statements of Charges and Section 1(a) of the Contract Terms and Conditions for a list of such articles.

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packed, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Signature

REMIT C.O.D. TO: ADDRESS

COD Amt: $

C.O.D. FEE: PREPAID ☐ COLLECT ☐ $

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

TOTAL CHARGES $

FREIGHT CHARGES
FREIGHT PREPAID except when box at right is checked — Check box if charges are to be collect ☐

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of, said property over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the bill of lading terms and conditions in the governing classification on the date of shipment.
Shipper hereby certifies that he is familiar with all the lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER VILLAGE OF SARANAC LAKE
PER on Behalf of S.L
C.J. Mab

CARRIER OP-TECH ENVIRONMENTAL SERVICES, INC
PER
DATE 5/21/08

1

Permanent post-office address of shipper.

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NYR000153197
2. Page 1 of 1
3. Emergency Response Phone: 800-225-6750
4. Manifest Tracking Number: 000272678 FLE

5. Generator's Name and Mailing Address: Village of Saranac Lake, 400 Broadway, Saranac Lake, NY 12983

Generator's Site Address (if different than mailing address)

Generator's Phone: 518 891.4150

6. Transporter 1 Company Name: ~~OP-TECH Environmental Services, Inc.~~ — U.S. EPA ID Number: ~~NYD986980753~~

7. Transporter 2 Company Name: BUFFALO FUEL CORP — U.S. EPA ID Number: NYR000045724

8. Designated Facility Name and Site Address: CWM Chemical Services, LLC, PO Box 200, 1550 Balmer Road, Model City, NY 14107 — U.S. EPA ID Number: NYD049836679

Facility's Phone: 716-754-8231

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, Hazardous Waste, Solid, N.O.S. (Cadmium) 9, NA3077, PGIII (ERG# 171) (D008)	1	CM	EST 25	Y	D008	X T 5/22	
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information

9a-1) NY296696

81624563 Rec'd 46000P

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: MARTIN MURPHY — Signature — Month 5 Day 21 Year 08

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: JOHN GIESELER — Signature — Month 5 Day 21 Year 08
Transporter 2 Printed/Typed Name — Signature — Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Michelle Fleck — Signature — Month 05 Day 22 Year 08

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

ATKINSON'S SCRAP METAL, INC.

BUYERS OF SCRAP METAL
RT. 22B • MORRISONVILLE, NY 12962
(518) 643-2749 • F.I.N. #7102452

CUSTOMER'S ORDER NO. DATE

NAME Op-Tech PHONE NO. ( )

ADDRESS

SOLD BY	CASH	CHECK	CHARGE	C.O.D.	ON ACCT.	PAID OUT	MDSE. RETD.

QUAN.	DESCRIPTION	PRICE	AMOUNT
GROSS	36480 lb		
	TIME 14:17		
TARE	33600 lb (TRH)		
	DATE 09 11 07		
NET	2880 lb (NETC)		
	1.44 TONS		
	- 500 lb Dirt 2380		
	1.19 tons		
	Tin @ 110	TAX	
REC'D. BY		TOTAL	130 90

All claims and returned goods MUST be accompanied by this bill.

101065 Thank You PRINTED IN U.S.A.

Attn: Jake

APPENDIX H

Subsurface Cross-Sections

FIGURE 4

Subsurface Profile Cross-Reference Map

Map Notes:

1. Topographic information shown hereon was compiled from an actual field survey conducted on January 10th & 11th, 2008.
2. Vertical datum shown hereon is an assumed base.
3. Prior to conducting this survey this geographic area accumulated approximately 12 to 18 inches of packed snow and ice. Therefore the undersigned cannot certify that some object or feature has been omitted.
4. Boundary information shown was taken from map reference no. one and does not represent a boundary survey prepared by the undersigned.

Map References:

1. "Map of Survey Prepared for Saranac Lake Volunteer Fire Department" situate in Township 21, Great Tract One, Macomb's Purchase Village of Saranac Lake, Town of Harrietstown County of Franklin and State of New York prepared by Geomatics Land Surveying, PC dated November 1, 2006 Map No. 03004.

Legend:

- CBS — Catch Basin Square
- CIRF — Capped Iron Rod Found
- Drainage End Section
- DH ROCK — Dig Hole Rock
- EMTR — Electric Meter
- HYD — Hydrant
- IPF — Iron Pipe Found
- MFPOST — Metal Fence Post
- Utility Pole
- Silt Fence
- MW-1 — Soil Boring/Monitoring Well
- SW-1 — Wetland Surface Water Sample
- SS-1 — Surface Soil Sample
- TP-1 — Test Pit
- WS-1 — Wetland Sediment Sample
- TEST TRENCH 1 — Test Trench
- A A' — Subsurface Profile (Typical)

DATE	REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
	1			
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	9			

APPROVED:
DRAFTED : SMW
CHECKED :
PROJ. NO: 07.1092
SCALE : 1"=30'
DATE : MAR 27, 2008

FIGURE 4: SUBSURFACE PROFILE CROSS-REFERENCE MAP

400 BROADWAY ERP SITE

VILLAGE OF SARANAC LAKE FRANKLIN 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

FIG-4
SHEET 1 OF 1
DWG. NO: 08–162

CAD DWG. FILE NAME: FIGURE 4 RI SAMP. LOC.DWG

FIGURE 4A

Subsurface Profile A-A′ Cross-Section and Soil Sampling Summary

XREFS: NONE

PROJECT NUMBER: 07.1092

CAD DWG. FILE NAME: TEST TRENCH PROFILES.DWG

Map Notes

1. S–1 Subsurface Soil Sampling Location
2. The depth and thickness of subsurface strata indicated on subsurface profile A–A' were generalized from and interpolated between test boring and test trench locations. Several of these explorations were projected onto the subsurface profile, and depths and thicknesses of subsurface strata assumed to be the same. Information on actual subsurface conditions exist only at the locations of the explorations. Subsurface conditions between explorations will vary from that shown.
3. The Subsurface Soil Profile legend is classified by major soil groups. A more detailed subsurface profile is provided in the Test Trench and Test Boring Logs in appendices A & C respectively.
4. The top of bedrock symbol in the Subsurface Soil Profile legend may represent large boulders.

Subsurface Soil Profile Legend

- Light to dark brown sand with various percentages of cobbles, boulders, wood, brick, C&D debris, and organic matter.
- Dark brown and black fine sand and silt and organic matter.
- Grey, Green and Brown fine sand & silt with various percentages of clay, gravel, & medium to coarse sand.
- Gray (with minor green colored) clay.
- Top of possible bedrock or boulders.
- Denotes approximate depth where soils became wet, during test trenching.
- (5/7/08) Denotes depth to groundwater measured on 5/7/08.
- Footprint of the site's former storage building (Approximate Location).

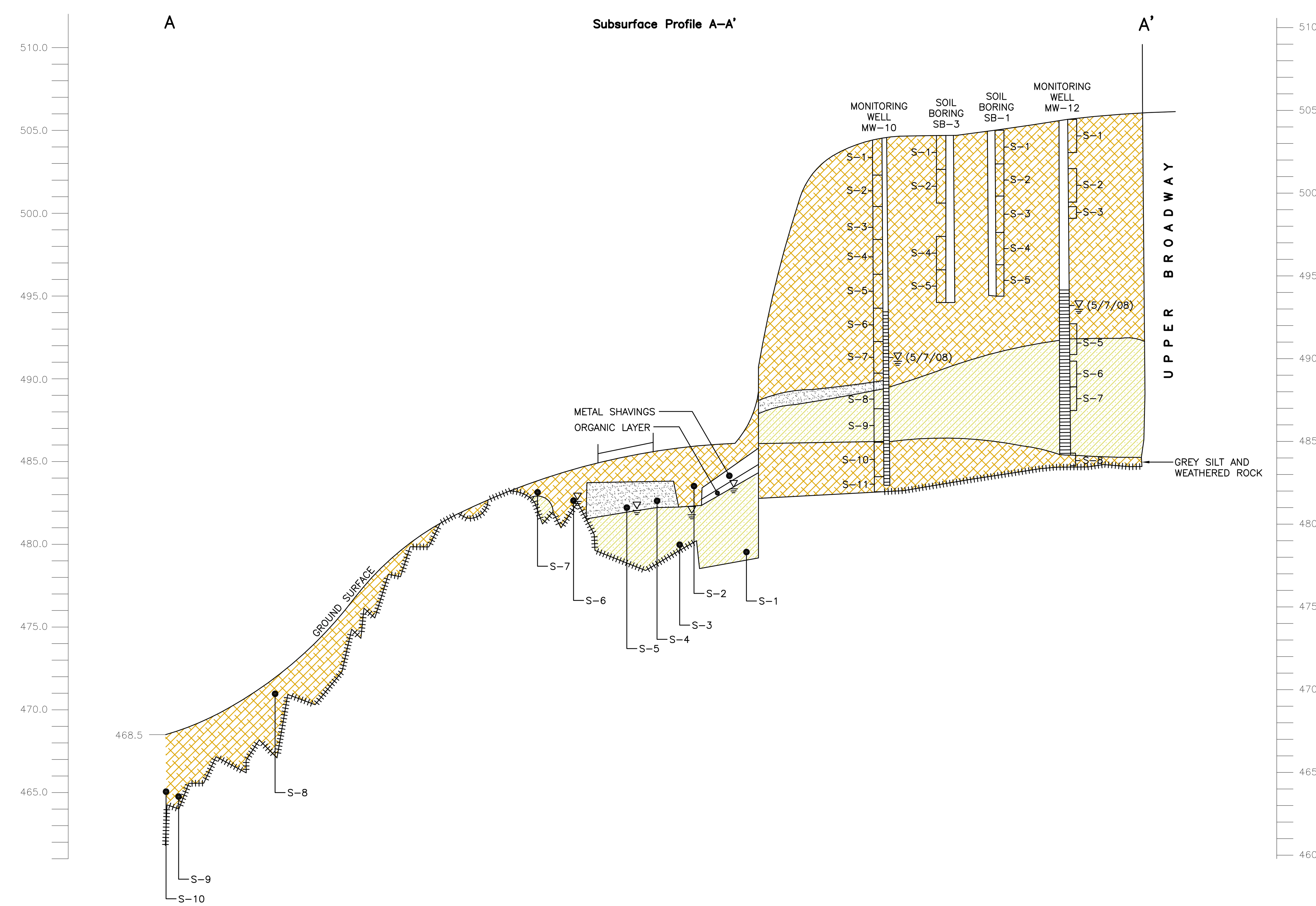
Soil Sampling Summary Subsurface Profile A–A'

Sample	Above SCGs*	PID Results**	Field Observations
Test Trench 1			
S–1	None	364.2	Petroleum/solvent–type odor, dark grey staining
S–2	N/A	898	Petroleum–type odor, dark grey staining
S–3	N/A	645	No ordor, no staining
S–4	None	8217	Petroleum/solvent–type odor, dark staining
S–5	N/A	5650	Petroleum/solvent–type odor, dark staining
S–6	N/A	1170	Petroleum/solvent–type odor, dark staining
S–7	N/A	117	No ordor, no staining
S–8	None	163	No ordor, metallic staining
S–9	N/A	102	No odor, slight staining
S–10	N/A	87	No odor, slight staining
MW–10			
S–1	N/A	1.8	No odor, no staining
S–2	N/A	–––	No recovery
S–3	N/A	1.6	No odor, no staining
S–4	N/A	0.4	No odor, no staining
S–5	N/A	4.3	No odor, no staining
S–6	N/A	–––	No recovery
S–7	N/A	0.9	No odor, no staining
S–8	N/A	0.8	No odor, no staining
S–9	None	474	Dark grey staining, petroleum–type odor
S–10	None	43.7	No staining, faint petroleum–type odor
S–11	N/A	2	No staining, faint petroleum–type odor
SB–3			
S–1	N/A	0.3	No odor, no staining
S–2	N/A	1	No odor, no staining
S–3	N/A	–––	No recovery
S–4	N/A	0.4	No odor, no staining
S–5	N/A	0.3	No odor, no staining
SB–1			
S–1	N/A	0.1	No odor, no staining
S–2	N/A	0.2	No odor, no staining
S–3	N/A	0.5	No odor, no staining
S–4	N/A	0.4	No odor, no staining
S–5	N/A	0.5	No odor, metallic staining
MW–12			
S–1	N/A	0.6	No odor, no staining
S–2	N/A	0.3	No odor, no staining
S–3	N/A	1.3	No odor, no staining
S–4	N/A	–––	No recovery
S–5	1 Metal	0.4	No odor, trace metallic staining
S–6	N/A	0.4	No odor, trace metallic staining
S–7	N/A	1.8	No odor, no staining
S–8	N/A	0	No odor, no staining

N/A: Not applicable. Sample was not selected for laboratory analysis.

*: SCGs for Restricted Residental use SCOs promulgated in NYSDEC 6 NYCRR Part 375 Environmental Remediation Programs, Subpart 375–(b), dated December 14, 2006.

**: PID results are representative of PID results above ambient background levels.



SUBSURFACE PROFILE A-A' CROSS SECTION

1 FIG4

SCALE: HORZ. 1" = 30'
VERT. 1" = 5'
CROSS REFERENCE: SUBSURFACE PROFILE A–A' FIGURE 4

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
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	9				

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

APPROVED:

DRAFTED : S.WUNSCH

CHECKED : S.BIEBER

PROJ. NO: 07.1092

SCALE : AS SHOWN

DATE : APRIL 2, 2008

FIGURE 4A

SUBSURFACE PROFILE A-A' CROSS SECTION & SOIL SAMPLING SUMMARY

400 BROADWAY ERP SITE

VILLAGE OF SARANAC LAKE — FRANKLIN 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

FIG-4A

SHEET 1 OF 3

DWG. NO: 08–162

FIGURE 4B

Subsurface Profile B-B′ Cross-Section and Soil Sampling Summary

Map Notes

1. S–1 Subsurface Soil Sampling Location
2. The depth and thickness of subsurface strata indicated on subsurface profile B–B' were generalized from and interpolated between test boring and test trench locations. Several of these explorations were projected onto the subsurface profile, and depths and thicknesses of subsurface strata assumed to be the same. Information on actual subsurface conditions exist only at the locations of the explorations. Subsurface conditions between explorations will vary from that shown.
3. The Subsurface Soil Profile legend is classified by major soil groups. A more detailed subsurface profile is provided in the Test Trench and Test Boring Logs in appendices A & C respectively.
4. The top of bedrock symbol in the Subsurface Soil Profile legend may represent large boulders.

Soil Sampling Summary Subsurface Profile B–B'

Sample	Above SCGs*	PID Results**	Field Observations
Test Trench 2			
S–1	N/A	727	Petroleum–type odor, grey staining
S–2	N/A	471	Petroleum–type odor, some staining
S–3	N/A	327	Slight petroleum–type odor, no staining
S–4	None	846	Strong petroleum–type odor, dark grey staining
S–5	N/A	78	Strong petroleum–type odor, dark grey staining
S–6	N/A	457	Petroleum–type odor, dark grey staining
S–7	N/A	1350	Petroleum–type odor, dark grey staining
S–8	N/A	648	Organic–type odor, metallic staining
S–9	N/A	934	Petroleum–type odor, dark grey staining
S–10	Metal	1571	Petroleum–type odor, dark grey staining
S–11	N/A	749	Petroleum–type odor
S–12	N/A	928	Petroleum–type odor, no staining
S–13	N/A	1642	Petroleum–type odor, dark grey staining
S–14	N/A	1457	Petroleum–type odor, dark grey staining
S–15	None	2336	Petroleum–type odor, dark grey staining
S–16	N/A	3638	Slight petroleum–type odor, gark grey staining
S–17	N/A	701	Petroleum–type odor, dark grey staining
S–18	None	1625	Petroleum–type odor, dark grey staining
S–19	N/A	777	Petroleum–type odor, dark grey staining
MW–9			
S–1	N/A	10.8	No odor, no staining
S–2	N/A	2.1	No odor, no staining
S–3	N/A	---	No recovery
S–4	N/A	0.4	No odor, no staining
S–5	N/A	0.8	No odor, no staining
S–6	N/A	0.9	No odor, no staining
S–7	N/A	0.6	No odor, no staining
S–8	None	0.5	No odor, no staining
S–9	N/A	0.8	No odor, no staining
S–10	N/A	0.4	No odor, no staining
S–11	N/A	0.7	No odor, no staining
SB–2			
S–1	N/A	0.3	No odor, no staining
S–2	N/A	0.3	No odor, no staining
S–3	N/A	0.4	No odor, no staining
S–4	N/A	0.5	No odor, no staining
S–5	N/A	0.6	No odor, no staining
MW–13			
S–1	N/A	0.0	No odor, no staining
S–2	N/A	0.0	No odor, no staining
S–3	N/A	0.0	No odor, no staining
S–4	N/A	0.3	No odor, no staining
S–5	N/A	1.1	No odor, no staining
S–6	None	1.5	No odor, no staining
S–7	N/A	0.4	No odor, no staining

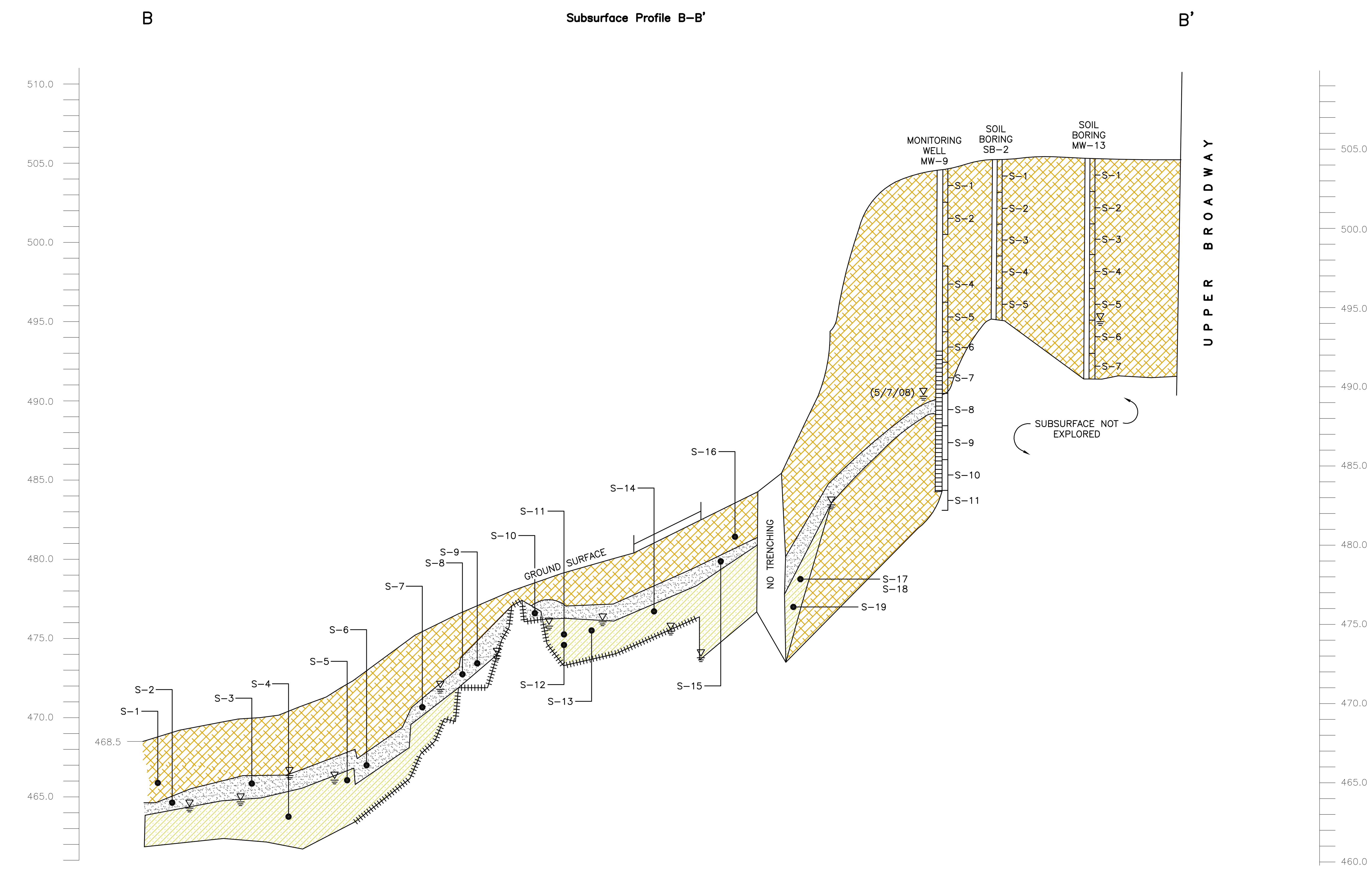
N/A: Not applicable. Sample was not selected for laboratory analysis.

*: SCGs for Restricted Residental use SCOs promulgated in NYSDEC 6 NYCRR Part 375 Environmental Remediation Programs, Subpart 375–(b), dated December 14, 2006.

**: PID results are representative of PID results above ambient background levels.

Subsurface Soil Profile Legend

- Light to dark brown sand with various percentages of cobbles, boulders, wood, brick, C&D debris, and organic matter.
- Dark brown and black fine sand and silt and organic matter.
- Grey, Green and Brown fine sand & silt with various percentages of clay, gravel, & medium to coarse sand.
- Gray (with minor green colored) clay.
- Top of possible bedrock or boulders.
- Denotes approximate depth where soils became wet, during test trenching.
- (5/7/08) Denotes depth to groundwater measured on 5/7/08.
- Footprint of the site's former storage building (Approximate Location).



2 FIG4 SUBSURFACE PROFILE B-B' CROSS SECTION

SCALE: HORZ. 1" = 30'
VERT. 1" = 5'
CROSS REFERENCE: SUBSURFACE PROFILE B–B' FIGURE 4

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APPROVED:
DRAFTED : S.WUNSCH
CHECKED : S.BIEBER
PROJ. NO: 07.1092
SCALE : AS SHOWN
DATE : APRIL 2, 2008

FIGURE 4B
SUBSURFACE PROFILE B-B' CROSS SECTION & SOIL SAMPLING SUMMARY

400 BROADWAY ERP SITE

VILLAGE OF SARANAC LAKE — FRANKLIN COUNTY, NEW YORK

C.T. MALE ASSOCIATES, P.C.
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FIG-4B
SHEET 2 OF 3
DWG. NO: 08–162

FIGURE 4C

Subsurface Profile C-C′, D-D′ and E-E′ Cross-Sections and Soil Sampling Summary

XREFS: NONE

PROJECT NUMBER: 07.1092

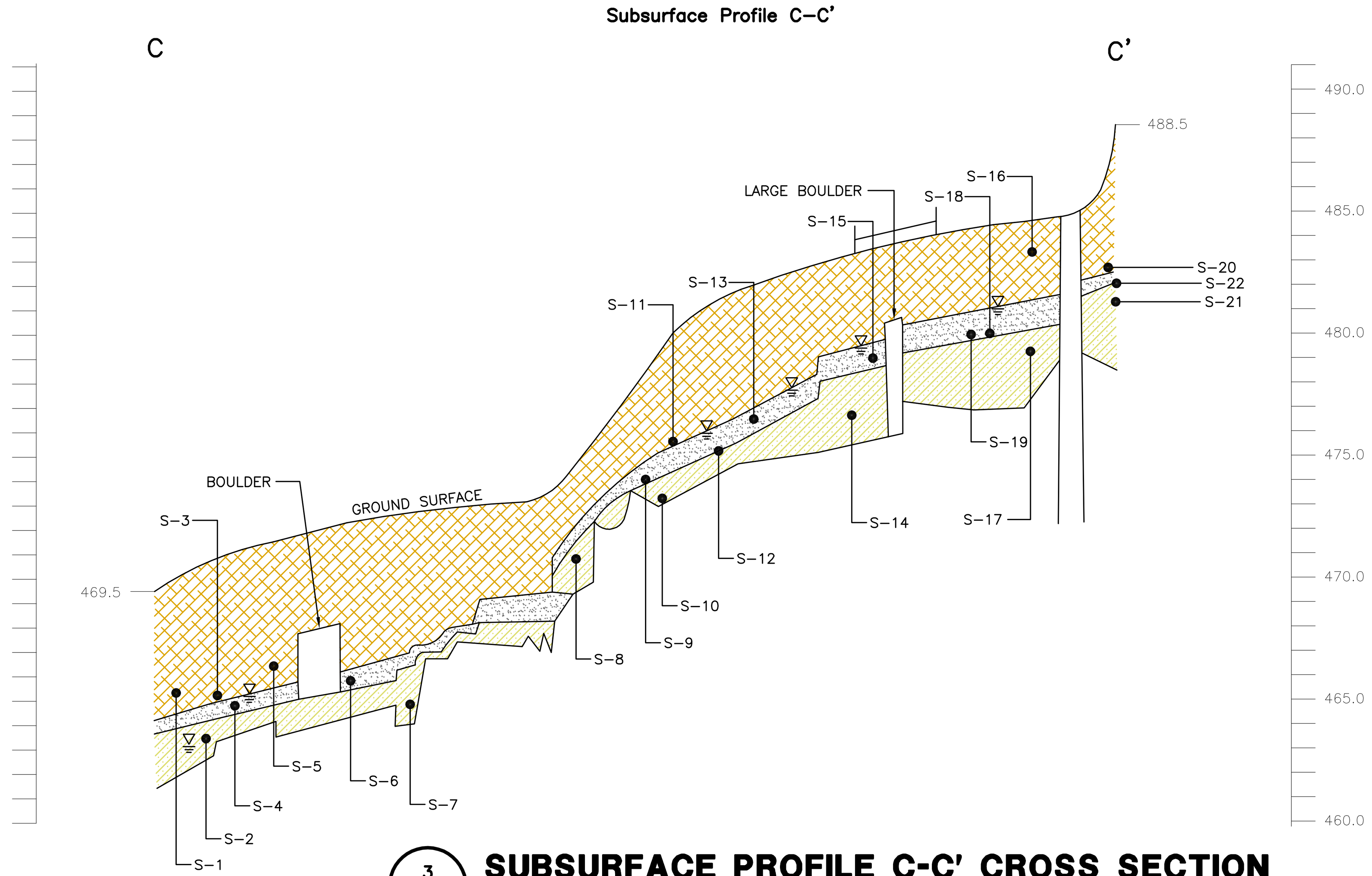
Soil Sampling Summary Subsurface Profile C–C'			
Sample	Above SCGs*	PID Results**	Field Observations
S–1	N/A	6.7	Strong petroleum–type odor, greenish–grey and black staining
S–2	N/A	4.5	Faint petroleum–type odor, no staining
S–3	None	120	Petroleum–type odor, trace staining
S–4	N/A	18	Organic ordor, no staining
S–5	N/A	196	Petroleum–type odor, some staining
S–6	N/A	18	Slight petroleum–type odor, no staining
S–7	N/A	62	Slight petroleum–type odor, no staining
S–8	None	367	Petroleum–type odor, dark grey staining
S–9	N/A	37	Organic–type odor, metallic staining
S–10	N/A	301	Petroleum–type odor, dark grey staining
S–11	N/A	38	Organic–type odor, no staining
S–12	N/A	131	Petroleum–type odor, no staining
S–13	N/A	70	Petroleum–type odor, no staining
S–14	N/A	321	No odor, metallic–type staining
S–15	N/A	1104	Faint petroleum–type odor, no staining
S–16	1 SVOC 1 Metal	2742	Strong petroleum–type odor, dark grey staining
S–17	N/A	968	Petroleum–type odor, grey staining
S–18	N/A	665	Petroleum–type odor, grey staining
S–19	None	1647	Petroleum–type odor, dark grey staining
S–20	5 SVOC	4343	Petroleum–type odor, dark grey staining
S–21	N/A	437	Slight petroleum–type odor, trace staining
S–22	N/A	2298	Petroleum–type odor, dark grey staining

N/A: Not selected for laboratory analysis.

*: SCGs for Restricted Residental use SCOs promulgated in NYSDEC 6 NYCRR Part 375 Environmental Remediation Programs, Subpart 375–(b), dated December 14, 2006.

**: PID results are representetive of PID results above ambient background levels.

Subsurface Profile C–C'



3 FIG4

SUBSURFACE PROFILE C-C' CROSS SECTION

SCALE: HORZ. 1" = 30'
VERT. 1" = 5'
CROSS REFERENCE: SUBSURFACE PROFILE C–C' FIGURE 4

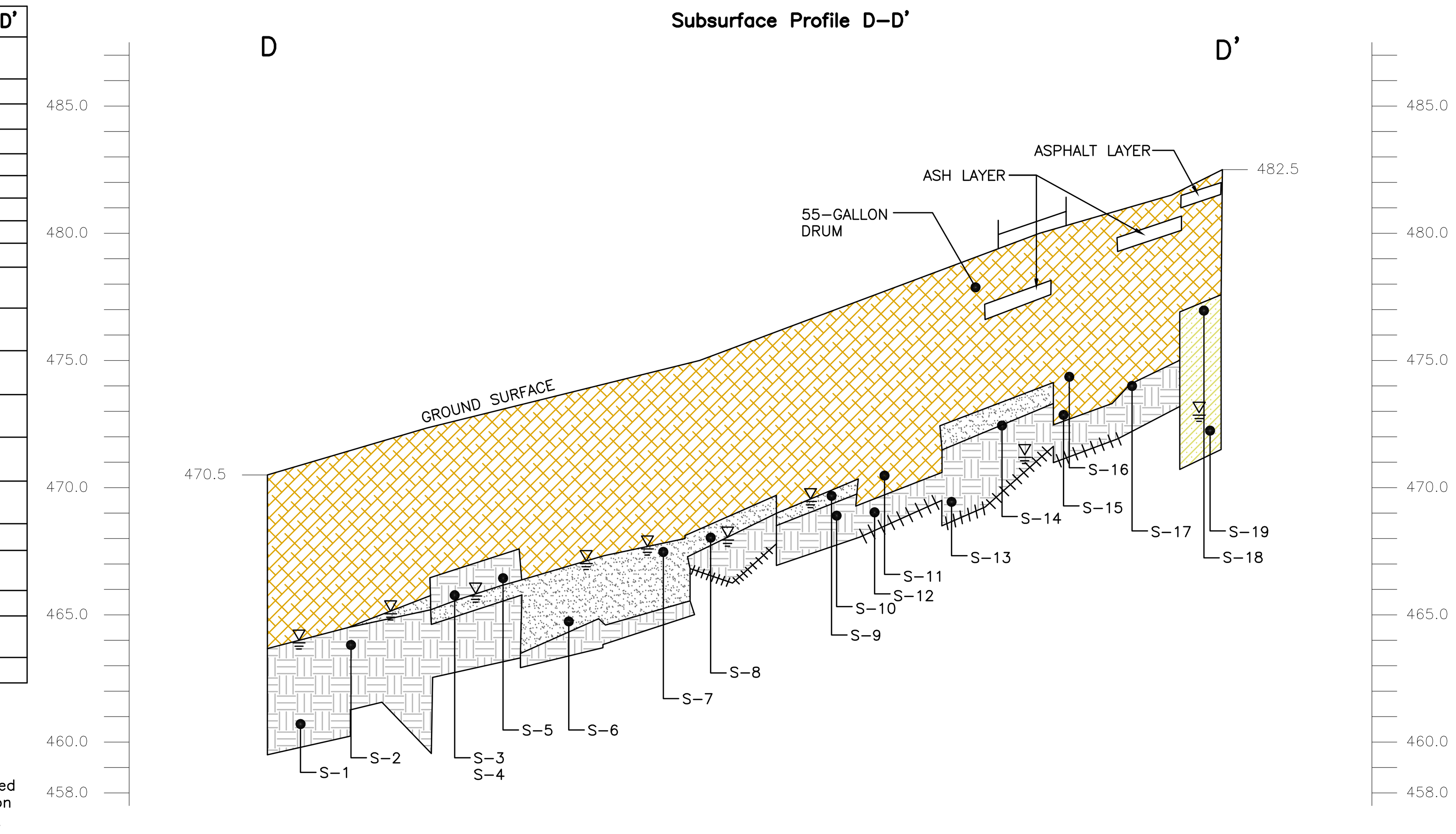
Soil Sampling Summary Subsurface Profile D–D'			
Sample	Above SCGs*	PID Results**	Field Observations
S–1	N/A	2.8	Organic ordor, no staining
S–2	N/A	2	Organic ordor, no staining
S–3	None	1.5	Organic ordor, no staining
S–4	N/A	2.3	Organic ordor, no staining
S–5	N/A	1.1	Organic ordor, no staining
S–6	N/A	0	Organic ordor, no staining
S–7	N/A	0	Organic ordor, no staining
S–8	N/A	1.2	Organic ordor, no staining
S–9	None	26.5	Faint petroleum–type odor, little dark grey staining
S–10	N/A	5.9	Petroleum–type odor, trace grey staining
S–11	N/A	77.8	Petroleum–type odor, dark grey to black staining
S–12	N/A	27.2	Petroleum–type odor, no staining
S–13	N/A	347	Petroleum–type odor, no staining
S–14	None	+9,999	Petroleum–type odor, dark grey to black staining
S–15	N/A	0	No odor, no staining
S–16	N/A	39.2	Slight petroleum–type odor, no staining
S–17	N/A	27.2	No odor, no staining
S–18	N/A	0	No odor, black & maroon metallic staining
S–19	N/A	0	No odor, no staining

N/A: Not selected for laboratory analysis.

*: SCGs for Restricted Residental use SCOs promulgated in NYSDEC 6 NYCRR Part 375 Environmental Remediation Programs, Subpart 375–(b), dated December 14, 2006.

**: PID results are representetive of PID results above ambient background levels.

Subsurface Profile D–D'



4 FIG4

SUBSURFACE PROFILE D-D' CROSS SECTION

SCALE: HORZ. 1" = 30'
VERT. 1" = 5'
CROSS REFERENCE: SUBSURFACE PROFILE D–D' FIGURE 4

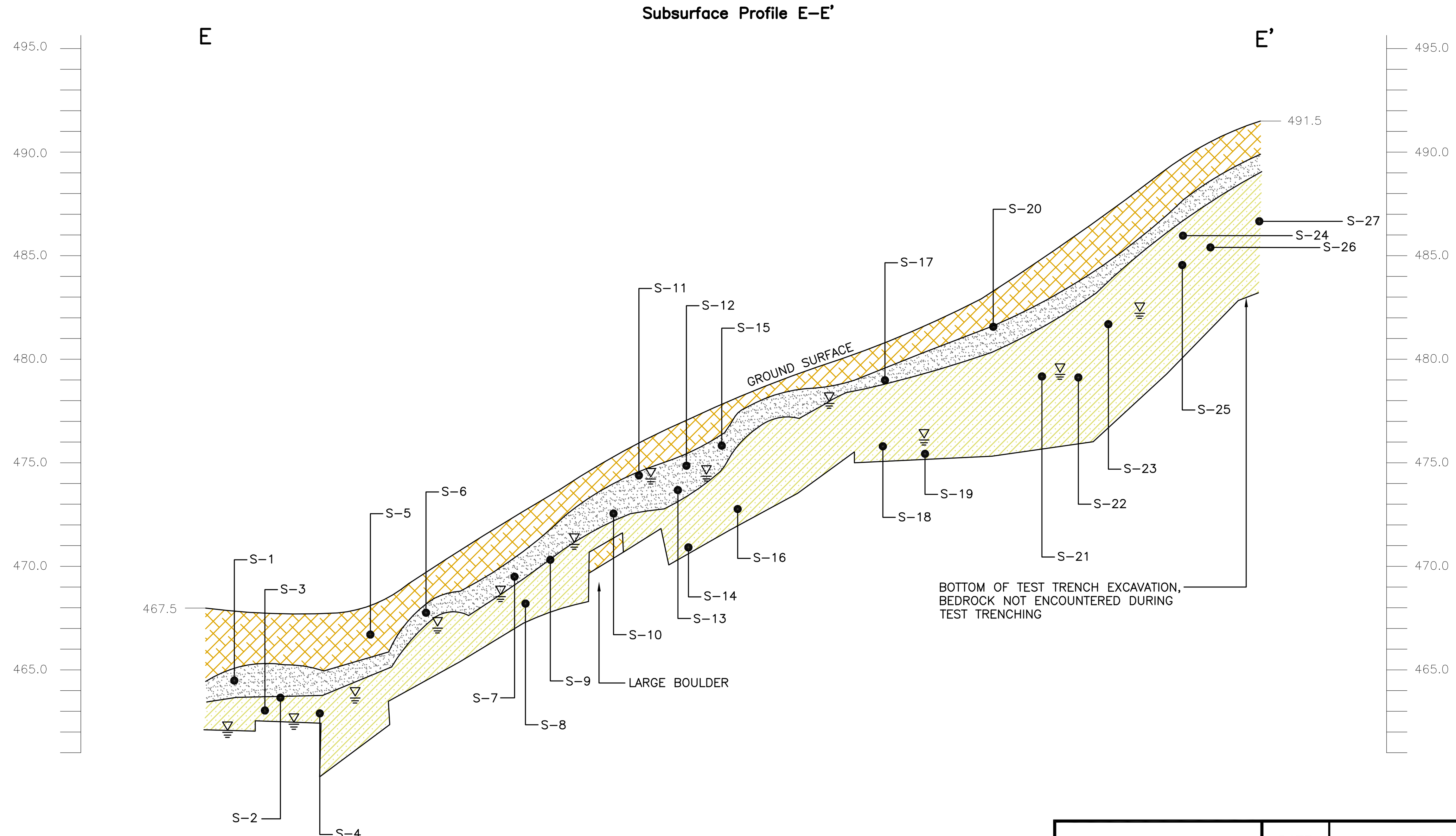
Soil Sampling Summary Subsurface Profile E–E'			
Sample	Above SCGs*	PID Results**	Field Observations
S–1	N/A	212	Slight petroleum–type odor, grey staining
S–2	N/A	156	Slight petroleum/organic–type odor, metallic and grey staining
S–3	N/A	2.5	No ordor, no staining
S–4	N/A	68.2	No ordor, no staining
S–5	None	169	Slight petroleum/organic–type odor, metalic and grey staining
S–6	N/A	42.5	No ordor, no staining
S–7	1 SVOC	+9.999	Strong petroleum–type odor, gark grey staining
S–8	N/A	367	Slight petroleum–type odor, no staining
S–9	N/A	174	Strong petroleum–type odor, grey staining
S–10	N/A	814	Petroleum–type odor, grey staining
S–11	N/A	3200	Strong petroleum–type odor, black staining
S–12	N/A	75	Petroleum–type odor, grey staining
S–13	N/A	523	Strong petroleum–type odor, little sludge
S–14	N/A	314	Petroleum–type odor, trace staining
S–15	N/A	105	Petroleum–type odor, grey staining
S–16	N/A	181	No odor, No staining
S–17	N/A	528	No odor, no staining
S–18	N/A	39	No odor, no staining
S–19	N/A	385	No odor, no staining
S–20	N/A	32	Petroleum–type odor, trace grey staining
S–21	N/A	17	Petroleum–type odor, trace grey staining
S–22	N/A	130	Petroleum–type odor, trace grey staining
S–23	1 PCB	191	Petroleum–type odor, dark grey staining
S–24	N/A	532	No odor, no staining
S–25	N/A	263	No odor, no staining
S–26	N/A	548	No odor, no staining
S–27	N/A	463	No odor, no staining

N/A: Not selected for laboratory analysis.

*: SCGs for Restricted Residental use SCOs promulgated in NYSDEC 6 NYCRR Part 375 Environmental Remediation Programs, Subpart 375–(b), dated December 14, 2006.

**: PID results are representetive of PID results above ambient background levels.

Subsurface Profile E–E'



5 FIG4

SUBSURFACE PROFILE E-E' CROSS SECTION

SCALE: HORZ. 1" = 30'
VERT. 1" = 5'
CROSS REFERENCE: SUBSURFACE PROFILE E–E' FIGURE 4

Map Notes

1. S–1 Subsurface Soil Sampling Location
2. The Subsurface Profiles C–C', D–D' and E–E' are extrapolated from the test trench logs in Appendix A. The test trenches were excavated in horizontal intervals of 10'–30' and then backfilled. A separate test trench log was used for each interval. Conversely , subsurface soil profile depths may vary between each interval.
3. The Subsurface Soil Profile legend is classified by major soil groups. A more detailed subsurface profile is provided in the Test Trench and Test Boring Logs in appendix A.
4. The top of bedrock symbol in the Subsurface Soil Profile legend may represent large boulders.

Subsurface Soil Profile Legend

- Light to dark brown sand with various percentages of cobble, boulders, wood, brick, C&D debris, and organic matter.
- Grey–Green fine sand & silt with various percentages of clay, gravel, & medium to coarse sand.
- Dark brown and black fine sand and silt and organic matter.
- Gray (with minor green colored) clay.
- Top of possible bedrock or boulders.
- Denotes approximate depth where soils became wet, during test trenching.
- (5/7/08) Denotes depth to groundwater measured on 5/7/08.
- Footprint of the site's former storage building (Approximate Location).

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APPROVED:
DRAFTED : S.WUNSCH
CHECKED : S.BIEBER
PROJ. NO: 07.1092
SCALE : AS SHOWN
DATE : APRIL 2, 2008

FIGURE 4C SUBSURFACE PROFILES C-C', D-D' AND E-E' CROSS SECTIONS & SOIL SAMPLING SUMMARY

400 BROADWAY ERP SITE

VILLAGE OF SARANAC LAKE — FRANKLIN COUNTY, NEW YORK

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ENVIRONMENTAL SERVICES * SURVEY & LAND INFORMATION SERVICES

FIG-4C
SHEET 3 OF 3
DWG. NO: 08–162

CAD DWG. FILE NAME: TEST TRENCH PROFILES.DWG

EXHIBIT 1

Fish and Wildlife Impact Analysis Report

March 25, 2008

Fish and Wildlife Impact Analysis
Step I – Site Description

Saranac Lake Volunteer Fire Department
Village of Saranac Lake
Franklin County, New York

Prepared for:
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Power and Light Building
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C.T. Male Project No: 07.1092

FISH AND WILDLIFE IMPACT ANALYSIS
Step I – Site Description
Saranac Lake Volunteer Fire Department

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FISH AND WILDLIFE IMPACT ANALYSIS
Step I – Site Description
Saranac Lake Volunteer Fire Department

FIGURES

TABLES

APPENDICES

1.0 INTRODUCTION

Step I of a New York State Department of Environmental Conservation (NYSDEC) Fish and Wildlife Impact Analysis (FWIA) was completed by C.T. Male Associates, P.C. (C.T. Male) for the Proposed Saranac Lake Volunteer Fire Department ("the project site") located between Lake Colby Drive and Upper Broadway, approximately 200 feet south of the Adirondack Park Preserve connecting road, in the Village of Saranac Lake, Franklin County, New York (refer to Figure 1, Site Location Map). The Proposed Saranac Lake Volunteer Fire Department Site is considered an undeveloped area with predominantly mature trees, thickets and grasses in the southern portion. The western portion was observed to contain wetlands delineated by the Adirondack Park Agency in May 2003 (Figure 2, Covertype Delineation Map); the central and eastern portions of the site are lightly wooded. This project site is currently the subject of a NYSDEC Environmental Restoration Program Remedial Investigation due to the historic use of the northern portion which has been associated with automotive repair and World War II related aircraft parts manufacturing, and was reportedly utilized as an uncontrolled dumping area for a period of time. Various items found on site consist primarily of concrete, metal drums and containers and a masonry oven were observed in the vicinity of the project site.

The objective of the Step I Site Description is to identify the fish and wildlife resources, land-use and habitat types that exist on the site and within 0.5 mile of the site. This report will identify fish and wildlife species that may utilize habitats that could potentially be impacted by site-related contaminants. The information in this FWIA will be used to help determine if remediation may be warranted for biotic resources that may exist within or adjacent to the site. Step I of the FWIA for the site was conducted in accordance with "Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites", NYSDEC, October, 1994.

2.0 SITE DESCRIPION

2.1 Site Location

The site is approximately 2.6 acres in size and is located between Lake Colby Drive and Upper Broadway, approximately 200 feet south of the Adirondack Park Preserve connecting road in the Village of Saranac Lake, Franklin County, New York. The site is identified as the Village of Saranac Lake Tax Map Parcel I.D. Section 446.43 Block 2 Lot 3 and Block 2 Lot 4. A 2003 Aerial Site Features Map depicting the project site's boundaries is presented as Figure 2. The Drainage Map is presented as Figure 3. Land use in the vicinity of the site includes rural residential commercial and municipal properties, and mixed hardwood and softwood forest.

2.2 Site History

This project site is currently the subject of a NYSDEC Environmental Restoration Program Remedial Investigation due to the historic use of the various items found on site; consisting primarily of concrete, metal drums and containers and a masonry oven were observed in the vicinity of the project site. Previous land usage on the northern portion has been associated with automotive repair and World War II related aircraft parts manufacturing, and was reportedly utilized as an uncontrolled dumping area for a period of time. Land uses to the south include lightly wooded undeveloped parcels with wetland areas.

2.3 Current Site Use

The site presently consists of vacant land that has historically been used for commercial purposes. The site rises gradually in elevation from its western border (Lake Colby Drive) to its property boundary to the east (Upper Broadway). Potential future uses of the site may include a volunteer fire department.

2.4 Drainage Patterns

An intermittent stream bisects the southern portion of the site and flows in a westerly direction. The entire site generally drains towards the southwestern portion of the boundary line of the project site. (Refer to Figure 3, Drainage Map).

2.5 Surrounding Property Usage

The project site is bordered to the north by the First Christian Church; to the east by residential dwellings and Upper Broadway; to the south by wooded, undeveloped land; to the west by NYS Route 86 (Lake Colby Drive) followed by wooded, undeveloped land and southern portions of an automobile sales and repair facility.

3.0 COVERTYPE DELINEATION

In the context of this report, a "covertype" is defined as an area characterized by a distinct pattern of natural or cultural land uses. Covertypes on the site and areas within 0.5 mile 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 November 29, 2007 and review of mapping of the surrounding area.

For each covertype identified in the covertype delineation, dominant vegetative species observed during the field reconnaissance are described. A Covertype Delineation Map detailing the major land use/vegetative communities within a one-half mile radius of the site is presented as Figure 2. The Covertype Delineation Map was prepared based on an interpretation/evaluation of aerial photographs, topographic maps, and New York State Freshwater Wetland maps. The covertypes within one-half mile of the site were characterized using the New York Natural Heritage Program Classification System (Edinger et al., 2002). Representative site photographs were taken to characterize the site (refer to Appendix A, Representative Site Photographs).

The following sections provide a description of the seven (7) covertypes that were identified on the Proposed Saranac Lake Volunteer Fire Department Site. Of the seven (7) covertypes identified, two (2) are considered to be a cultural covertype (Edinger et al., 2002). Six (6) of the identified covertypes have a secure global and state ranking, indicating that they are not rare ecological communities (Edinger et al., 2002). The hemlock northern hardwood forest is listed as a sensitive covertype in New York State. Below are descriptions of the seven (7) covertypes identified within or adjacent to the project site.

3.1 Natural Covertype Designations

3.1.1 Hemlock Northern Hardwood Forest

This forest occurs on lower slopes of well-drained sites at the edge of swamps. The codominant species in this covertype are Hemlock (*Tsuga canadensis*) and beech (*Fagus grandifolia*); other species include sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), black cherry (*Prunus serotina*), white pine (*Pinus strobus*), yellow birch (*Betula* *alleghaniensis*), black birch (*Betula lenta*), red oak (*Quercus rubra*), and basswood (*Tilia americana*). Hemlock's relative cover varies, ranging from nearly 100% in some steep ravines to as little as 20% of the canopy cover. The hemlock northern hardwood forest covertype was observed within the southern eastern and central portions of the project site.

3.1.2 Hemlock Hardwood Swamp

A Hemlock Hardwood Swamp occurs on mineral soils and deep muck in lowlands that receive groundwater from areas where the aquifer is in a basic or acidic condition. Hemlock dominates the tree canopy with yellow birch, and red maple being co-dominant. Other trees that may be found include white pine, black gum (*Nyssa sylvatica*), and green ash (*Fraxinus pennsylvanica*). The season determines the fluctuations of water levels in these swamps; they may be flooded in spring and relatively dry by late summer. The hemlock hardwood swamp covertype was observed within the southwestern and northwestern portions of the project site.

3.1.3 Intermittent Stream

This covertype has observable waterflow during the spring and/or after a heavy rain and often remains longer, ponded in isolated pools. The stream has a moderate to steep gradient with hydric soils. Vascular plants are hydrophytic and include water-carpet (*Chrysosplenium americanum*) and pennywort (*Hydrocotyle americana*). The fauna is limited to species that do not require a permanent supply of running water, these plants only inhabit the streambed during the rainy season. Biota found in the covertype include northern pygmy clubtail (*Lanthus parvulus*), craneflies (*Hexatoma* sp.), caddisflies (*Pycnopsyche sp.*, and *Neophylax sp.*) and stonefllies (*Peltoperla* sp.). The intermittent stream was observed generally flowing west in the central portion of the project site.

3.1.4 Successional Northern Hardwood Forest

A successional northern hardwood forest is a forest that occurs on sites that have been previously logged or farmed or otherwise disturbed. Species common within this covertype include quaking aspen (*Populus tremuloides*), red maple, American elm (*Ulmus americana*), white pine and white ash (*Fraxinus americana*). Successional northern hardwood forests are located at the periphery of the western and eastern portions of the project site.

3.1.5 Mesophytic Diamictic Lake

This type of lake is a mix between an oligotrophic and a eutrophic lake. Both of these lakes have two periods of mixing or turnover, this is why they are categorized as dimictic (one in the spring and one in the fall. In the summertime they are thermally stratified, they are also inversely stratified in the winter. Within the sublittoral zone, flexils may be abundant macrophytes, such as pondweeds (*Potamogeton amplifolius, P. praelongus, P. robbinsii*), tapegrass (*Vallisneria americana*), and bladderworts (*Utricularia* spp.) are often found in this area.

3.2 Cultural Covertype Designations

3.2.1 Brushy Cleared Land

This covertype is characterized as land that has been clearcut or cleared by brush-hog. There is typically a lot of woody debris from trees that were logged; vegetation consists of scattered herbs, shrubs, and tree saplings. The amount of vegetative cover depends on soil fertility and the length of time since the land was cleared. The brushy cleared land covertype was observed within the northern portion of the project site.

3.2.2 Rural Structure Exteriors

Rural structure exteriors include rural residential and commercial buildings composed of metal, wood, concrete, glass, plastics, etc. This covertype is typically vegetated with lichens, mosses and algae and vascular plants can be found in cracks in cement or the structure itself. The urban structure exterior covertype was observed on the western and eastern boundaries of the project site; along with various other adjacent properties.

4.0 DESCRIPTION OF FISH AND WILDLIFE RESOURCES

The objectives of the description of the fish and wildlife resources is to list fish and wildlife species physically observed within the project site and to identify fauna expected to inhabit each covertype. The tasks conducted to meet each of these objectives and the results of the tasks are discussed in the following sections.

4.1 Fauna Expected Within Each Covertype

During the field reconnaissance of the Proposed Saranac Lake Volunteer Fire Department Site, observations were made to assess the presence of fish and wildlife species. Fish and wildlife species physically observed were identified and are summarized in Table 1. Also included in Table 1 are fish and wildlife species for which signs (e.g., tracks or scat) were observed. Additionally, Table 2 contains a list of fauna expected to be present within the project site (Edinger et al., 2002).

The following sections provide a summary of the fish and wildlife species that were observed and are expected to occur within each covertype.

4.1.1 Hemlock Northern Hardwood Forest

Species commonly observed within hemlock northern hardwood forests include the wild turkey (*Meleagris gallopavo*), pileated woodpecker (*Dryocopus pileatus*), golden-crowned kinglet (*Regulus satrapa*), blackthroated green warbler (*Dendroica virens*), and Acadian flycatcher (*Empidonax virescens*).

4.1.2 Hemlock Hardwood Swamp

This is a common and widespread swamp community that is very small in actual size (1 to 2 acres). Water levels in these swamps typically fluctuate seasonally: they may be flooded in spring and relatively dry by late summer. Due to the swamp's small size it often shares similar species to the hemlock northern hardwood forest.

4.1.3 Intermittent Stream

Species commonly observed within the intermittent stream can include amphibians such as green frog (*Rana clamitans*) and northern two-lined salamander (*Eurycea* *bislineata*), and macroinvertebrates such as water striders (*Gerris* sp.), water boatman (*Corixidae*), caddisflies (*Trichoptera*), mayflies (*Ephemeroptera*), stoneflies (*Plecoptera*), midges (*Chironomidae*), blackflies (*Simulidae*) and crayfish (*Cambarus bartoni*). No faunal species or indications of their presence were observed within the intermittent stream covertype during the field review of the site.

4.1.4 Successional Northern Hardwood Forest

Species commonly observed within successional northern hardwood forests include gray squirrel (*Sciurus carolinensis*), white-tailed deer (*Odocoileus virginianus*), eastern cottontail rabbit (*Sylvilagus floridanus*), pileated woodpecker (*Dryocopus pileatus*), chestnut-sided warblers (*Dendroica pennsylvanica*) and yellow-bellied sapsuckers (*Sphyrapicus varius*).

4.1.5 Mesophytic Diamictic Lake

Within this covertype lake, wildlife is well developed, both in the profundal and pelagic species. This lake contains warmwater fishes such as yellow perch (*Perca flavescens*), largemouth bass (*Micropterus salmoides*), smallmouth bass (Micropterus dolomieui), northern pike (*Esox lucius*), bluegill (*Lepomis macrochirus*), and pumpkinseed (*L. gibbosus*). Characteristic invertebrates within this lake include the clam *Pisidium* sp. and the mayfly Hexagenia sp.; along with these species plankton such as phytoplankton (*Asterionella)* and the zooplankton (*Daphnia dubia)* can also be found.

4.1.6 Brushy Cleared Land

During the November 2007 field reviews signs of whitetail deer (*Odocoileus virginianus*) and eastern cottontail rabbit (*Sylvilagus floridanus*) tracks were observed within this covertype on the project site.

4.1.7 Rural Structure Exteriors

Nooks and crannies within building structures may provide nesting habitat for birds and insects and roosting sites for bats. Wildlife species common to the rural structure exteriors covertype include common nighthawk (*Chordeiles minor*), American robin (*Turdus migratorius)*, rock doves (*Columba liva*) and house sparrows (*Passer domesticus*).

5.0 VALUE OF FISH AND WILDLIFE RESOURCES

The habitat value of each covertype in the vicinity of the site was qualitatively evaluated based on field observations of physical characteristics. For the intermittent stream, 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;
- Adjacent land use patterns.

5.1 Habitat Value Descriptions

5.1.1 Hemlock Northern Hardwood Forest

This covertype typically supports a diversity of wildlife including many species of birds and mammals. Large trees may provide cover and food sources for bird and bat species. As development has encroached upon these forested portions within the project site, the forest itself is likely one of the areas wildlife depend on for protective cover and food sources. Therefore, the habitat value of hemlock northern hardwood forest within the project site was determined to be high.

5.1.2 Hemlock Hardwood Swamp

This wetland habitat provides cover and food sources for bird, amphibian and other wildlife species. This covertype is frequently located adjacent to rural development and habitat alternations (ATV use, logging, trash dumping, etc.) may have negative impacts on this ecotype. A characteristic bird of the covertype is golden-crowned kinglet

(*Regulus satrapa*). Hemlock swamps have also been known to be effected by invasive species such as purple loosestrife (*Lythrum salicaria*) and reedgrass (*Phragmites australis*); an invasive "sap-sucker" and hemlock woolly adelgid (*Adelges tsugae*), which is an exotic species that is specifically under high alert to destroy hemlock trees in New York. Therefore, the value of fish and wildlife resources within the hemlock hardwood swamp was determined to be low.

5.1.3 Intermittent Stream

The intermittent stream within the project site provides cover and food for bird and mammal species. Wildlife utilize the stream and its species as a source of food (insects for nourishment), water and protection and a place for nesting. Therefore the value of fish and wildlife resources was determined to be moderate for this covertype.

5.1.4 Successional Northern Hardwood Forest

This covertype typically supports a diversity of wildlife including many species of birds and mammals. Large trees may provide cover and food sources for bird and bat species. As development has encroached upon these forested portions within the project site, the forest itself is likely one of the areas wildlife depend on for protective cover and food sources. Therefore, the value of fish and wildlife resources within the successional northern hardwood forests was determined to be high.

5.1.5 Mesophytic Diamictic Lake

Lake Colby, located west of the project site, contains an abundant population of various species of fish. The mesophytic diamictic lake is stocked with trout and landlocked salmon species; due to this diversity of wildlife and food sources, the neighboring lake is a key habitat for the adjacent areas of the project site. Therefore the value of fish and wildlife resources was determined to be high.

5.1.6 Brushy Cleared Land

The presence of the existing rural residential areas that have been cleared in the past may provide habitat for some wildlife. However, due to the lack of vegetation and potential food sources and the fact that brushy cleared land is still quite immature, the habitat is limited; so the value of birds and wildlife resources was determined to be low.

5.1.7 Rural Structure Exteriors

The presence of the existing rural residential and commercial structures may provide habitat for some urban wildlife. However, due to the lack of vegetation and potential food sources and the fact that urban structures typically provide limited habitat, the value of birds and wildlife resources was determined to be low.

5.2 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 observe wildlife during hiking or camping. Other than the presence of white-tailed deer and eastern cottontail rabbits, the value of resources on the project site to humans is very limited. Within the vicinity of the project site, various wetlands, ponds, streams and parks may provide opportunity for hunting, recreation and wildlife observation.

6.0 OBSERVATIONS OF STRESS

During the field reconnaissance on November 29, 2007, the site was examined for evidence of observable stress, including stained soils, leachate seeps, or exposed waste. In addition, atypical biotic conditions including reduced vegetative growth and density, wildlife mortality, and absence of expected fish and wildlife resources were noted. Some discolored water and soils was observed in several parts within the project site (refer to Appendix A, Representative Photographs).

No other signs of discolored soils, dying or dead vegetation or dead fish or wildlife species were observed on or in the vicinity of the project site.

Freedom of Information Law (FOIL) information request letters dated December 20, 2007 were submitted to the NYSDEC and New York State Department of Health (NYSDOH) to obtain any known records of past fish and wildlife contamination and/or mortality associated with the site. A response from NYSDOH, dated January 22, 2008 was received indicating that there were no known records of wildlife and/or fish mortality for the site (refer to Appendix B, Correspondence). A response from NYSDEC is pending.

7.0 OTHER RESOURCES

7.1 Freshwater Wetlands

Currently, NWI mapping is not available for the Saranac Lake, New York quadrangle.

Based on a review of the Adirondack Park Agency Freshwater Wetlands Maps, one (1) APA wetland is mapped and delineated on the project site. This wetland corresponds to the hemlock hardwood swamp covertype as shown on the attached Covertype Map.

7.2 Significant Habitats & Rare, Threatened, or Endangered Species

Information regarding the presence of significant habitats and state or federally listed rare, threatened or endangered plant or animal species on or within two miles of the site was requested from the NYSDEC and the United States Fish and Wildlife Service (USFWS)(Refer to Appendix B, Correspondence). Responses from both agencies are pending.

8.0 APPLICABLE FISH AND WILDLIFE REGULATORY CRITERIA

The identification of applicable site-specific and contaminant-specific Fish and Wildlife Regulatory Criteria (FWRC) involves a qualitative examination of significant features protected by the state or federal government that might be affected by current conditions within the project site or by future remedial activities. The following sections provide the site-specific and contaminant-specific FWRC that may be applicable for the Saranac Lake Volunteer Fire Department Site.

8.1 Site-Specific FWRC

Site-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, Wild, Scenic & Recreational Rivers, Freshwater Wetlands and Tidal Wetland FWRC's were not required to be addressed because the site is not located in a Coastal Zone, does not contain and is not immediately adjacent to freshwater wetlands or a wild, scenic or recreational river and is not influenced by tides.

Site-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 waters of the U.S, including dredged or fill materials;*
- *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.).*

8.2 Contaminant-Specific FWRC

Contaminant-specific FWRC are regulations that apply to water quality standards and guidance values for the protection of aquatic life and sediment criteria developed by the Division of Fish and Wildlife.

Contaminant-specific FWRC that may be applicable to the site 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;*
- *NYSDEC, Technical Guidance for Screening Contaminated Sediments, January 1999;*
- *NYSDEC, Determination of Soil Cleanup Objectives and Cleanup Levels TAGM 4046, 1995; and*
- *NYSDEC, Environmental Remediation Programs, 6 NYCRR Part 375, December 2006.*

9.0 SUMMARY AND CONCLUSIONS

Step I of a FWIA was completed by C.T. Male for the Saranac Lake Volunteer Fire Department Site. The site has historically been utilized for auto repair and World War II aircraft manufacturing. The approximately 2.4 acre site presently consists of cleared, vacant land and forested areas.

In general, the value of the fish and wildlife resources located within the 0.5 mile radius study area is moderate. Brushy cleared land and residential areas have eliminated much of the natural habitat in the vicinity of the project site and have replaced it with rural wildlife habitats consisting primarily of mowed lawns with trees, paved roads, urban structure exteriors and hemlock hardwood areas surrounding the site. Overall, many of the covertypes in the study area have been heavily influenced by human activities.

The value of fish and wildlife resources to humans is very limited within the project site. There is no hunting allowed within the Village or in the vicinity of residential structures. As a result, the value of these resources to humans was determined to be low.

Some evidence of stress from potentially contaminated conditions was observed within the project site. It is possible that potential contamination present in these troughs may have had an adverse impact on fish and wildlife resources, although NYSDEC and NYSDOH correspondence indicates that there were no known records of wildlife and/or fish mortality for the project site.

This completes Step I of the Fish and Wildlife Impact Analysis.

10.0 REFERENCES

Andrle, R.F. and Carroll, F.R. 1988. The Atlas of Breeding Birds in New York State. Cornell University Press.

Behler, J.L. and F.W. King. 1998. National Audobon Society Field Guide to North American Reptiles and Amphibians. Knopf.

C.T. Male Associates, P.C. 2006. Former 400 Broadway Site Remedial Investigation Work Plan. C.T. Male Associates, P.C.

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.

New York State Department of Environmental Conservation. 1994. Fish and Wildlife Impact Analysis For Inactive Hazardous Waste Sites (FWIA). Division of Fish and Wildlife Resources.

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Peterson, R. T. 1980. Peterson Field Guides, Eastern Birds. Houghton Mifflin Company.

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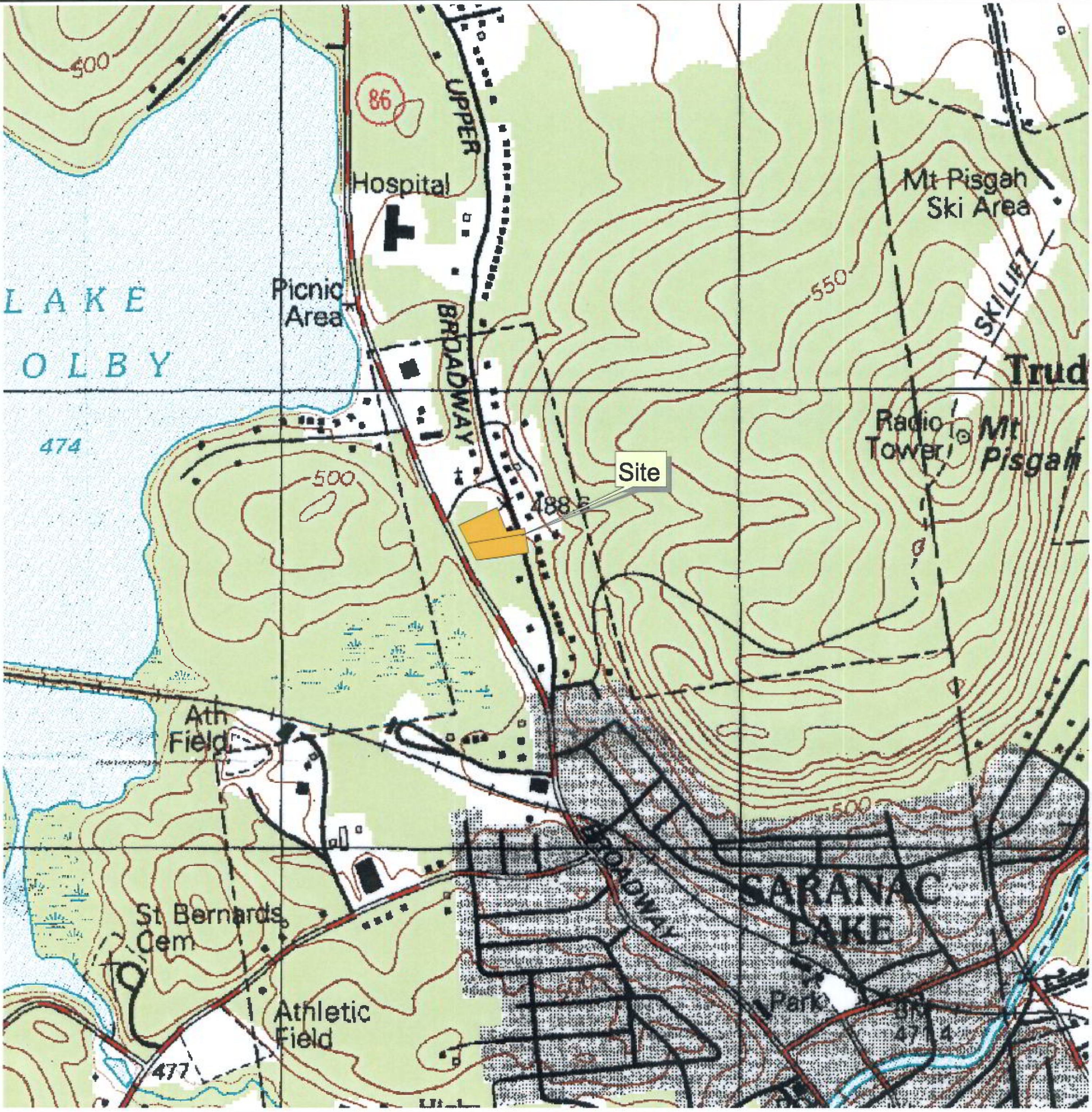
FIGURES



MAP REFERENCE
USGS Topographic Map
Saranac Lake, NY Quadrangle, Dated 2000
7.5 Minute Series, NAD 83 UTM18N
Downloaded from CUGIR on 12/24/07

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ARCHITECTURE &
BUILDING SYSTEMS ENGINEERING
CIVIL ENGINEERING
ENVIRONMENTAL SERVICES
SURVEY & LAND INFORMATION
SERVICES

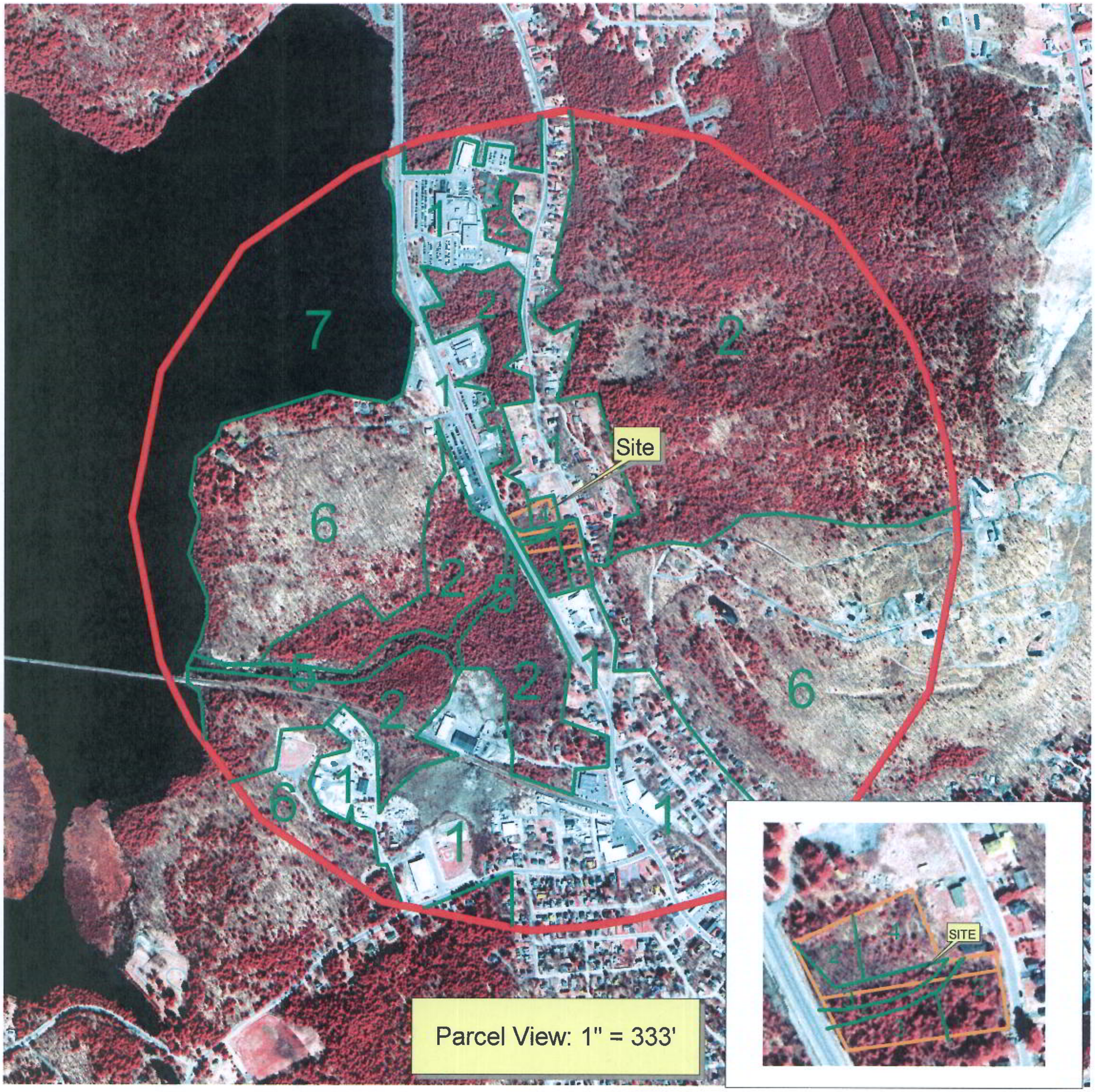
C.T.MALE ASSOCIATES, P.C.

50 CENTURY HILL DRIVE, PO BOX 727, LATHAM, NY 12110
PHONE (518) 786-7400 FAX (518) 786-7299

FIGURE 1 SITE LOCATION MAP

Saranac Lake Volunteer Fire Department

VILLAGE OF SARANAC LAKE	FRANKLIN COUNTY, NY
SCALE: 1"= 1,000'	
DRAFTER: KRP	
PROJECT NO: 07.1092	



MAP REFERENCE
USGS Topographic Map
Saranac Lake, NY Quadrangle, Dated 2003
7.5 Minute Series, NAD 83
Ortho downloaded from NYS GIS Clearinghouse on 12/19/2007

COVERTYPES:
1. Rural Structure Exteriors
2. Hemlock Northern Hardwood Forest
3. Hemlock Hardwood Swamp
4. Brushy Cleared Land
5. Intermittent Stream
6. Successional Northern Hardwood Forest
7. Mesotrophic Dimictic Lake

N W E S

ARCHITECTURE &
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SURVEY & LAND INFORMATION SERVICES

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50 CENTURY HILL DRIVE, PO BOX 727, LATHAM, NY 12110
PHONE (518) 786-7400 FAX (518) 786-7299

Saranac Lake Volunteer Fire Department
Covertype Map

VILLAGE OF SARANAC LAKE	FRANKLIN COUNTY, NY
SCALE: 1"= 1,000'	
DRAFTER: DJP	
PROJECT NO: 07.1092	

Figure 3 – Drainage Map

TABLES

TABLE 1
Fauna Observed within the Study Area

Common Name	Scientific Name	Covertype	Comments
White-tailed Deer	*Odocoileus virginianus*	Brushy Cleared Land	tracks observed
Eastern cottontail rabbit	*Sylvilagus floridanus*	Brushy Cleared Land	tracks observed

TABLE 2
Fauna Expected to be Present within the Study Area

	Common Name	Scientific Name	Covertype
Birds	Wild turkey	Meleagris gallopavo	Hemock Northern Hardwood Forest
	Pileated woodpecker	Dryocopus pileatus	Hemock Northern Hardwood Forest/ Successional Northern Hardwood Forests
	Golden-crowned kinglet	Regulus satrapa	Hemock Northern Hardwood Forest
	Blackthroated green warbler	Dendroica virens	Hemock Northern Hardwood Forest
	Acadian flycatcher	Empidonax virescens	Hemock Northern Hardwood Forest
	Golden-crowned kinglet	Regulus satrapa	Hemlock Hardwood Swamp
	Nighthawk	Chordeiles minor	Rural Structure Exteriors
	American robin	Turdus migratorius	Rural Structure Exteriors
	Rock doves	Columba liva	Rural Structure Exteriors
	Chestnut-sided warblers	Dendroica pennsylvanica	Successional Northern Hardwood Forests
	Yellow-bellied sapsuckers	Sphyrapicus varius	Successional Northern Hardwood Forests
	House sparrows	Passer domesticus	Rural Structure Exteriors
Mammals	Eastern cottontail rabbit	Sylvilagus floridanus	Brushy Cleared Land/Successional Northern Hardwood Forests
	Gray Squirrel	Sciurus carolinensis	Successional Northern Hardwood Forests
	Whitetail deer	Odocoileus virginianus	Brushy Cleared Land/Successional Northern Hardwood Forests
Fish/ Amphibians/Insects	Largemouth and Smallmouth bass	Micropterus salmoides, dolomieu	Mesophytic Diamictic Lake
	Rainbow trout	Oncorhynchus mykiss	Mesophytic Diamictic Lake
	Northern pike	Esox lucius	Mesophytic Diamictic Lake
	bluegill	Lepomis macrochirus	Mesophytic Diamictic Lake
	pumpkinseed	L. gibbosus	Mesophytic Diamictic Lake
	Yellow perch	Perca flavescens	Mesophytic Diamictic Lake
	Green frog	Rana clamitans	Intermittent Stream
	Northern two-lined salamander	Eurycea bislineata	Intermittent Stream
	Various Macroinvertebrates and Plankton	---------------------	Intermittent Stream

Appendix A

Representative Site Photographs

View West of Forested Portion of Site.

View West of Brownfields Sign.

View West of Stream on Site.

View West of Cleared Portion of Site.

View East of Uphill Cleared Section.

View West of Tracked area with red soil/ water.

View of Rabbit Tracks.

View East of Cleared Portion and Deer Tracks.

APPENDIX B

Correspondence

Threatened & Endangered Species Correspondence

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

December 20, 2007

Ms. Jean Pietrusiak
New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
NY Natural Heritage Program
625 Broadway, 5th Floor
Albany, NY 12233-4757

Re: *Threatened and Endangered Species File Review Request*
400 Upper Broadway Site
New York State Environmental Restoration Program Site #: E517007
Village of Saranac Lake, Franklin County, New York
C.T. Male Project No. 07.71092

Dear Ms. Pietrusiak:

C.T. Male Associates, P.C. (C.T. Male) is working with the Village of Saranac Lake on a Site Remediation Plan at the above referenced NYSDEC Environmental Restoration Program (ERP) Site. The site is compiled into two (2) different parcels located on 400 Upper Broadway; the northern parcel is approximately 1.388 acres in size (identified as Village of Saranac Lake Tax Map Parcel I.D. number 446.43, Block 2 Lot 3). The southern parcel is approximately 1.218 acres in size (identified as Village of Saranac Lake Tax Map Parcel I.D. number 446.43, Block 2 Lot 4); the site as a whole comprises approximately 2.6 acres (refer to attached Site Location Map and Quadrangle Location Sheet). The approximate coordinates of the project site are N 44° 8′ 30″, W 74° 10′ 15″.

Please provide us with information on known occurrences of threatened or endangered species or habitats on and within two (2) miles of the site.

Thank you very much for your time and if you have any further questions, please do not hesitate to contact me or Steve Bieber at (518) 786-7400.

Sincerely,

C.T. MALE ASSOCIATES, P.C.

David J. Plante
Environmental Scientist & Planner

c: Martin Murphy, Manager (Village of Saranac Lake)
Mike McLean (NYSDEC – Ray Brook, NY)
Kirk Moline, Steve Bieber (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

December 20, 2007

Ms. Robyn Niver
United States Fish and Wildlife Service
3817 Luker Road
Cortland, New York 13045

Re: *Threatened and Endangered Species File Review Request*
400 Upper Broadway Site
New York State Environmental Restoration Program Site #: E517007
Village of Saranac Lake, Franklin County, New York
C.T. Male Project No. 07.71092

Dear Mr. Clough:

C.T. Male Associates, P.C. (C.T. Male) is working with the Village of Saranac Lake on a Site Remediation Plan at the above referenced NYSDEC Environmental Restoration Program (ERP) Site. The site is compiled into two (2) different parcels located on 400 Upper Broadway; the northern parcel is approximately 1.388 acres in size (identified as Village of Saranac Lake Tax Map Parcel I.D. number 446.43, Block 2 Lot 3). The southern parcel is approximately 1.218 acres in size (identified as Village of Saranac Lake Tax Map Parcel I.D. number 446.43, Block 2 Lot 4); the site as a whole comprises approximately 2.6 acres (refer to attached Site Location Map and Quadrangle Location Sheet). The approximate coordinates of the project site are N 44° 8′ 30″, W 74° 10′ 15″.

We have conducted a project screening as described on the USFWS website. This letter serves to provide a description of the project and a summary of the threatened and endangered species assessment that was conducted.

Threatened and Endangered Species Assessment

According to the USFWS website, one (1) threatened and/or endangered federally listed species has the potential to be found in Franklin County, New York; the bald eagle (*Haliaeetus leucocephalus*). It is important to note that the bald eagle was delisted on August 8, 2007. No bald eagles were observed on November 29, 2007 during the vegetative covertype field visit. Although a portion of the project site was observed to be forested, trees within the property do not provide suitable habitat for the bald eagle.

Summary

Based on our field observations and our understanding of the habitat requirements of the bald eagle, it is not anticipated that the project will adversely impact any threatened or endangered species.

Please provide us with information on known occurrences of threatened or endangered species or habitats on and within two (2) miles of the site.

Thank you very much for your time and if you have any further questions, please do not hesitate to contact me or Steve Bieber at (518) 786-7400.

Sincerely,

C.T. MALE ASSOCIATES, P.C.

David J. Plante
Environmental Scientist & Planner

c: Martin Murphy, Manager (Village of Saranac Lake)
Mike McLean (NYSDEC – Ray Brook, NY)
Kirk Moline, Steve Bieber (C.T. Male)

Freedom of Information Law (FOIL) Correspondence

STATE OF NEW YORK
DEPARTMENT OF HEALTH

Corning Tower The Governor Nelson A. Rockefeller Empire State Plaza Albany, New York 12237

Richard F. Daines, M.D.
Commissioner

Wendy E. Saunders
Chief of Staff

RECEIVED
JAN 24 2008
C.T. MALE ASSOCIATES, P.C.

January 22, 2008

David Plante
CT Male Associates
50 Century Hill Drive - PO Box 727
Latham, NY 12110

Re: FOIL REQUEST # 07-12-200
NYSDEC Environmental Restoration
Program Site #**E517007**
Village of Saranac Lake, Franklin County

CT Male Project No. 07.71092

Dear Mr. Plante:

Your request, under provisions of the Freedom of Information Law (FOIL), for all documentation related to known occurrences of threatened or endangered species or habitats on or within two (2) miles of the above-referenced site, has been reviewed by the New York State Department of Health's Records Access Office (RAO).

The responsible program area within the New York State Department of Health, the Center for Environmental Health (CEH) has advised this office that after conducting an examination of files from the Bureau of Toxic Substance Assessment, no responsive materials were located regarding your request.

Should you require additional information or wish to discuss this matter further, please do not hesitate to contact me at (518) 474-8734.

Sincerely,

James P. O'Hare
Records Access Office

JPO/mjl

STATE OF NEW YORK
DEPARTMENT OF HEALTH

Corning Tower The Governor Nelson A. Rockefeller Empire State Plaza Albany, New York 12237

Richard F. Daines, M.D.
Commissioner

Wendy E. Saunders
Chief of Staff

January 16, 2008

David Plante
CT Male Associates
50 Century Hill Drive
PO Box 727
Latham, NY 12110

Re: FOIL REQUEST # 07-12-199
NYSDEC Environmental Restoration Site
#E517007

Dear Mr. Plante:

Your request, under provisions of the Freedom of Information Law (FOIL), for all documentation related to records of wildlife mortality, fish kills or contaminant residue present in wildlife or fish at the above referenced site, has been reviewed by the New York State Department of Health's Records Access Office (RAO).

The responsible program area within the New York State Department of Health, the Center for Environmental Health (CEH), has advised this office that after a diligent search, they have found no records as responsive to your request.

Very truly yours,

James P. O'Hare
Records Access Office
(518) 474-8734

JPO/mjl

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

December 20, 2007

Records Access Office
New York State Department of Health
Corning Tower Room 2348
Albany, New York 12237-0044

Re: *FOIL Request*
NYSDEC Environmental Restoration Site #: E517007
400 Upper Broadway Site
Village of Saranac Lake, Franklin County, New York
C.T. Male Project No. 07.71092

To Whom It May Concern:

C.T. Male Associates, P.C. (C.T. Male) is working on a Remedial Investigation at the above-referenced New York State Department of Environmental Conservation (NYSDEC) Environmental Restoration Program (ERP) site. The site is compiled into two (2) different parcels located on 400 Upper Broadway; the northern parcel is approximately 1.388 acres in size (identified as Village of Saranac Lake Tax Map Parcel I.D. number 446.43, Block 2 Lot 3). The southern parcel is approximately 1.218 acres in size (identified as Village of Saranac Lake Tax Map Parcel I.D. number 446.43, Block 2 Lot 4). The site as a whole comprises approximately 2.6 acres (refer to attached Site Location Map and Quadrangle Location Sheet).

Pursuant to the Freedom of Information Law (FOIL), please provide information on the following:

- Records of wildlife mortality, fish kills or contaminant residues found in fish and wildlife tissues at the site.

C.T. Male will reimburse for copying expenses. Please call this office before copies are made if the fee exceeds $20.00. If you have any questions or comments regarding this request, or need additional information, please contact me or Steve Bieber at (518) 786-7400. Thank you very much for your time.

Sincerely,
C.T. MALE ASSOCIATES, P.C.

David J. Plante
Environmental Scientist & Planner

c: Martin Murphy, Manager (Village of Saranac Lake)
Mike McLean (NYSDEC – Ray Brook, NY)
Kirk Moline, Steve Bieber (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

December 20, 2007

Ms. Toni Mauceri
Regional FOIL Coordinator
New York State Department of Environmental Conservation, Region 4
1130 North Westcott Road
Schenectady, New York 12306

Re: *FOIL Request*
NYSDEC Environmental Restoration Site #: E517007
400 Upper Broadway Site
Village of Saranac Lake, Franklin County, New York
C.T. Male Project No. 07.71092

Dear Ms. Mauceri:

C.T. Male Associates, P.C. (C.T. Male) is working on a Remedial Investigation at the above-referenced New York State Department of Environmental Conservation (NYSDEC) Environmental Restoration Program (ERP) site. The site is compiled into two (2) different parcels located on 400 Upper Broadway; the northern parcel is approximately 1.388 acres in size (identified as Village of Saranac Lake Tax Map Parcel I.D. number 446.43, Block 2 Lot 3). The southern parcel is approximately 1.218 acres in size (identified as Village of Saranac Lake Tax Map Parcel I.D. number 446.43, Block 2 Lot 4). The site as a whole comprises approximately 2.6 acres (refer to attached Site Location Map and Quadrangle Location Sheet).

Pursuant to the Freedom of Information Law (FOIL), please provide information on the following:

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Sincerely,
C.T. MALE ASSOCIATES, P.C.

David J. Plante
Environmental Scientist & Planner

c: Martin Murphy, Manager (Village of Saranac Lake)
Mike McLean (NYSDEC – Ray Brook, NY)
Kirk Moline, Steve Bieber (C.T. Male)

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EXHIBIT 2

DATA USABILITY SUMMARY REPORTS

SUBJECT: Data Usability Summary Report (DUSR)
Village of Saranac Lake – 400 Broadway
Mitkem SDG Nos.: F0910 and F0911
C.T. Male Project No.: 07.1092

DATE: August 20, 2007

On June 28 and 29, 2007, C.T. Male Associates, P.C. (C. T. Male) collected twenty-six (26) soil samples, including two (2) sample duplicates, and three (3) surface water samples, including one (1) sample duplicate, from the Village of Saranac Lake site at 400 Broadway. The samples were submitted, along with three (3) equipment blanks and two (2) trip blanks to Mitkem Corporation (Mitkem) in Warwick, RI for the following analyses:

SDG	Parameter	Sample Date	Matrix	VOC, SW-846 8260B	SVOC, SW-846 8270C	Pesticides, SW-846 8081A	PCBs, SW-846 8082	TAL Metals, SW-846 6010 and 7470/7471
	Sample Ids							
F0910	SS-1	6/28/2007	Solid	1	1	1	1	1
F0910	SS-2	6/28/2007	Solid	1	1	1	1	1
F0910	SS-3	6/28/2007	Solid	1	1	1	1	1
F0910	SS-4	6/28/2007	Solid	1	1	1	1	1
F0910	SS-5	6/28/2007	Solid	1	1	1	1	1
F0910	SS-6	6/28/2007	Solid	1	1	1	1	1
F0910	SS-7	6/28/2007	Solid	1	1	1	1	1
F0910	SS-8	6/28/2007	Solid	1	1	1	1	1
F0910	SS-9	6/28/2007	Solid	1	1	1	1	1
F0910	SS-10	6/28/2007	Solid	1	1	1	1	1
F0910	SS-11	6/28/2007	Solid	1	1	1	1	1
F0910	SS-12	6/28/2007	Solid	1	1	1	1	1
F0910	SS-13	6/28/2007	Solid	1	1	1	1	1
F0910	SS-14	6/28/2007	Solid	1	1	1	1	1
F0910	SS-15	6/28/2007	Solid	1	1	1	1	1
F0910	SS-16	6/28/2007	Solid	1	1	1	1	1
F0911	SS-17	6/29/2007	Solid	1	1	1	1	1
F0911	SS-18	6/29/2007	Solid	1	1	1	1	1
F0911	SS-19	6/29/2007	Solid	1	1	1	1	1
F0911	SS-20	6/29/2007	Solid	1	1	1	1	1
F0911	SS-21	6/29/2007	Solid	1	1	1	1	1
F0911	SS-22	6/29/2007	Solid	1	1	1	1	1
F0911	SS-23	6/29/2007	Solid	1	1	1	1	1
F0911	SS-24	6/29/2007	Solid	1	1	1	1	1
F0910	FD-1[1]	6/28/2007	Solid	1	1	1	1	1

[1] Field duplicate of SS-7

SDG	Parameter	Sample Date	Matrix	VOC, SW-846 8260B	SVOC, SW-846 8270C	Pesticides, SW-846 8081A	PCBs, SW-846 8082	TAL Metals, SW-846 6010 and 7470/7471
F0910	FD-2[2]	6/28/2007	Solid	1	1	1	1	1
F0911	SW-1	6/29/2007	Aqueous	1	1	1	1	1
F0911	SW-2	6/29/2007	Aqueous	1	1	1	1	1
F0911	FD-3[3]	6/29/2007	Aqueous	1	1	1	1	1
F0910	EB-1	6/28/2007	Aqueous	1	1	1	1	1
F0911	EB-2	6/29/2007	Aqueous	1	1	1	1	1
F0911	EB-3	6/29/2007	Aqueous	1	1	1	1	1
F0910	Trip Blank	-	Aqueous	1	0	0	0	0
F0911	Trip Blank	-	Aqueous	1	0	0	0	0
	Total Samples			**34**	**32**	**32**	**32**	**32**

VOC – Volatile organic compounds
SVOC – Semi-volatile organic compounds
PCBs – Polychlorinated Biphenyls
TAL – Target analyte list

C. T. Male evaluated the data reported by the laboratory to determine usability per Appendix 2B of the *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NYSDEC, December 2002), with guidance from the *USEPA CLP National Functional Guidelines for Organic and Inorganic Data Review* (October 1999 and 2004, respectively). 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.

Data Completeness

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 Narratives (Attachment A) identified 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 2B of the *Technical Guidance for Site Investigation and Remediation*. QC exceedences and data qualification recommendations are presented in the Data Evaluation Checklists (Attachment B). Qualified sample results are presented in the laboratory summary forms, which are located in Attachment C.

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[2] Field duplicate of SS-16
[3] Field duplicate of SW-1

QC exceedences and data qualification recommendations are summarized below. It is recommended that results from the initial analyses of each sample be reported as the representative results for that sample except where noted below.

It is recommended that sample results which were reported by the laboratory as exceeding the calibration range (E-flagged), be reported from the analysis at the lowest dilution with results within calibration range.

Sample Condition upon Receipt and Holding Times

Mitkem received all the samples listed on the chain of custody (COC) records intact and in good condition. The temperature of samples was within laboratory specification limits of 2 to 6°C upon receipt.

Project samples were prepared and analyzed within EPA-established holding times, except sample SW-2 was extracted for the reanalysis of pesticides and PCBs ten (10) days beyond the holding time. It is recommended that the initial analyses of SW-2 be reported for pesticide and PCB results.

Volatile Organic Analysis (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 associated with the project samples. In addition the average relative response factor (RRF) was greater than or equal to 0.05 for 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 target analytes except the following:

- SDG F0910 –
  - Initial Calibrations – Acetone during the initial calibration associated with the analyses of the soil samples in this SDG; and acetone and bromoform during the initial calibration associated with the analysis of sample EB-1. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the initial calibration standards.
  - Continuing Calibrations – 1,1-Dichloroethene, 1,1,1-trichloroethane, 1,1-dichloropropene, carbon tetrachloride and trichloroethene during the continuing calibration associated with the analyses of samples SS-1, SS-2, SS-3, SS-4, SS-5, SS-6, SS-7, SS-8, SS-9, SS-10, SS-11, FD-1, FD-2, SS-13, SS-15 and SS-16; bromomethane during the continuing calibration associated with the analysis of sample SS-14 and the reanalysis of sample SS-16; and acetone, 2-butanone, bromoform and 1,2,3-trichlorobenzene during the continuing calibration associated with the analysis of sample EB-1. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.
- SDG F0911 –
  - Initial Calibrations – Acetone during the initial calibration associated with the analyses of the soil samples in this SDG. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the initial calibration standards.

- Continuing Calibrations – Bromomethane during the continuing calibration associated with the analyses of the soil samples in this SDG; and 2-butanone and 1,2-dichloropropane during the continuing calibration associated with the analysis of the aqueous samples in this SDG. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recovery and internal standard results met laboratory specifications for project samples except the following:

- SS-1, Surrogate Recovery – The percent recovery (%R) of toluene-d8 was below laboratory specifications during the analysis. Associated results have been qualified as estimated (J/UJ) due to analytical imprecision.
- SS-16, Surrogate Recovery – The %R of 1,2-dichloroethane-d4 exceeded laboratory specifications during the initial and reanalysis and the %R of bromofluorobenzene was below laboratory specifications during the analysis. Associated results have been qualified as estimated (J/UJ) due to analytical imprecision.
- SS-16, Internal Standard – The internal standard recovery of 1,4-dichlorobenzene-d4 was below laboratory specifications during the initial and reanalysis. The associated results have been qualified as estimated (J/UJ) due to analytical inaccuracy.
- SS-22, Surrogate Recovery – The %R of 1,2-dichloroethane-d4 and bromofluorobenzene were below laboratory specifications during the initial anlaysis.
- SS-22, Internal Standard – The internal standard recoveries of fluorobenzene, chlorobenzene-d5 and 1,4-dichlorobenzene-d4 were below laboratory specifications during the initial and reanalysis. The associated results have been qualified as estimated (J/UJ) due to analytical inaccuracy.
  - It is recommended that VOA results from the reanalysis of SS-22 be reported as the representative results for that sample.

The %R results for laboratory control sample (LCS) analyses were within laboratory specifications for the target analytes except the following:

- SDG F0910 – The %R of bromoform was below specifications during the LCS analysis associated with the analysis of sample EB-1. Associated results have been qualified as estimated/biased low (J/UJ) due to analytical inaccuracy.
- SDG F0911 – The %R of 2,2-dichloropropane was below specifications during the LCS analysis associated with the analyses of the aqueous samples in this SDG. Associated detected results have been qualified as estimated/biased low (J/UJ) due to analytical inaccuracy.

A method blank was reported for each analytical batch. Two trip blanks and three equipment blanks were also submitted to the laboratory for VOA. Target analytes and tentatively identified compounds (TICs) were not detected during the analyses of the trip, equipment or method blanks associated with SDG F0911. Methylene chloride, a common laboratory contaminate, was detected during the analysis of the equipment blank EB-1 associated with SDG F0910. Action levels were developed by multiplying the highest concentration observed among the associated blanks by a factor of 10 for this common laboratory contaminant. Results in the associated samples reported below the action level have been have been qualified as non-detect (U) and the detection limit has been elevated to the amount detected in the sample.

Criteria for accuracy and precision were met during the matrix spike (MS) and MS duplicate (MSD) analysis of samples SS-10, SS-19 and SW-2 for target analytes except the following:

- SS-10 – The %R was below laboratory specifications for the MS and MSD for chloromethane, cis-1,2-dichloroethene, chloroform, benzene, trichloroethene, 1,2-dichloropropane, bromodichloromethane, cis-1,3-dichloropropene, 4-methyl-2-pentanone, toluene, trans-1,3-dichloropropene, 1,3-dichloropropane, 2-hexanone, dibromochloromethane, 1,2-dibromoethane, chlorobenzene, 1,1,1,2-tetrachloroethane, ethylbenzene, m,p-xylenes, o-xylene, xylenes, styrene, bromoform, isopropylbenzene, 1,1,2,2-tetrachloroethane, bromobenzene, n-propylbenzene, 2-chlorotoluene, 1,3,5-trimethylbenzene, 4-chlorotoluene, 1,2,4-trimethylbenzene, sec-butylbenzene, 4-isopropyltoluene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, n-butylbenzene, 1,2-dichlorobenzene, 1,2,4-trichlorobenzene, hexachlorobutadiene, naphthalene and 1,2,3-trichlorobenzene. The associated results have been qualified as estimated/biased low (UJ) due to analytical inaccuracy.
- SS-19 – The %R was below laboratory specifications for the MS and MSD for dichlorodifluoromethane, chloromethane, vinyl chloride, trichlorofluoromethane, 1,1-dichloroethene, carbon disulfide, trans-1,2-dichloroethene, 1,1-dichloroethane, vinyl acetate, cis-1,2-dichloroethene, 2,2-dichloropropane, bromochloromethane, chloroform, 1,1,1-trichloroethane, 1,1-dichloropropene, carbon tetrachloride, 1,2-dichloroethane, benzene, trichloroethene, 1,2-dichloropropane, dibromomethane, bromodichloromethane, cis-1,3-dichloropropene, 4-methyl-2-pentanone, toluene, trans-1,3-dichloropropene, 1,1,2-trichloroethane, 1,3-dichloropropane, tetrachloroethene, 2-hexanone, dibromochloromethane, 1,2-dibromoethane, chlorobenzene, 1,1,1,2-tetrachloroethane, ethylbenzene, m,p-xylenes, o-xylene, xylenes, styrene, bromoform, isopropylbenzene, 1,1,2,2-tetrachloroethane, bromobenzene, n-propylbenzene, 2-chlorotoluene, 1,3,5-trimethylbenzene, 4-chlorotoluene, tert-butylbenzene, 1,2,4-trimethylbenzene, sec-butylbenzene, 4-isopropyltoluene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, n-butylbenzene, 1,2-dichlorobenzene, 1,2-dibromo-3-chloropropane, 1,2,4-trichlorobenzene, hexachlorobutadiene, naphthalene and 1,2,3-trichlorobenzene. The associated results have been qualified as estimated/biased low (UJ) due to analytical inaccuracy. The relative percent difference (%RPD) between MS and MSD exceeded laboratory specifications for 4-methyl-2-pentanone and 2-hexanone. The associated results have been qualified as estimated (UJ) due to analytical imprecision.
- SW-2 – The %RPD between MS and MSD exceeded laboratory specifications for 2-methylphenol, 4-methylphenol, 2,4-dimethylphenol and n-nitrosodiphenylamine. The associated results have been qualified as estimated (J/UJ) due to analytical imprecision.

A field duplicate evaluation was performed on samples FD-1 (blind field duplicate) and SS-7. Refer to Attachment B-3 for the duplicate evaluation. Criteria for precision was achieved as target analytes were not detected in the associated samples.

A field duplicate evaluation was performed on samples FD-2 (blind field duplicate) and SS-16. Refer to Attachment B-4 for the duplicate evaluation. Criteria for precision was achieved as target analytes were not detected in the associated samples.

A field duplicate evaluation was performed on samples FD-3 (blind field duplicate) and SW-1. Refer to Attachment B-8 for the duplicate evaluation.

Semi-volatile Organic Analysis (SVOA) by SW-846 8270C

Project samples were analyzed within 12 hours of the performance check standard, DFTPP. Percent relative abundance of 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 associated with the project samples. In addition the average RRF was greater than or equal to 0.05 for 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 target analytes.

Surrogate recoveries and internal standard results met laboratory specifications for project samples except the internal standard recovery of pyrelene-d12 exceeded laboratory specifications during the initial analysis of SS-19. The associated results have been qualified as estimated (J/UJ) due to analytical inaccuracy.

The %R results for LCS analyses were within laboratory specifications for target analytes except the following:

- SDG F0910 – The %R of 2,4-dimethylphenol and hexachlorocyclopentadiene were below laboratory specifications during the LCS associated with the analysis of sample EB-1; and the %R of 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol were below laboratory specifications during the LCS associated with the analyses of the soil samples in this SDG. The associated results have been qualified as estimated/biased low (J/UJ) due to analytical inaccuracy.
- SDG F0911 – The %R of 2,4-dinitrophenol was below laboratory specifications during the LCS associated with the analyses of the soil samples in this SDG; and the %R of 2,4-dimethylphenol and hexachlorocyclopentadiene were below laboratory specifications during the LCS associated with the analyses of the aqueous samples in this SDG. The associated results have been qualified as estimated/biased low (J/UJ) due to analytical inaccuracy.

A method blank was reported for each analytical batch. Three equipment blanks were also submitted to the laboratory for SVOA. Target analytes were not detected during the analyses of the associated method and equipment blanks. Several TICs were detected during the analyses of the method blanks and equipment blanks associated with the analyses of the project samples. Action levels were developed by multiplying the highest concentration observed among the associated blank by a factor of 5. Results in the associated samples reported below the action level have been have been qualified as non-detect (U) and the detection limit has been elevated to the amount detected in the sample.

Criteria for accuracy and precision were met for target analytes during the MS and MSD analysis of samples SS-10, SS-19 and SW-2 except the following:

- SS-10 – The %R was below laboratory specifications for the MS and MSD for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol. The associated results have been qualified as estimated (UJ) due to analytical inaccuracy.
- SS-19 – The %R was below laboratory specifications for the MS and MSD for hexachlorocyclopentadiene, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, pentachlorophenol, fluoroanthene and 3,3'-dichlorobenzidine. The associated results have been qualified as estimated (J/UJ) due to analytical inaccuracy. The %RPD between MS and MSD exceeded

laboratory specifications for 4,6-dinitro-2-methylphenol, pyrene, di-n-octylphthalate, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene and benzo(g,h,i)perylene. The associated results have been qualified as estimated (J/UJ) due to analytical imprecision.
- SW-2 – The %R was below laboratory specifications for the MS and MSD for 4-chloroaniline, hexachlorocyclopentadiene, 3-nitroaniline, 4-nitroaniline and 3,3'-dichlorobenzidine. The associated results have been qualified as estimated (UJ) due to analytical inaccuracy. The %RPD between MS and MSD exceeded laboratory specifications for 2-methylphenol, 4-methylphenol, 2,4-dimethylphenol and n-nitrosodiphenylamine. The associated results have been qualified as estimated (J/UJ) due to analytical imprecision.

A field duplicate evaluation was performed on samples FD-1 (blind field duplicate) and SS-7. Refer to Attachment B-3 for the duplicate evaluation.

A field duplicate evaluation was performed on samples FD-2 (blind field duplicate) and SS-16. Refer to Attachment B-4 for the duplicate evaluation. Butylbenzylphthalate results have been qualified as estimated (J/UJ) due to analytical imprecision.

A field duplicate evaluation was performed on samples FD-3 (blind field duplicate) and SW-1. Refer to Attachment B-8 for the duplicate evaluation. 2,2-Oxybis(1-chloropropane) results have been qualified as estimated (J/UJ) due to analytical imprecision.

<u>Pesticide Analysis by SW-846 8081</u>

Laboratory specifications were met 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 target analytes except the %D exceeded 25% on both analytical columns for endosulfan sulfate and endrin ketone during the continuing calibration associated with the analyses of the aqueous samples. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recoveries met laboratory specifications for project samples except the following:

- SS-14 – The %R of decachlorobiphenyl exceeded laboratory specifications during the analysis. Associated results have been qualified as estimated (J) due to analytical imprecision.
- FD-3 – The %R of decachlorobiphenyl was below laboratory specifications during the analysis. Associated results have been qualified as estimated (J/UJ) due to analytical imprecision.
- SW-2 – The %R of tetrachloro-m-xylene was below laboratory specifications during the initial analysis and decachlorobiphenyl was below laboratory specifications during the initial and reanalysis. Associated results have been qualified as estimated (J/UJ) due to analytical imprecision.
- SS-19 – The %R of decachlorobiphenyl exceeded laboratory specifications during the analysis. Associated results have been qualified as estimated (J) due to analytical imprecision.

The %R results for LCS analysis were within laboratory specifications for target analytes.

A method blank was reported for each analytical batch. Three equipment blanks were also submitted to the laboratory for pesticide analysis. Target compounds were not detected during the analysis of the method blanks or the equipment blanks.

The %D between dieldrin and 4,4'-DDT results from the first and second columns during the analysis of sample SS-13 exceeded 25%D. Interference was detected during the analyses. The associated 4,4'-DDT results are considered estimated (J) and the %D for dieldrin results exceeded 90%D, therefore the associated results are considered unusable (R).

The %D between beta-BHC, dieldrin, endosulfan II and 4,4'-DDT results from the first and second columns during the analysis of sample SS-14 exceeded 25%D. Interference was detected during the analysis. The %D for endosulfan II was between 50%D and 90%D, therefore the associated results are considered presumptively present at an estimated quantity (NJ), and the %D for beta-BHC, dieldrin and 4,4'-DDT results exceeded 90%D, therefore the associated results are considered unusable (R).

The %D between dieldrin and endosulfan II results from the first and second columns during the analysis of sample SS-2 exceeded 25%D. Interference was not detected during the analysis. The associated results are within %D 25-100 and are therefore considered estimated (J).

The %D between dieldrin, endosulfan II and endosulfan sulfate results from the first and second columns during the analysis of sample SS-3 exceeded 25%D. Interference was not detected during the analysis. The associated results are within %D 25-100 and are therefore considered estimated (J).

The %D between aldrin and endrin aldehyde results from the first and second columns during the analysis of sample SS-17 exceeded 25%D. Interference was detected during the analysis. The associated results are considered estimated (J).

The %D between dieldrin, endrin and 4,4'-DDD results from the first and second columns during the analysis of sample SS-18 exceeded 25%D. Interference was detected during the analysis. The associated endrin and 4,4'-DDD results are considered estimated (J) and the %D for dieldrin results exceeded 90%D, therefore the associated results are considered unusable (R).

The %D between alpha-BHC, delta-BHC, aldrin, heptachlor epoxide, dieldrin, 4,4'-DDE and gamma-chlordane results from the first and second columns during the analysis of sample SS-19 exceeded 25%D. Interference was not detected during the analysis. The %D for alpha-BHC was between 25%D and 50%D, therefore the associated results are considered estimated (J), the %D for delta-BHC was between 50%D and 90%D, therefore the associated results are considered presumptively present at an estimated quantity (NJ), and the %D for aldrin, heptachlor epoxide, dieldrin, 4,4'-DDE, 4,4'-DDT and gamma-chlordane results exceeded 90%D, therefore the associated results are considered unusable (R).

Criteria for accuracy and precision were met for target analytes during the MS and MSD analysis of samples SS-10, SS-19 and SW-2 except the following:

- SS-19 – The %R was below laboratory specifications for the MS and MSD for delta-BHC, gamma-BHC and alpha-chlordane, and the %R exceeded laboratory specifications for the MS and MSD for heptachlor, endosulfan II and endrin aldehyde. The associated results with %R below specifications have been qualified as estimated (J/UJ) and the detected results with %R exceeding specifications have been qualified as estimated (J) due to analytical inaccuracy.

A field duplicate evaluation was performed on samples FD-1 (blind field duplicate) and SS-7. Criteria for precision was achieved as target analytes were not detected in the associated samples.

A field duplicate evaluation was performed on samples FD-2 (blind field duplicate) and SS-16. Criteria for precision was achieved as target analytes were not detected in the associated samples.

A field duplicate evaluation was performed on samples FD-3 (blind field duplicate) and SW-1. Criteria for precision was achieved as target analytes were not detected in the associated samples.

PCB Analysis by SW-846 8082

Laboratory specifications were met 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 target analytes.

Surrogate recoveries met laboratory specifications for project samples except the %R of tetrachloro-m-xylene and decachlorobiphenyl were below laboratory specifications during the analysis of sample SW-2. Associated results have been qualified as estimated (J/UJ) due to analytical imprecision.

The %R results for LCS analysis were within laboratory specifications for the target analytes Aroclor 1016 and Aroclor 1260.

A method blank was reported for each analytical batch. Three equipment blanks were also submitted to the laboratory for PCB analysis. Target compounds were not detected during the analysis of the method blanks or the equipment blanks.

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample SS-2 exceeded 25%D. Interference was not detected during the analysis. The associated results are within %D 25-100 and are therefore considered estimated (J).

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample SS-3 exceeded 25%D. Interference was not detected during the analysis. The associated results are within %D 25-100 and are therefore considered estimated (J).

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample SS-8 exceeded 25%D. Interference was not detected during the analysis. The associated results are within %D 25-100 and are therefore considered estimated (J).

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample SS-13 exceeded 25%D. Interference was not detected during the analysis. The associated results are within %D 25-100 and are therefore considered estimated (J).

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample SS-14 exceeded 25%D. Interference was not detected during the analysis. The associated results are within %D 25-100 and are therefore considered estimated (J).

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample SS-17 exceeded 25%D. Interference was detected during the analysis. The associated results are considered estimated (J).

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample SS-18 exceeded 25%D. Interference was detected during the analysis. The associated results are considered estimated (J).

The %D between Aroclor 1260 results from the first and second columns during the diluted analysis of sample SS-19 exceeded 25%D. Interference was not detected during the analysis. The %D exceeded 90%D, therefore the associated results are considered unusable (R).

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample SS-20 exceeded 25%D. Interference was detected during the analysis. The associated results are considered estimated (J).

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample SS-23 exceeded 25%D. Interference was detected during the analysis. The associated results are considered estimated (J).

Criteria for accuracy and precision were met during the MS/MSD analysis of samples SS-10, SS-19 and SW-2 for target analytes Aroclor 1016 and Aroclor 1260 except the %R was below laboratory specifications for the MS and MSD for Aroclor 1016 and Aroclor 1260 for sample SW-2. The associated results have been qualified as estimated (J/UJ) due to analytical inaccuracy.

A field duplicate evaluation was performed on samples FD-1 (blind field duplicate) and SS-7. Criteria for precision was achieved as target analytes were not detected in the associated samples.

A field duplicate evaluation was performed on samples FD-2 (blind field duplicate) and SS-16. Criteria for precision was achieved as target analytes were not detected in the associated samples.

A field duplicate evaluation was performed on samples FD-3 (blind field duplicate) and SW-1. Criteria for precision was achieved as target analytes were not detected in the associated samples.

Metals and Mercury Analysis by SW-846 6010B and 7470/7471A

The inductively coupled plasma (ICP) instrument was calibrated according to the SW-846 Methods 6010B and 7470/7471A. All samples were bracketed by ICV/CCV with recoveries that were within 80-120% for mercury and 90-110% of the true value for all other target metals.

Recovery of the ICP interference check sample (ICS) fell within 80-120% of the true standard concentration for target analytes.

Laboratory specifications (80-120%R) were met during the LCS analysis for target metals.

The %R of the contract required detection limit (CRDL) standard fell within 75-125% of the true value for target metals.

A method blank was reported for each batch, and a calibration blank was analyzed at the beginning, after every 10 samples, and at the end of each batch. Three equipment blanks were also submitted to the laboratory for metals analysis. Refer to Attachments B-1 and B-5 for evaluation of blank contamination associated with solid samples. Aluminum, antimony, cadmium, calcium, cobalt, lead, magnesium, nickel, selenium, thallium and zinc were detected in the blanks associated with the analysis of the aqueous samples. Action levels were developed by multiplying the highest concentration observed among all associated blanks by a factor of 5. Samples with results reported below the action level have been have been qualified as non-detect (U) and the detection limit has been elevated to the amount detected in the sample.

Criteria for accuracy and precision were met during the MS/MSD analysis of sample SS-10, SS-19 and SW-2 for target metals.

Chemical and matrix interference were observed during the serial dilution analysis of samples SS-10, SS-19 and SW-2. The %D between initial and serially diluted results was less than 10% for those target metals with results greater than fifty times the detection limit except the following:

- SS-10 – Lead and zinc results have been qualified as estimated (J) due to chemical and matrix interference.
- SS-19 – Cobalt, iron and zinc results have been qualified as estimated (J) due to chemical and matrix interference.
- SW-2 – Barium, iron, magnesium, manganese and zinc results have been qualified as estimated (J) due to chemical and matrix interference.

A laboratory duplicate evaluation was performed on samples SS-10, SS-19 and SW-2. Refer to Attachments B-2, B-6 and B-7, respectively for the duplicate evaluations. Criteria for precision was achieved for detected results except lead results in SS-10, SS-19 and SW-2 have been qualified as estimated (J) due to analytical imprecision.

A field duplicate evaluation was performed on samples FD-1 (blind field duplicate) and SS-7. Refer to Attachment B-3 for the duplicate evaluation. Aluminum, barium, iron, mercury and zinc results have been qualified as estimated (J/UJ) due to analytical imprecision.

A field duplicate evaluation was performed on samples FD-2 (blind field duplicate) and SS-16. Refer to Attachment B-4 for the duplicate evaluation. Calcium results have been qualified as estimated (J/UJ) due to analytical imprecision.

A field duplicate evaluation was performed on samples FD-3 (blind field duplicate) and SW-1. Refer to Attachment B-8 for the duplicate evaluation. Aluminum, lead and zinc results have been qualified as estimated (J) due to analytical imprecision.

Summary

Overall, data quality objectives for the Village of Saranac Lake site at 400 Broadway were met, as there were no data deficiencies that would indicate the need for re-sampling. The analytical results are usable with the qualification of results as described in this DUSR. No analytical data has been rejected except the results for dieldrin in sample SS-13; beta-BHC, dieldrin and 4,4'-DDT in sample SS-14; dieldrin in sample SS-18; aldrin, heptachlor epoxide, dieldrin, 4,4'-DDE, 4,4'-DDT and gamma-chlordane in sample SS-19.

Megan Drosky

Megan Drosky
Environmental Scientist

SUBJECT: Data Usability Summary Report (DUSR)
Village of Saranac Lake – 400 Broadway
Mitkem SDG Nos.: F1160, F1191, F1239 and F1262
C.T. Male Project No.: 07.1092

DATE: October 16, 2007

Between August 16, 2007 and September 7, 2007, C.T. Male Associates, P.C. (C. T. Male) collected twenty-nine (29) test pit, test trench and water sediment samples, including three (3) sample duplicates, from the Village of Saranac Lake site at 400 Broadway. The samples were submitted, along with three equipment blanks and eight (8) trip blanks to Mitkem Corporation (Mitkem) in Warwick, RI for the following analyses:

SDG	Parameter	Sample Date	VOC, SW-846 8260B	SVOC, SW-846 8270C	Pesticides, SW-846 8081A	PCBs, SW-846 8082	TAL Metals, SW-846 6010 and 7470/7471
	Sample Ids						
F1160	TP-1 S-1	8/20/2007	1	1	1	1	1
F1160	TT-2 S-4	8/22/2007	1	1	1	1	1
F1160	TT-2 S-10	8/22/2007	1	1	1	1	1
F1160	TT-2 S-15	8/22/2007	1	1	1	1	1
F1160	TT-3 S-3	8/20/2007	1	1	1	1	1
F1160	TT-3 S-8	8/21/2007	1	1	1	1	1
F1160	TT-3 S-16	8/22/2007	1	1	1	1	1
F1160	TT-3 S-19	8/22/2007	1	1	1	1	1
F1160	TT-4 S-3	8/16/2007	1	1	1	1	1
F1160	TT-4 S-9	8/16/2007	1	1	1	1	1
F1160	TT-4 S-14	8/17/2007	1	1	1	1	1
F1160	FD01	8/20/2007	1	1	1	1	1
F1160	FD02	8/22/2007	1	1	1	1	1
F1160	TTEB01	8/17/2007	1	1	1	1	1
F1160	TB081707	-	1	0	0	0	0
F1160	TB082007	-	1	0	0	0	0
F1160	TB082207	-	1	0	0	0	0
F1191	TT-3 S-20	8/24/2007	1	1	1	1	1
F1191	TT-2 S-18	8/24/2007	1	1	1	1	1
F1191	TT-1 S-1	8/27/2007	1	1	1	1	1
F1191	TT-1 S-4	8/27/2007	1	1	1	1	1
F1191	TT-1 S-8	8/27/2007	1	1	1	1	1
F1191	TB082407	-	1	0	0	0	0
F1191	TB082707	-	1	0	0	0	0
F1239	TT-5 S-5	8/29/2007	1	1	1	1	1
F1239	TT-5 S-7	8/30/2007	1	1	1	1	1
F1239	TB082907	-	1	0	0	0	0
F1262	TT-5 S-23	9/5/2007	1	1	1	1	1
F1262	TP-2 S-1	9/6/2007	1	1	1	1	1

SDG	Parameter	Sample Date	VOC, SW-846 8260B	SVOC, SW-846 8270C	Pesticides, SW-846 8081A	PCBs, SW-846 8082	TAL Metals, SW-846 6010 and 7470/7471
F1262	TP-3 S-1	9/6/2007	1	1	1	1	1
F1262	TP-4 S-1	9/6/2007	1	1	1	1	1
F1262	TP-5 S-2	9/6/2007	1	1	1	1	1
F1262	TP-6 S-1	9/7/2007	1	1	1	1	1
F1262	WS-1	9/5/2007	1	1	1	1	1
F1262	WS-2	9/5/2007	1	1	1	1	1
F1262	WS-3	9/6/2007	1	1	1	1	1
F1262	FD03	9/5/2007	1	1	1	1	1
F1262	TPEB01	9/7/2007	1	1	1	1	1
F1262	WSEB01	9/6/2007	1	1	1	1	1
F1262	TB090407	-	1	0	0	0	0
F1262	TB090707	-	1	0	0	0	0
		Total Samples	**41**	**33**	**33**	**33**	**33**

VOC – Volatile organic compounds
SVOC – Semi-volatile organic compounds
PCBs – Polychlorinated Biphenyls
TAL – Target analyte list

C. T. Male evaluated the data reported by the laboratory to determine usability per Appendix 2B of the *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NYSDEC, December 2002), with guidance from the *USEPA CLP National Functional Guidelines for Organic and Inorganic Data Review* (October 1999 and 2004, respectively). 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.

Data Completeness

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 Narratives (Attachment A) identified 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 2B of the *Technical Guidance for Site Investigation and Remediation*. QC exceedences and data qualification recommendations are presented in the Data Evaluation Checklists (Attachment B). Qualified sample results are presented in the laboratory summary forms, which are located in Attachment C.

QC exceedences and data qualification recommendations are summarized below. It is recommended that sample results which were reported by the laboratory as exceeding the calibration range (E-flagged), be reported from the analysis at the lowest dilution with results within calibration range.

It is recommended that results from the initial analyses of each sample be reported as the representative results for that sample, except where noted below.

Sample Condition upon Receipt and Holding Times

Mitkem received all the samples listed on the chain of custody (COC) records intact and in good condition. The temperature of samples was within laboratory specification limits of 2 to 6°C upon receipt.

Project samples were prepared and analyzed within EPA-established holding times.

Volatile Organic Analysis (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 associated with the project samples. In addition the average relative response factor (RRF) was greater than or equal to 0.05 for 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 target analytes except the following:

- SDG F1160 –
    - Initial Calibrations – Acetone and 2-butanone during the initial calibration associated with the analyses of the soil samples in this SDG. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the initial calibration standards.
    - Continuing Calibrations – Chloromethane, vinyl chloride, bromomethane, chloroethane, trichlorofluoromethane, acetone, carbon disulfide and hexachlorobutadiene during the continuing calibration associated with the analyses of samples TTEB01, TB081707, TB082007 and TB082207; acetone and trans-1,2-dichloroethene during the continuing calibration associated with the analysis of sample FD01; acetone, vinyl acetate and tetrachloroethene during the continuing calibration associated with the analyses of FD02, TT-2 S-15, TT-4 S-3, TT-4 S-9, TT-4 S-14; and trichlorofluoromethane, acetone, 2-butanone and 4-methyl-2-pentanone during the continuing calibration associated with the analyses of samples TT-3 S-3, TT-3 S-8, TT-2 S-4, TT-3 S-19, TT-3 S-16, TT-2 S-10 and TP-1 S-1. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.
- SDG F1191 –
    - Initial Calibrations – Acetone during the initial calibration associated with the analyses of samples TT-2 S-18, TT-1 S-1 and TT-1 S-4; acetone during the initial calibration associated with the analyses of samples TB082407 and TB082707; and acetone, 2-butanone and 2-hexanone during the initial calibration associated with the analysis of sample TT-3 S-20. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the initial calibration standards.

   - Continuing Calibrations – Chloroethane, acetone, iodomethane, 2-butanone, 2,2-dichloropropane, and trichloroethene during the continuing calibration associated with the analysis of sample TT-1 S-8; dichlorodifluoromethane, acetone and 2-butanone during the continuing calibration associated with the analyses of samples TB082407 and TB082707; and vinyl chloride, bromomethane, acetone, vinyl acetate, 2-butanone and 2-hexanone during the continuing calibration associated with the analysis of sample TT-3 S-20. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.
- SDG F1239 –
   - Initial Calibrations – Acetone during the initial calibration associated with the analysis of sample TB082907; and acetone during the initial calibration associated with the analyses of samples TT-5 S-5 and TT-5 S-7. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the initial calibration standards.
   - Continuing Calibrations – Acetone during the continuing calibration associated with the analysis of sample TB082907; chloroethane, acetone, iodomethane, 2-butanone, 2,2-dichloropropane and trichloroethene during the continuing calibration associated with the analysis of sample TT-5 S-5; and acetone and 2-butanone during the continuing calibration associated with the analysis of sample TT-5 S-7. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.
- SDG F1262 –
   - Initial Calibrations – Dichlorodifluoromethane, acetone and 2-butanone during the initial calibration associated with the analyses of samples TB090407, TB090707 and WSEB01; and acetone and 2-butanone during the initial calibration associated with the analysis of sample TPEB01. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the initial calibration standards.
   - Continuing Calibrations – Dichlorodifluoromethane, acetone, 2-butanone, 4-methyl-2-pentanone, 2-hexanone, 1,2-dibromo-3-chloropropane and 1,2,3-trichlorobenzene during the continuing calibration associated with the analyses of samples TB090407, TB090707 and WSEB01; dichlorodifluoromethane during the continuing calibration associated with the analysis of sample TT-5 S-23 and the reanalysis of sample WS-1; and dichlorodifluoromethane, acetone, 2-butanone, 1,2-dichloropropane, 4-methyl-2-pentanone, 1,1,2-trichloroethane and hexachlorobutadiene during the continuing calibration associated with the analysis of sample TPEB01. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recovery and internal standard results met laboratory specifications for project samples except the following:

- SDG F1160 – The percent recovery (%R) of the surrogate toluene-d8 exceeded laboratory specifications during the analysis of sample TT-2 S-15. Associated detected results have been qualified as estimated (J) due to analytical imprecision.
- SDG F1191 – The %R of the surrogate toluene-d8 was below laboratory specifications during the analysis of sample TT-3 S-20. Associated results have been qualified as estimated (J/UJ) due to analytical imprecision.
- SDG F1262 – The internal standards fluorobenzene and chlorobenzene-d5 were below specifications during the initial analysis, and 1,4-dichlorobenzene-d4 was below specifications during the initial and reanalysis of sample WS-1. Associated results have been qualified as estimated (J/UJ) due to analytical imprecision.

- It is recommended that the results from the reanalysis of sample WS-1 be reported as representative results for that sample.

The %R results for laboratory control sample (LCS) analyses were within laboratory specifications for the target analytes except the following:

- SDG F1160 – The %R of chloromethane, bromomethane, chloroethane, trichlorofluoromethane, acetone and iodomethane exceeded specifications during the LCS analysis associated with the analyses of samples TTEB01, TB081707, TB082007 and TB082207. Associated detected results have been qualified as estimated/biased high (J) due to analytical inaccuracy.
- SDG F1191 – The %R of total xylenes and 4-isopropyltoluene were below specifications during the LCS analysis associated with the analyses of samples TT-2 S-18, TT-1 S-1 and TT-1 S-4; and the %R of vinyl acetate was below specifications during the LCS analysis associated with the analysis of sample TT-3 S-20. Associated results have been qualified as estimated/biased low (J/UJ) due to analytical inaccuracy.
- SDG F1239 – The %R of 2-hexanone, 1,2,3-trichloropropane and 1,2-dibromo-3-chloropropane exceeded specifications during the LCS analysis associated with the analysis of sample TB082907. Associated detected results have been qualified as estimated/biased high (J) due to analytical inaccuracy.
- SDG F1262 – The %R of acetone, 1,2-dichloropropane, 4,-methyl-2-pentanone and 1,1,2-trichloroethane exceeded specifications during the LCS analysis associated with the analysis of sample TPEB01. Associated detected results have been qualified as estimated/biased high (J) due to analytical inaccuracy.

A method blank was reported for each analytical batch. Three trip blanks and an equipment blank were submitted to the laboratory associated with SDG F1160; two trip blanks were submitted to the laboratory associated with SDG F1191; one trip blank was submitted to the laboratory associated with SDG F1239; and two trip blanks and two equipment blanks were also submitted to the laboratory associated with SDG F1262 for VOA. Target analytes were not detected during the analyses of the trip, equipment or method blanks associated with the project samples in SDG F1160. 1,2,4-Trichlorobenzene, naphthalene and 1,2,3-trichlorobenzene were detected in the method blanks associated with the analysis of the project samples in SDG F1191. Naphthalene was also detected in the method blanks associated with the analysis of the project samples in SDG F1239. Naphthalene and 1,2,3-trichlorobenzene were detected in the method blanks and equipment blanks associated with the analysis of the project samples in SDG F1262. Also, several tentatively identified compounds (TICs) were detected during the analysis of the method blanks, trip blanks and equipment blanks associated with the project samples. Action levels were developed by multiplying the highest concentration observed among the associated blanks by a factor of 5. Results in the associated samples reported below the action level have been have been qualified as non-detect (U) and the detection limit has been elevated to the amount detected in the sample.

Criteria for accuracy and precision were met for target analytes during the matrix spike (MS) and matrix spike duplicate (MSD) analysis of samples TT-1 S-8, TP-6 S-1 and WS-2 except the following:

- TT-1 S-8 – The %R for 1,1-dichloroethene, iodomethane, methylene chloride, trans-1,2-dichloroethene, MTBE, 1,1-dichloroethane, vinyl acetate, 2-butanone, cis-1,2-dichloroethene, 2,2-dichloropropane, bromochloromethane, chloroform, 1,1,1-trichloroethane, 1,1-dichloropropene, carbon tetrachloride, 1,2-dichloroethane, benzene, trichloroethene, 1,2-dichloropropane, dibromomethane, bromodichloromethane, cis-1,3-dichloropropene, 4-methyl-2-pentanone, toluene, trans-1,3-dichloropropene, 1,1,2-trichloroethane, 1,3-dichloropropane, tetrachloroethene, 2-hexanone, dibromochloromethane, 1,2-dibromoethane, chlorobenzene, 1,1,1,2-tetrachloroethane, ethylbenzene, m,p-xylene, o-xylene, total xylenes, styrene, bromoform, isopropylbenzene, 1,1,2,2-tetrachloroethane, bromobenzene, 1,2,3-trichloropropane, n-propylbenzene, 2-chlorotoluene, 1,3,5-trimethylbenzene, 4-chlorotoluene, tert-butylbenzene, 1,2,4-trimethylbenzene, sec-butylbenzene, 4-isopropyltoluene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, n-butylbenzene, 1,2-dichlorobenzene, 1,2-dibromo-3-chloropropane, 1,2,4-trichlorobenzene, hexachlorobutadiene, naphthalene and 1,2,3-trichlorobenzene were below specifications during the MS and MSD. The associated results have been qualified as estimated/biased low (J/UJ) due to analytical inaccuracy. Also, the relative percent difference (%RPD) between the MS and MSD results exceeded 40% for 2-hexanone. The associated results have been qualified as estimated (UJ) due to analytical imprecision.

- TP-6 S-1 – The %R for 1,1-dichloroethene, iodomethane, methylene chloride, trans-1,2-dichloroethene, MTBE, 1,1-dichloroethane, vinyl acetate, cis-1,2-dichloroethene, 2,2-dichloropropane, bromochloromethane, chloroform, 1,1,1-trichloroethane, 1,1-dichloropropene, carbon tetrachloride, 1,2-dichloroethane, benzene, trichloroethene, 1,2-dichloropropane, dibromomethane, bromodichloromethane, cis-1,3-dichloropropene, toluene, trans-1,3-dichloropropene, 1,1,2-trichloroethane, 1,3-dichloropropane, tetrachloroethene, dibromochloromethane, 1,2-dibromoethane, chlorobenzene, 1,1,1,2-tetrachloroethane, ethylbenzene, m,p-xylene, o-xylene, total xylenes, styrene, bromoform, isopropylbenzene, 1,1,2,2-tetrachloroethane, bromobenzene, 1,2,3-trichloropropane, n-propylbenzene, 2-chlorotoluene, 1,3,5-trimethylbenzene, 4-chlorotoluene, tert-butylbenzene, 1,2,4-trimethylbenzene, sec-butylbenzene, 4-isopropyltoluene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, n-butylbenzene, 1,2-dichlorobenzene, 1,2-dibromo-3-chloropropane, 1,2,4-trichlorobenzene, hexachlorobutadiene, naphthalene and 1,2,3-trichlorobenzene were below specifications during the MS and MSD. The associated results have been qualified as estimated/biased low (J/UJ) due to analytical inaccuracy. Also, the %RPD between the MS and MSD results exceeded 40% for naphthalene. The associated results have been qualified as estimated (UJ) due to analytical imprecision.
- WS-1 – The %R for vinyl acetate, chlorobenzene, ethylbenzene, m,p-xylene, o-xylene, total xylenes, styrene, isopropylbenzene, n-propylbenzene, 2-chlorotoluene, 1,3,5-trimethylbenzene, 4-chlorotoluene, tert-butylbenzene, 1,2,4-trimethylbenzene, sec-butylbenzene, 4-isopropyltoluene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, n-butylbenzene, 1,2-dichlorobenzene, 1,2,4-trichlorobenzene, hexachlorobutadiene and 1,2,3-trichlorobenzene were below specifications during the MS and MSD.

A field duplicate evaluation was performed on samples FD01 (blind field duplicate) and TP-1 S-1. Refer to Attachment B-3 for the duplicate evaluation. Acetone, isopropylbenzene, sec-butylbenzene and n-butylbenzene have been qualified as estimated (J/UJ) due to analytical imprecision.

A field duplicate evaluation was performed on samples FD02 (blind field duplicate) and TT-2 S-4. Criteria for precision was achieved as target analytes were not detected in the associated samples.

A field duplicate evaluation was performed on samples FD03 (blind field duplicate) and WS-1. Refer to Attachment B-12 for the duplicate evaluation. Acetone has been qualified as estimated (J) due to analytical imprecision.

Semi-volatile Organic Analysis (SVOA) by SW-846 8270C

Project samples were analyzed within 12 hours of the performance check standard, DFTPP. Percent relative abundance of 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 associated with the project samples. In addition the average RRF was greater than or equal to 0.05 for 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 target analytes except the following:

- SDG F1160 –
  - Initial Calibrations – 2,4-Dinitrophenol and pentachlorophenol during the initial calibration associated with the analyses of samples TTEB01, TT-4 S-3, TT-4 S-9, TT-4 S-14, FD01, TT-3 S-8, TP-1 S-1, TT-3 S-3, TT-2 S-10 and TT-3 S-16. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the initial calibration standards.
  - Continuing Calibrations – 2,4-Dinitrophenol and pentachlorophenol during the continuing calibration associated with the analysis of sample TTEB01; pentachlorophenol during the continuing calibration associated with the analyses of samples TT-4 S-3, TT-4 S-9, TT-4 S-14, FD01 and TT-3 S-8; and 2,4-dinitrophenol, 4-nitrophenol and pentachlorophenol during the continuing calibration associated with the analyses of samples TP-1 S-1, TT-3 S-3, TT-2 S-10 and TT-3 S-16. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.
- SDG F1191 –
  - Initial Calibrations – 2,4-Dinitrophenol and pentachlorophenol during the initial calibration associated with the analyses of samples TT-2 S-18 and TT-3 S-20. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the initial calibration standards.
  - Continuing Calibrations – 2,4-Dinitrophenol, 4-nitrophenol and pentachlorophenol during the continuing calibration associated with the analysis of sample TT-2 S-18; and 4-nitrophenol during the continuing calibration associated with the analysis of sample TT-3 S-20. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.
- SDG F1262 –
  - Continuing Calibrations – Pentachlorophenol during the continuing calibration associated with the analyses of samples TPEB01 and WSEB01; 2,2'-oxybis(1-chloropropane), 2,4-dinitrophenol and pentachlorophenol during the continuing calibration associated with the analyses of samples TP-5 S-2, TP-6 S-1, WS-2 and FD03; and 2,2'-oxybis(1-chloropropane), 2,4-dinitrophenol and pentachlorophenol during the continuing calibration associated with the analyses of samples WS-1, WS-3, TT-5 S-23, TP-2 S-1, TP-3 S-1 and TP-4 S-1. 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 project samples.

The %R results for LCS analyses were within laboratory specifications for target analytes except the following:

- SDG F1160 – The %R of hexachlorocyclopentadiene was below specifications and di-n-butylphthalate exceeded specifications during the LCS associated with the analysis of sample TTEB01; the %R of 2,4-dinitrophenol, 4-nitroaniline and 4,6-dinitro-2-methylphenol were below laboratory specifications during the LCS associated with the analyses of samples TT-4 S-3, TT-4 S-9 and TT-4 S-14; the %R of 4-nitroaniline was below laboratory specifications during the LCS associated with the analyses of samples TT-2 S-10 and TT-3 S-16; the %R of 2,4-dinitrophenol, 4-nitroaniline and 4,6-dinitro-2-methylphenol were below laboratory specifications during the LCS associated with the analyses of samples TT-3 S-8, TP-1 S-1, TT-3 S-3 and FD01; and the %R of 2,4-dinitrophenol and 4-nitroaniline were below laboratory specifications during the LCS associated with the analyses of samples TT-3 S-19, TT-2 S-4, TT-2 S-15 and FD02. The associated results with %R below specifications have been qualified as estimated/biased low (J/UJ) and the associated detected results with LCS %R exceeding specifications have been qualified as estimated/biased high (J) due to analytical inaccuracy.
- SDG F1191 – The %R of 2,4-dinitrophenol and 4-nitroaniline were below laboratory specifications during the LCS associated with the analyses of samples TT-1 S-1, TT-1 S-4 and TT-1 S-8. The associated results with %R below specifications have been qualified as estimated/biased low (J/UJ).
- SDG F1239 – The %R of 2,4-dinitrophenol, 4-nitroaniline and 4,6-dinitro-2-methylphenol were below laboratory specifications during the LCS associated with the analyses of samples TT-5 S-5 and TT-5 S-7. The associated results with %R below specifications have been qualified as estimated/biased low (J/UJ).
- SDG F1262 – The %R of hexachlorocyclopentadiene was below laboratory specifications during the LCS associated with the analyses of samples WSEB01 and TPEB01. The associated results with %R below specifications have been qualified as estimated/biased low (J/UJ).

A method blank was reported for each analytical batch. An equipment blank was also submitted to the laboratory for SVOA associated with SDG F1160 and two equipment blanks were submitted to the laboratory for SVOA associated with SDG F1262. Target analytes were not detected during the analyses of the associated method blanks. Target analytes were not detected during the analysis of the equipment blank associated with SDG F1160. Phenol and bis(2-ethylhexyl)phthalate were detected during the analysis of the equipment blanks associated with SDG F1262. Several TICs were detected during the analyses of the method blanks and equipment blanks associated with the analyses of the project samples. Action levels were developed by multiplying the highest concentration observed among the associated blank by a factor of 5. Results in the associated samples reported below the action level have been have been qualified as non-detect (U) and the detection limit has been elevated to the amount detected in the sample.

Criteria for accuracy and precision were met for target analytes during the MS and MSD analyses of samples TT-3 S-8, TT-1 S-8, TP-6 S-1 and WS-2 except the following:

- TT-3 S-8 – The %RPD between the MS and MSD results exceeded 40% for hexachlorocyclopentadiene. The associated results have been qualified as estimated (UJ) due to analytical imprecision.
- TT-1 S-8 – The %R for 3-nitroaniline, 2,4-dinitrophenol, 4-nitroaniline, 4,6-dinitro-2-methylphenol and 3,3'-dichlorobenzidine were below specifications during the MS and MSD. The associated results have been qualified as estimated/biased low (J/UJ) due to analytical inaccuracy. Also, the %RPD between the MS and MSD results exceeded 40% for 4-chloroaniline. The associated results have been qualified as estimated (UJ) due to analytical imprecision.

- TP-6 S-1 – The %R for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol were below specifications during the MS and MSD. The associated results have been qualified as estimated/biased low (J/UJ) due to analytical inaccuracy. Also, the %RPD between the MS and MSD results exceeded 40% for 3,3'-dichlorobenzidine. The associated results have been qualified as estimated (UJ) due to analytical imprecision.
- WS-2 – The %R for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol were below specifications during the MS and MSD. The associated results have been qualified as estimated/biased low (J/UJ) due to analytical inaccuracy. Also, the %RPD between the MS and MSD results exceeded 40% for 2,4-dinitrophenol. The associated results have been qualified as estimated (UJ) due to analytical imprecision.

A field duplicate evaluation was performed on samples FD01 (blind field duplicate) and TP-1 S-1. Refer to Attachment B-3 for the duplicate evaluation. Fluoranthene, pyrene and chrysene results have been qualified as estimated (J) due to analytical imprecision.

A field duplicate evaluation was performed on samples FD02 (blind field duplicate) and TT-2 S-4. Refer to Attachment B-4 for the duplicate evaluation. Chrysene and bis(2-ethylhexyl)phthalate results have been qualified as estimated (J) due to analytical imprecision.

A field duplicate evaluation was performed on samples FD03 (blind field duplicate) and WS-1. Refer to Attachment B-12 for the duplicate evaluation. Fluoranthene has been qualified as estimated (J/UJ) due to analytical imprecision.

Pesticide Analysis by SW-846 8081

Laboratory specifications were met 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 target analytes.

Surrogate recoveries met laboratory specifications for project samples except the %R of decachlorobiphenyl exceeded laboratory specifications during the analyses of samples TT-2 S-10 and TT-3 S-20. Associated detected results have been qualified as estimated (J) due to analytical imprecision.

The %R results for LCS analysis were within laboratory specifications for target analytes.

A method blank was reported for each analytical batch. An equipment blank was submitted to the laboratory for pesticide analysis associated with SDG F1160 and two equipment blanks were submitted to the laboratory for pesticide analysis associated with SDG F1262. Target compounds were not detected during the analysis of the method blanks or the equipment blanks.

The %D between 4,4'-DDT and endrin aldehyde results from the first and second columns during the analysis of sample FD02 exceeded 25%D. Interference was detected during the analysis. The associated 4,4'-DDT results have been qualified as estimated (J) and the %D for endrin aldehyde results exceeded 90%D, therefore the associated results have been qualified as unusable (R).

The %D between 4,4'-DDT and endrin ketone results from the first and second columns during the analysis of sample TT-2 S-4 exceeded 25%D. Interference was detected during the analysis. The associated results have been qualified as estimated (J).

The %D between beta-BHC, dieldrin, 4,4'-DDD, 4,4'-DDT and endrin ketone results from the first and second columns during the analysis of sample TT-2 S-10 exceeded 25%D. Interference was detected during the analysis. The associated 4,4'-DDT results have been qualified as estimated (J), the %D for endrin ketone was between 50%D and 90%D, therefore the associated results have been qualified as presumptively present at an estimated quantity (NJ), and the %D for beta-BHC, dieldrin and 4,4'-DDD results exceeded 90%D, therefore the associated results have been qualified as unusable (R).

The %D between heptachlor, dieldrin, endosulfan sulfate and 4,4'-DDT results from the first and second columns during the analysis of sample TT-2 S-15 exceeded 25%D. Interference was detected during the analysis. The associated 4,4'-DDT results have been qualified as estimated (J), and the %D for heptachlor, dieldrin and endosulfan sulfate was between 50%D and 90%D, therefore the associated results have been qualified as presumptively present at an estimated quantity (NJ).

The %D between heptachlor epoxide, 4,4'-DDT, methoxychlor, endrin ketone and endrin aldehyde results from the first and second columns during the analysis of sample TT-3 S-3 exceeded 25%D. Interference was detected during the analysis. The associated heptachlor epoxide and endrin ketone results have been qualified as estimated (J), the %D for 4,4'-DDT was between 50%D and 90%D, therefore the associated results have been qualified as presumptively present at an estimated quantity (NJ), and the %D for methoxychlor and endrin aldehyde results exceeded 90%D, therefore the associated results have been qualified as unusable (R).

The %D between dieldrin, endosulfan II, 4,4'-DDD, 4,4'-DDT, methoxychlor and endrin aldehyde results from the first and second columns during the analysis of sample TT-3 S-8 exceeded 25%D. Interference was detected during the analysis. The associated 4,4'-DDD and 4,4'-DDT results have been qualified as estimated (J), the %D for dieldrin and endrin aldehyde was between 50%D and 90%D, therefore the associated results have been qualified as presumptively present at an estimated quantity (NJ), and the %D for endosulfan II and methoxychlor results exceeded 90%D, therefore the associated results have been qualified as unusable (R).

The %D between dieldrin and 4,4'-DDE results from the first and second columns during the analysis of sample TT-3 S-16 exceeded 25%D. Interference was detected during the analysis. The %D for dieldrin and 4,4'-DDE results exceeded 90%D, therefore the associated results have been qualified as unusable (R).

The %D between 4,4'-DDT results from the first and second columns during the analysis of sample TT-4 S-9 exceeded 25%D. Interference was detected during the analysis. The associated 4,4'-DDT results have been qualified as estimated (J).

The %D between endrin ketone results from the first and second columns during the analysis of sample TT-2 S-18 exceeded 25%D. Interference was detected during the analysis. The %D for endrin ketone was between 50%D and 90%D, therefore the associated results have been qualified as presumptively present at an estimated quantity (NJ).

The %D between dieldrin, 4,4'-DDE, endosulfan II, 4,4'-DDD, endosulfan sulfate, 4,4'-DDT and endrin aldehyde results from the first and second columns during the analysis of sample TT-3 S-20 exceeded 25%D. Interference was detected during the analysis. The %D for endosulfan sulfate and 4,4'-DDT was between 50%D and 90%D, therefore the associated results have been qualified as presumptively present at an estimated quantity (NJ), and the %D for dieldrin, 4,4'-DDE, endosulfan sulfate II, 4,4'-DDD and endrin aldehyde results exceeded 90%D, therefore the associated results have been qualified as unusable (R).

The %D between 4,4'-DDT and gamma-chlordane results from the first and second columns during the analysis of sample TT-5 S-23 exceeded 25%D. Interference was not detected during the analysis. The associated results are within %D 25-100 and have therefore been qualified as estimated (J).

Criteria for accuracy and precision were met for target analytes during the MS and MSD analyses of samples TT-3 S-8, TT-1 S-8, TT-5 S-7, TP-6 S-1 and WS-2 except the following:

- TT-3 S-8 – The %R was below laboratory specifications for the MS and MSD for gamma-BHC, dieldrin, endrin and alpha-chlordane, and the %R exceeded laboratory specifications for the MS and MSD for 4,4'-DDT. The associated results with %R below specifications have been qualified as estimated/biased low (J/UJ) and the detected results with %R exceeding specifications have been qualified as estimated/biased high (J) due to analytical inaccuracy. Also, the %RPD between the MS and MSD results exceeded 30% for heptachlor epoxide, methoxychlor, endrin ketone and endrin aldehyde. The associated results have been qualified as estimated (J/UJ) due to analytical imprecision.
- TT-1 S-8 – The %RPD between MS and MSD results exceeded 30% for endrin. The associated results have been qualified as estimated (UJ) due to analytical imprecision.
- TT-5 S-7 – The %R was below laboratory specifications for the MS and MSD for heptachlor epoxide, dieldrin, endrin, endosulfan II, endosulfan sulfate, alpha-chlordane and gamma-chlordane. The associated results have been qualified as estimated/biased low (UJ) due to analytical inaccuracy. Also, the %RPD between the MS and MSD results exceeded 30% for delta-BHC, heptachlor, 4,4'-DDE, 4,4'-DDD and 4,4'-DDT. The associated results have been qualified as estimated (J/UJ) due to analytical imprecision.
- TP-6 S-1 – The %R for delta-BHC, heptachlor epoxide, endosulfan I, dieldrin, 4,4'-DDE, endosulfan II, endrin ketone, alpha chlordane and gamma chlordane were below specifications during the MS and MSD. The associated results have been qualified as estimated/biased low (J/UJ) due to analytical inaccuracy. Also, the %RPD between the MS and MSD results exceeded 30% for endosulfan I and endrin aldehyde. The associated results have been qualified as estimated (UJ) due to analytical imprecision.
- WS-2 – The %RPD between MS and MSD results exceeded 30% for endosulfan II. The associated results have been qualified as estimated (UJ) due to analytical imprecision.

A field duplicate evaluation was performed on samples FD01 (blind field duplicate) and TP-1 S-1. Criteria for precision was achieved as target analytes were not detected in the associated samples.

A field duplicate evaluation was performed on samples FD02 (blind field duplicate) and TT-2 S-4. Refer to Attachment B-4 for the duplicate evaluation.

A field duplicate evaluation was performed on samples FD03 (blind field duplicate) and WS-1. Criteria for precision was achieved as target analytes were not detected in the associated samples.

PCB Analysis by SW-846 8082

Laboratory specifications were met 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 target analytes.

Surrogate recoveries met laboratory specifications for project samples.

The %R results for LCS analysis were within laboratory specifications for the target analytes Aroclor 1016 and Aroclor 1260.

A method blank was reported for each analytical batch. An equipment blank was submitted to the laboratory for PCB analysis associated with SDG F1160 and two equipment blanks were submitted to the laboratory for PCB analysis associated with SDG F1262. Target compounds were not detected during the analysis of the method blanks or the equipment blank.

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample FD02 exceeded 25%D. Interference was detected during the analysis. The associated Aroclor 1260 results have been qualified as estimated (J).

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample TT-2 S-4 exceeded 25%D. Interference was detected during the analysis. The associated Aroclor 1260 results have been qualified as estimated (J).

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample TT-2 S-10 exceeded 25%D. Interference was not detected during the analysis. The associated results are within %D 25-100 and therefore have been qualified as estimated (J).

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample TT-2 S-15 exceeded 25%D. Interference was detected during the analysis. The associated Aroclor 1260 results have been qualified as estimated (J).

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample TT-3 S-3 exceeded 25%D. Interference was detected during the analysis. The %D was between 50%D and 90%D, therefore the associated results have been qualified as presumptively present at an estimated quantity (NJ).

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample TT-3 S-8 exceeded 25%D. Interference was detected during the analysis. The %D was between 50%D and 90%D, therefore the associated results have been qualified as presumptively present at an estimated quantity (NJ).

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample TT-3 S-16 exceeded 25%D. Interference was not detected during the analysis. The associated results are within %D 25-100 and therefore have been qualified as estimated (J).

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample TT-3 S-19 exceeded 25%D. Interference was not detected during the analysis. The associated results are within %D 25-100 and therefore have been qualified as estimated (J).

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample TT-4 S-9 exceeded 25%D. Interference was detected during the analysis. The %D was between 50%D and 90%D, therefore the associated results have been qualified as presumptively present at an estimated quantity (NJ).

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample TT-1 S-1 exceeded 25%D. Interference was not detected during the analysis. The associated results are within %D 25-100 and therefore have been qualified as estimated (J).

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample TT-1 S-4 exceeded 25%D. Interference was detected during the analysis. The %D was between 50%D and 90%D, therefore the associated results have been qualified as presumptively present at an estimated quantity (NJ).

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample TT-2 S-18 exceeded 25%D. Interference was detected during the analysis. The %D was between 50%D and 90%D, therefore the associated results have been qualified as presumptively present at an estimated quantity (NJ).

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample TT-3 S-20 exceeded 25%D. Interference was not detected during the analysis. The associated results are within %D 25-100 and therefore have been qualified as estimated (J).

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample TT-5 S-7 exceeded 25%D. Interference was detected during the analysis. The %D was between 50%D and 90%D, therefore the associated results have been qualified as presumptively present at an estimated quantity (NJ).

Criteria for accuracy and precision were met during the MS/MSD analyses of samples TT-3 S-8, TT-1 S-8, TT-5 S-7, TP-6 S-1 and WS-2 for target analytes Aroclor 1016 and Aroclor 1260 except the %R was below laboratory specifications for the MS and MSD analysis of TT-3 S-8, and the %RPD between the MS and MSD results exceeded 30% for Aroclor 1260. The associated results have been qualified as estimated (J) due to analytical inaccuracy and imprecision. Also, the %R was below laboratory specifications for the MS and MSD analysis of TT-5 S-7. The associated results have been qualified as estimated (J) due to analytical inaccuracy.

A field duplicate evaluation was performed on samples FD01 (blind field duplicate) and TP-1 S-1. Criteria for precision was achieved as target analytes were not detected in the associated samples.

A field duplicate evaluation was performed on samples FD02 (blind field duplicate) and TT-2 S-4. Refer to Attachment B-4 for the duplicate evaluation.

A field duplicate evaluation was performed on samples FD03 (blind field duplicate) and WS-1. Criteria for precision was achieved as target analytes were not detected in the associated samples.

<u>Metals and Mercury Analysis by SW-846 6010B and 7470/7471A</u>

The inductively coupled plasma (ICP) instrument was calibrated according to the SW-846 Methods 6010B and 7470/7471A. All samples were bracketed by ICV/CCV with recoveries that were within 80-120% for mercury and 90-110% of the true value for all other target metals.

Recovery of the ICP interference check sample (ICS) fell within 80-120% of the true standard concentration for target analytes.

Laboratory specifications (80-120%R) were met during the LCS analysis for target metals.

The %R of the contract required detection limit (CRDL) standard fell within 75-125% of the true value for target metals.

A method blank was reported for each batch, and a calibration blank was analyzed at the beginning, after every 10 samples, and at the end of each batch. An equipment blank was also submitted to the laboratory for metals analysis associated with SDG F1160 and two equipment blanks were submitted to the laboratory for metals analysis associated with SDG F1262. Refer to Attachments B-1, B-5, B-7, B-8 and B-9 for evaluation of blank contamination. Action levels were developed by multiplying the highest concentration observed among all associated blanks by a factor of 5. Samples with results reported below the action level have been have been qualified as non-detect (U) and the detection limit has been elevated to the amount detected in the sample.

Criteria for accuracy and precision were met during the MS/MSD analyses of samples TT-4 S-3, TT-1 S-8, TP-6 S-1 and WS-2 for target metals except the %R was below specifications during the MS/MSD analysis of samples TP-6 S-1 and WS-2. The associated results have been qualified as estimated/biased low (UJ) due to analytical inaccuracy.

Chemical and matrix interference were observed during the serial dilution analyses of samples TT-4 S-3, TT-1 S-8, TT-5 S-7, TP-6 S-1 and WS-2. The %D between initial and serially diluted results was less than 10% for those target metals with results greater than fifty times the detection limit except the following:

- TT-4 S-3 – Cobalt, iron, nickel and zinc results have been qualified as estimated (J) due to chemical and matrix interference.
- TT-1 S-8 – Beryllium, cobalt, iron, lead, magnesium, nickel, potassium and zinc results have been qualified as estimated (J) due to chemical and matrix interference.
- TT-5 S-7 – Chromium results have been qualified as estimated (J) due to chemical and matrix interference.
- TP-6 S-1 – Cadmium and cobalt results have been qualified as estimated (J) due to chemical and matrix interference.
- WS-1 – Cadmium, cobalt and nickel results have been qualified as estimated (J) due to chemical and matrix interference.

A laboratory duplicate evaluation was performed on sample TT-4 S-3. Refer to Attachment B-2 for the duplicate evaluation. Criteria for precision was achieved for detected results except calcium and chromium results have been qualified as estimated (J) due to analytical imprecision.

A laboratory duplicate evaluation was performed on sample TT-1 S-8. Refer to Attachment B-6 for the duplicate evaluation. Criteria for precision was achieved for detected results except arsenic and calcium results have been qualified as estimated (J/UJ) due to analytical imprecision.

A laboratory duplicate evaluation was performed on sample TP-6 S-1. Refer to Attachment B-10 for the duplicate evaluation. Criteria for precision was achieved for detected results except chromium results have been qualified as estimated (J) due to analytical imprecision.

A laboratory duplicate evaluation was performed on sample WS-2. Refer to Attachment B-11 for the duplicate evaluation. Criteria for precision was achieved for detected results.

A field duplicate evaluation was performed on samples FD01 (blind field duplicate) and TP-1 S-1. Refer to Attachment B-3 for the duplicate evaluation. Aluminum and magnesium results have been qualified as estimated (J) due to analytical imprecision.

A field duplicate evaluation was performed on samples FD02 (blind field duplicate) and TT-2 S-4. Refer to Attachment B-4 for the duplicate evaluation. Calcium, copper, manganese, nickel and vanadium results have been qualified as estimated (J/UJ) due to analytical imprecision.

A field duplicate evaluation was performed on samples FD03 (blind field duplicate) and WS-1. Refer to Attachment B-12 for the duplicate evaluation. Criteria for precision was achieved for detected results.

Summary

Overall, data quality objectives for the Village of Saranac Lake site at 400 Broadway were met, as there were no data deficiencies that would indicate the need for re-sampling. The analytical results are usable with the qualification of results as described in this DUSR. No analytical data has been rejected except the results for endrin aldehyde in sample FD02; beta-BHC, dieldrin and 4,4'-DDD results in sample TT-2 S-10; dieldrin and 4,4'-DDE results in sample TT-3 S-16; methoxychlor and endrin aldehyde results in sample TT-3 S-3; endosulfan II and methoxychlor results in sample TT-3 S-8; and dieldrin, 4,4'-DDE, endosulfan sulfate II, 4,4'-DDD and endrin aldehyde results in sample TT-3 S-20.

Megan Drosky
Environmental Scientist

C.T. MALE ASSOCIATES, P.C.

SUBJECT: Data Usability Summary Report (DUSR)
Village of Saranac Lake – 400 Broadway
Mitkem SDG Nos.: F1883, F1930 and G0039
C.T. Male Project No.: 07.1092

DATE: March 31, 2008

Between December 11, 2007 and January 9, 2008, C.T. Male Associates, P.C. (C. T. Male) collected eleven (11) soil samples, including a sample duplicate, and eight (8) groundwater samples, including a sample duplicate, from the Village of Saranac Lake site at 400 Broadway. The samples were submitted, along with two (2) equipment blanks and three (3) trip blanks to Mitkem Corporation (Mitkem) in Warwick, RI for the following analyses:

SDG	Parameter	Sample Date	Matrix	VOC, SW-846 8260B	SVOC, SW-846 8270C	Pesticides, SW-846 8081A	PCBs, SW-846 8082	TAL Metals, SW-846 6010 and 7470/7471
	Sample Ids							
F1883	MW-1 S-5	12/11/2007	Solid	1	1	1	1	1
F1883	MW-2 S-1	12/11/2007	Solid	1	1	1	1	1
F1883	MW-3 S-3	12/12/2007	Solid	1	1	1	1	1
F1883	MW-4 S-5	12/12/2007	Solid	1	1	1	1	1
F1883	MW-5 S-2	12/13/2007	Solid	1	1	1	1	1
F1883	MW-6 S-3	12/14/2007	Solid	1	1	1	1	1
F1883	MWFD01[1]	12/12/2007	Solid	1	1	1	1	1
F1883	Transport Blank	-	Aqueous	1	0	0	0	0
F1930	MW-7 S-4	12/18/2007	Solid	1	1	1	1	1
F1930	MW-8 S-3	12/18/2007	Solid	1	1	1	1	1
F1930	MW-9 S-8	12/19/2007	Solid	1	1	1	1	1
F1930	MW-10 S-9	12/20/2007	Solid	1	1	1	1	1
F1930	EBMW01	12/20/2007	Aqueous	1	1	1	1	1
F1930	Trip Blank	-	Aqueous	1	0	0	0	0
G0039	MW-1	1/9/2008	Aqueous	1	1	1	1	1
G0039	MW-2	1/9/2008	Aqueous	1	1	1	1	1
G0039	MW-3	1/9/2008	Aqueous	1	1	1	1	1
G0039	MW-4	1/9/2008	Aqueous	1	1	1	1	1
G0039	MW-5	1/9/2008	Aqueous	1	1	1	1	1
G0039	MW-6	1/9/2008	Aqueous	1	1	1	1	1
G0039	MW-7	1/9/2008	Aqueous	1	1	1	1	1
G0039	FDGW01[2]	1/9/2008	Aqueous	1	1	1	1	1
G0039	EBGW01	1/9/2008	Aqueous	1	1	1	1	1
G0039	Transport Blank	-	Aqueous	1	0	0	0	0
			Total Samples	**24**	**21**	**21**	**21**	**21**

VOC – Volatile organic compounds
SVOC – Semi-volatile organic compounds
PCBs – Polychlorinated Biphenyls
TAL – Target analyte list

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[1] Field duplicate of MW-3 S-3.
[2] Field duplicate of MW-7.

C. T. Male evaluated the data reported by the laboratory to determine usability per Appendix 2B of the *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NYSDEC, December 2002), with guidance from the *USEPA CLP National Functional Guidelines for Organic and Inorganic Data Review* (October 1999 and 2004, respectively). 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.

Data Completeness

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 Narratives (Attachment A) identified 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 2B of the *Technical Guidance for Site Investigation and Remediation*. QC exceedences and data qualification recommendations are presented in the Data Evaluation Checklists (Attachment B). Qualified sample results are presented in the laboratory summary forms, which are located in Attachment C.

QC exceedences and data qualification recommendations are summarized below. It is recommended that results from the initial analyses of each sample be reported as the representative results for that sample except where noted below.

It is recommended that sample results which were reported by the laboratory as exceeding the calibration range (E-flagged), be reported from the analysis at the lowest dilution with results within calibration range.

Sample Condition upon Receipt and Holding Times

Mitkem received all the samples listed on the chain of custody (COC) records intact and in good condition except one bottle designated for semi-volatile organic analysis (SVOA) was received broken for sample MW-2. However, there was sufficient sample for the laboratory to perform all required analyses. The temperature of samples was within laboratory specification limits of 2 to 6°C upon receipt except the samples associated with SDG F1883 and some groundwater samples were received with a temperature below 2°C. However, sample integrity remained intact for all samples except the previously mentioned broken bottle for sample MW-2.

Project samples were prepared and analyzed within EPA-established holding times, except sample MW-2 S-1 was reanalyzed for volatile organic compounds beyond the holding time. It is recommended that the initial analysis of MW-2 S-1 be reported for volatile results.

Volatile Organic Analysis (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 associated with the project samples. In addition the average relative response factor (RRF) was greater than or equal to 0.05 for 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 target analytes except the following:

- SDG F1883 –
  - Initial Calibrations – Acetone and 2-butanone during the initial calibration associated with the initial analyses of the soil samples in this SDG; and acetone and 2-butanone during the initial calibration associated with the analysis of sample transport blank. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the initial calibration standards.
  - Continuing Calibrations – Vinyl chloride, acetone, 2-butanone and 2-hexanone during the continuing calibration associated with the analyses of samples MW-1 S-5, MW-4 S-5, MWFD01, MW-5 S-2, MW-6 S-3 and MW-2 S-1; and acetone and 2-butanone during the continuing calibration associated with the analysis of sample transport blank. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.
- SDG F1930 –
  - Initial Calibrations – Acetone and 2-butanone during the initial calibration associated with the analyses of samples MW-7 S-4, MW-8 S-3 and MW-9 S-8; acetone and 2-butanone during the initial calibration associated with the analyses of samples trip blank and EBMW01; and 2-butanone during the initial calibration associated with the initial and diluted analyses of sample MW-10 S-9. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the initial calibration standards.
  - Continuing Calibrations – Acetone, vinyl acetate, 2-butanone and 2-hexanone during the continuing calibration associated with the analyses of samples MW-7 S-4, MW-8 S-3 and MW-9 S-8; acetone, 2-butanone and 2-hexanone during the continuing calibration associated with the analyses of samples trip blank and EBMW01; and acetone and 2-butanone during the continuing calibration associated with the analysis of sample MW-10 S-9. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.
- SDG G0039 –
  - Initial Calibration – Acetone and 2-butanone during the initial calibration associated with the analyses of the samples in this SDG. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the initial calibration standards.
  - Continuing Calibration – Acetone, 2-butanone, 4-methyl-2-pentanone, 2-hexanone, bromoform, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, naphthalene and 1,2,3-trichlorobenzene during the continuing calibration associated with the analyses of the samples in this SDG. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recovery and internal standard results met laboratory specifications for project samples except the following:

- MW-2 S-1,
  - Surrogate Recovery – The percent recovery (%R) of 1,2-dichlorobenzene-d4 exceeded laboratory specifications during the initial and reanalysis. Associated detected results have been qualified as estimated (J) due to analytical imprecision.
  - Internal Standards – The internal standard recovery of 1,4-dichlorobenzene-d4 was below laboratory specifications during the initial and reanalysis and the internal standard recovery of chlorobenzene-d5 was below specifications during the initial analysis. The associated results have been qualified as estimated (J/UJ) due to analytical inaccuracy.
- MW-3 S-3,
  - Surrogate Recovery – The %R of toluene-d8 exceeded laboratory specifications during the initial analysis. Associated detected results have been qualified as estimated (J) due to analytical imprecision.
  - Internal Standards – The internal standard recovery of 1,4-dichlorobenzene-d4 was below laboratory specifications during the initial and reanalysis. The associated results have been qualified as estimated (J/UJ) due to analytical inaccuracy.
  - It is recommended that VOA results from the reanalysis of MW-3 S-3 be reported as the representative results for that sample.
- MW-4 S-5, Internal Standard – The internal standard recovery of 1,4-dichlorobenzene-d4 was below laboratory specifications during the initial and reanalysis and the internal standard recovery of fluorobenzene and chlorobenzene-d5 were below specifications during the reanalysis. The associated results have been qualified as estimated (J/UJ) due to analytical inaccuracy.
- MWFD01,
  - Surrogate Recovery – The %R of toluene-d8 exceeded laboratory specifications and the %R of bromofluorobenzene was below specifications during the initial and reanalysis. Associated results have been qualified as estimated (J/UJ) due to analytical imprecision.
  - Internal Standards – The internal standard recovery of 1,4-dichlorobenzene-d4 was below laboratory specifications during the initial and reanalysis and the internal standard recovery of chlorobenzene-d5 was below specifications during the reanalysis. The associated results have been qualified as estimated (J/UJ) due to analytical inaccuracy.
- MW-6 S-3,
  - Surrogate Recovery – The %R of toluene-d8 exceeded laboratory specifications during the initial and reanalysis. Associated detected results have been qualified as estimated (J) due to analytical imprecision.
  - Internal Standards – The internal standard recovery of 1,4-dichlorobenzene-d4 was below laboratory specifications during the initial and reanalysis. The associated results have been qualified as estimated (J/UJ) due to analytical inaccuracy.
- MW-10 S-9, Surrogate Recovery – The %R of toluene-d8 exceeded laboratory specifications during the initial analysis and bromofluorobenzene exceeded laboratory specifications during the initial and diluted anlaysis.

The %R results for laboratory control sample (LCS) and LCS duplicate (LCSD) analyses were within laboratory specifications for the target analytes except the following:

- SDG F1930 – The %R of m&p-xylenes, xylenes and 1,2,3-trichloropropane were below specifications during the LCS and LCSD analysis associated with the analysis of sample MW-10 S-9. Associated results have been qualified as estimated/biased low (J/UJ) due to analytical inaccuracy.

- SDG G0039 – The %R of 1,2-dichloropropane, bromoform, 1,2,3-trichloropropane and naphthalene were below specifications during the LCS analysis associated with the analyses of the samples in this SDG. Associated results have been qualified as estimated/biased low (J/UJ) due to analytical inaccuracy.

A method blank was reported for each analytical batch. Two equipment blanks and three transport blanks were also submitted to the laboratory for VOA. Target analytes and tentatively identified compounds (TICs) were not detected during the analyses of the trip, equipment or method blanks associated with SDG G0039. Naphthalene and 1,2,3-trichlorobenzene were detected during the analysis of the transport blank associated with SDG F1883. Naphthalene and several TICs were also detected during the method blanks associated with SDG F1883. Methylene chloride, a common laboratory contaminate, was detected during the analysis of the equipment blank EBMW01 associated with SDG F1930. Naphthalene and several TICs were also detected during the method blanks associated with SDG F1930. Action levels were developed by multiplying the highest concentration observed among the associated blanks by a factor of 10 for common laboratory contaminants and a factor of 5 for the remaining blank contaminates. Results in the associated samples reported below the action level have been have been qualified as non-detect (U) and the detection limit has been elevated to the amount detected in the sample.

Criteria for accuracy and precision were met during the matrix spike (MS) and MS duplicate (MSD) analysis of sample MW-6 for target analytes except the %R was below laboratory specifications for the MS and MSD for 4-methyl-2-pentanone, 1,2-dibromoethane, bromoform, 1,2,3-trichloropropane and naphthalene. The associated results have been qualified as estimated/biased low (J/UJ) due to analytical inaccuracy.

A field duplicate evaluation was performed on samples MWFD01 (blind field duplicate) and MW-3 S-3. Refer to Attachment B-3 for the duplicate evaluation. Acetone, 2-butanone, tetrachloroethene, m&p-xylenes and total xylenes have been qualified as estimated (J/UJ) due to analytical imprecision.

A field duplicate evaluation was performed on samples FDGW01 (blind field duplicate) and MW-7. Criteria for precision was achieved as target analytes were not detected in the associated samples.

SVOA by SW-846 8270C

Project samples were analyzed within 12 hours of the performance check standard, DFTPP. Percent relative abundance of 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 associated with the project samples. In addition the average RRF was greater than or equal to 0.05 for 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 target analytes except the following:

- SDG F1883 –
    - Initial Calibration – Hexachlorocyclopentadiene, 2,4-dinitrophenol and pentachlorophenol during the initial calibration associated with the analyses of the samples in this SDG. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the initial calibration standards.
- SDG F1930 –
    - Initial Calibrations – Hexachlorocyclopentadiene, 2,4-dinitrophenol and pentachlorophenol during the initial calibration associated with the analyses of the soil

samples in this SDG; and hexachlorocyclopentadiene and 2,4-dinitrophenol during the initial calibration associated with the analysis of sample EBMW01. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the initial calibration standards.
  - Continuing Calibrations – Hexachlorocyclopentadiene during the continuing calibration associated with the analyses of the soil samples in this SDG; and hexachlorobutadiene, hexachlorocyclopentadiene and 2,4-dinitrophenol during the continuing calibration associated with the analysis of sample EBMW01. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.
- SDG G0039 –
  - Initial Calibration – Hexachlorocyclopentadiene, 2,4-dinitrophenol and pentachlorophenol during the initial calibration associated with the analyses of the samples in this SDG. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the initial calibration standards.

Surrogate recoveries and internal standard results met laboratory specifications for project samples except the internal standard recovery of pyrelene-d12 exceeded laboratory specifications during the analysis of MW-2 S-1. The associated results have been qualified as estimated (J/UJ) due to analytical inaccuracy.

The %R results for LCS/LCSD analyses were within laboratory specifications for target analytes except the following:

- SDG F1930 – The %R of 4-chloroanaline was below laboratory specifications and the %R of 3,3'-dichlorobenzidine exceeded laboratory specifications during the LCS associated with the analysis of sample EBMW01. The associated results with %R below specifications have been qualified as estimated/biased low (J/UJ) and the detected results with %R exceeding specifications have been qualified as estimated/biased high (J) due to analytical inaccuracy. The relative percent difference (%RPD) between the LCS and LCSD of 4-chloroaniline, 2,4-dinitrophenol, 4-nitroaniline and 4,6-dinitro-2-methylphenol exceeded laboratory specifications during the LCS/LCSD associated with the analyses of the soil samples in this SDG. The associated results have been qualified as estimated (J/UJ) due to analytical imprecision.

A method blank was reported for each analytical batch. Two equipment blanks were also submitted to the laboratory for SVOA. Target analytes and TICs were not detected during the analyses of the method and equipment blanks associated with SDG F1883. Several TICs were detected during the analyses of the equipment blanks associated with SDGs F1930 and G0039. Action levels were developed by multiplying the highest concentration observed among the associated blank by a factor of 5. Results in the associated samples reported below the action level have been have been qualified as non-detect (U) and the detection limit has been elevated to the amount detected in the sample.

Criteria for accuracy and precision were met for target analytes during the MS and MSD analysis of sample MW-6 except the %R was below laboratory specifications for the MS and MSD for n-nitrosodiphenylamine and 3,3'-dichlorobenzidine. The associated results have been qualified as estimated (UJ) due to analytical inaccuracy.

A field duplicate evaluation was performed on samples MWFD01 (blind field duplicate) and MW-3 S-3. Refer to Attachment B-3 for the duplicate evaluation.

A field duplicate evaluation was performed on samples FDGW01 (blind field duplicate) and MW-7. Criteria for precision was achieved as target analytes were not detected in the associated samples.

Pesticide Analysis by SW-846 8081

Laboratory specifications were met 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 target analytes except the %D exceeded 25% on both analytical columns for endosulfan sulfate and endrin ketone during the continuing calibration associated with the analyses of the aqueous samples. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recoveries met laboratory specifications for project samples.

The %R results for LCS analysis were within laboratory specifications for target analytes except the following:

- SDG F1930 – The %RPD between the LCS and LCSD of endrin aldehyde exceeded laboratory specifications during the LCS/LCSD associated with the analyses of the soil samples in this SDG. The associated results have been qualified as estimated (J/UJ) due to analytical imprecision.
- SDG G0039 – The %R of endrin aldehyde was below laboratory specifications during the LCS associated with the analyses of the samples in this SDG. The associated results have been qualified as estimated (J/UJ) due to analytical imprecision.

A method blank was reported for each analytical batch. Two equipment blanks were also submitted to the laboratory for pesticide analysis. Target compounds were not detected during the analysis of the method blanks or the equipment blanks.

The %D between heptachlor, endosulfan sulfate, endrin ketone, endrin aldehyde and gamma-chlordane results from the first and second columns during the analysis of sample MW-2 S-1 exceeded 25%D. Interference was detected during the analyses. The associated heptachlor, endrin ketone, endrin aldehyde and gamma-chlordane results have been qualified as estimated (J) and the %D for endosulfan sulfate results exceeded 90%D, therefore the associated results have been qualified as unusable (R).

The %D between endrin ketone results from the first and second columns during the analysis of sample MWFD01 exceeded 25%D. Interference was detected during the analysis. The associated results have been qualified as estimated (J).

Criteria for accuracy and precision were met for target analytes during the MS and MSD analysis of sample MW-6 except the %R was below laboratory specifications for the MS and MSD for Endosulfan I and endrin aldehyde. The associated results have been qualified as estimated/biased low (J/UJ) due to analytical inaccuracy.

A field duplicate evaluation was performed on samples MWFD01 (blind field duplicate) and MW-3 S-3. Criteria for precision was achieved as target analytes were not detected in the associated samples.

A field duplicate evaluation was performed on samples FDGW01 (blind field duplicate) and MW-7. Criteria for precision was achieved as target analytes were not detected in the associated samples.

PCB Analysis by SW-846 8082

Laboratory specifications were met 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 target analytes.

Surrogate recoveries met laboratory specifications for project samples.

The %R results for LCS analysis were within laboratory specifications for the target analytes Aroclor 1016 and Aroclor 1260.

A method blank was reported for each analytical batch. Two equipment blanks were also submitted to the laboratory for PCB analysis. Target compounds were not detected during the analysis of the method blanks or the equipment blanks.

The %D between Aroclor 1260 results from the first and second columns during the analysis of sample MW-2 S-1 exceeded 25%D. Interference was detected during the analysis. The associated results have been qualified as estimated (J).

Criteria for accuracy and precision were met during the MS/MSD analysis of sample MW-6 for target analytes Aroclor 1016 and Aroclor 1260.

A field duplicate evaluation was performed on samples MWFD01 (blind field duplicate) and MW-3 S-3. Criteria for precision was achieved as target analytes were not detected in the associated samples.

A field duplicate evaluation was performed on samples FDGW01 (blind field duplicate) and MW-7. Criteria for precision was achieved as target analytes were not detected in the associated samples.

Metals and Mercury Analysis by SW-846 6010B and 7470/7471A

The inductively coupled plasma (ICP) instrument was calibrated according to the SW-846 Methods 6010B and 7470/7471A. All samples were bracketed by ICV/CCV with recoveries that were within 80-120% for mercury and 90-110% of the true value for all other target metals.

Recovery of the ICP interference check sample (ICS) fell within 80-120% of the true standard concentration for target analytes.

Laboratory specifications (80-120%R) were met during the LCS analysis for target metals.

The %R of the contract required detection limit (CRDL) standard fell within 75-125% of the true value for target metals.

A method blank was reported for each batch, and a calibration blank was analyzed at the beginning, after every 10 samples, and at the end of each batch. Two equipment blanks were also submitted to the laboratory for metals analysis. Refer to Attachments B-1 and B-4 for evaluation of blank contamination associated with solid samples. Aluminum, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, potassium, silver, sodium, thallium, vanadium and zinc were detected in the blanks associated with the analyses of the aqueous samples. Action levels were developed by multiplying the highest concentration observed among all associated blanks by a factor of 5. Samples with results reported below the action level have been have been qualified as non-detect (U) and the detection limit has been elevated to the amount detected in the sample.

Criteria for accuracy and precision were met during the MS analysis of samples MW-1 S-5, MW-7 S-4 and MW-6 for target metals except the %R was below specifications for MS analysis of sample MW-1 S-5 for arsenic and selenium. The associated results have been qualified as estimated/biased low (UJ) due to analytical inaccuracy.

Chemical and matrix interference were observed during the serial dilution analysis of samples MW-1 S-5, MW-7 S-4 and MW-6. The %D between initial and serially diluted results was less than 10% for those target metals with results greater than fifty times the detection limit except the following:

- MW-1 S-5 – Barium, cadmium, calcium, cobalt, lead, magnesium, manganese, nickel, silver and zinc results have been qualified as estimated (J) due to chemical and matrix interference.
- MW-7 S-4 – Beryllium, cobalt, lead, magnesium, manganese, nickel and zinc results have been qualified as estimated (J) due to chemical and matrix interference.

A laboratory duplicate evaluation was performed on samples MW-1 S-5, MW-7 S-4 and MW-6. Refer to Attachments B-2, B-5 and B-6, respectively for the duplicate evaluations. Criteria for precision was achieved for detected results except the following:

- MW-1 S-5 – Copper, lead, thallium and zinc results have been qualified as estimated (J) due to analytical imprecision.
- MW-7 S-4 – Aluminum, calcium, chromium, copper, iron, lead, magnesium, silver, vanadium and zinc results have been qualified as estimated (J) due to analytical imprecision.
- MW-6 – Sodium results have been qualified as estimated (J) due to analytical imprecision.

A field duplicate evaluation was performed on samples MWFD01 (blind field duplicate) and MW-3 S-3. Refer to Attachment B-3 for the duplicate evaluation. Aluminum, antimony, barium, calcium, copper, iron, lead, mercury, selenium and zinc results have been qualified as estimated (J/UJ) due to analytical imprecision.

A field duplicate evaluation was performed on samples FDGW01 (blind field duplicate) and MW-7. Refer to Attachment B-7 for the duplicate evaluation. Aluminum, antimony and iron results have been qualified as estimated (J/UJ) due to analytical imprecision.

Summary

Overall, data quality objectives for the Village of Saranac Lake site at 400 Broadway were met, as there were no data deficiencies that would indicate the need for re-sampling. The analytical results are usable with the qualification of results as described in this DUSR. No analytical data has been rejected except the results for endosulfan sulfate in sample MW-2 S-1.

Megan Drosky

Megan Drosky
Environmental Scientist

C.T. MALE ASSOCIATES, P.C.

SUBJECT: Data Usability Summary Report (DUSR)
Village of Saranac Lake – 400 Broadway
Mitkem SDG Nos.: G0437 and G0489
C.T. Male Project No.: 07.1092

DATE: May 29, 2008

Between March 31, 2008 and April 11, 2008, C.T. Male Associates, P.C. (C. T. Male) collected three (3) soil samples and six (6) groundwater samples, including a sample duplicate, from the Village of Saranac Lake site at 400 Broadway. The samples were submitted, along with two (2) equipment blanks and two (2) trip blanks to Mitkem Corporation (Mitkem) in Warwick, RI for the following analyses:

SDG	Parameter	Sample Date	Matrix	VOC, SW-846 8260B	SVOC, SW-846 8270C	Pesticides, SW-846 8081A	PCBs, SW-846 8082	TAL Metals, SW-846 6010 and 7470/7471
	Sample Ids							
G0437	MW-10b 16-18[1]	3/31/2008	Solid	0	0	0	0	0
G0437	MW-10b 18-20	4/1/2008	Solid	1	1	1	1	1
G0437	MW-11a S-5	4/2/2008	Solid	1	1	0	0	1
G0437	MWEB02	4/2/2008	Aqueous	1	0	1	1	1
G0437	TB033108	-	Aqueous	1	0	0	0	0
G0489	MW-8	4/11/2008	Aqueous	1	1	1	1	1
G0489	MW-9	4/11/2008	Aqueous	1	1	1	1	1
G0489	MW-10	4/11/2008	Aqueous	1	1	1	1	1
G0489	MW-11	4/11/2008	Aqueous	1	1	1	1	1
G0489	MW-12	4/11/2008	Aqueous	1	1	1	1	1
G0489	GWFD041108[2]	4/11/2008	Aqueous	1	1	1	1	1
G0489	GWEB041108	4/11/2008	Aqueous	1	1	1	1	1
G0489	TB041108	-	Aqueous	1	0	0	0	0
			Total Samples	**12**	**9**	**9**	**9**	**10**

VOC – Volatile organic compounds
SVOC – Semi-volatile organic compounds
PCBs – Polychlorinated Biphenyls
TAL – Target analyte list

C. T. Male evaluated the data reported by the laboratory to determine usability per Appendix 2B of the *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NYSDEC, December 2002), with guidance from the *USEPA CLP National Functional Guidelines for Organic and Inorganic Data Review* (October 1999 and 2004, respectively). 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;

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[1] Analysis of sample MW-10b 16-18 was put on hold per request of the project manager.
[2] Field duplicate of MW-11.

- Omissions and transcription errors; and
- Data qualification.

Data Completeness

Documentation required by the project was included in the data package. The chain of custody (COC) records indicated that sample MWEB02 be analyzed for semi-volatile organic compounds, however this analysis was neglected by the laboratory. There were no further discrepancies found between the raw data and summary forms. The laboratory Case Narratives (Attachment A) identified 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 2B of the *Technical Guidance for Site Investigation and Remediation*. QC exceedences and data qualification recommendations are presented in the Data Evaluation Checklists (Attachment B). Qualified sample results are presented in the laboratory summary forms, which are located in Attachment C.

Sample Condition upon Receipt and Holding Times

Mitkem received all the samples listed on the COC records intact and in good condition except an insufficient amount of sample was collected for pesticide and PCB analysis of sample MW-11a S-5. Correspondence between C. T. Male and Mitkem is included in Attachment D. The temperature of samples was within laboratory specification limits of 2 to 6°C upon receipt except some of the samples associated with SDG G0489 were received with a temperature below 2°C. However, sample integrity remained intact for all samples.

Project samples were prepared and analyzed within EPA-established holding times.

Volatile Organic Analysis (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 associated with the project samples. In addition the average relative response factor (RRF) was greater than or equal to 0.05 for 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 target analytes except the following:

- SDG G0437 –
    - Initial Calibrations – Acetone and 2-butanone during the initial calibration associated with the analyses of samples MWEB02 and TB033108. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the initial calibration standards.
    - Continuing Calibrations – Acetone and 2-butanone during the continuing calibration associated with the analyses of samples MWEB02 and TB033108. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.
- SDG G0489 –

- Initial Calibration – Acetone and 2-butanone during the initial calibration associated with the analyses of samples in this SDG. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the initial calibration standards.
- Continuing Calibration – Dichlorodifluoromethane, acetone and 2-butanone during the continuing calibration associated with the analyses of samples in this SDG. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recovery and internal standard results met laboratory specifications for project samples.

The %R results for laboratory control sample (LCS) and LCS duplicate (LCSD) analyses were within laboratory specifications for the target analytes.

A method blank was reported for each analytical batch. Two equipment blanks and two transport blanks were also submitted to the laboratory for VOA. Target analytes and tentatively identified compounds (TICs) were not detected during the analyses of the trip, equipment or method blanks associated with SDG G0489 or the trip or equipment blanks associated with SDG G0437. A TIC was detected during the analysis of a method blank associated with SDG G0437. Action levels were developed by multiplying the highest concentration observed among the associated blanks by a factor of 5 for the blank contaminates. Results in the associated samples reported below the action level have been have been qualified as non-detect (U) and the detection limit has been elevated to the amount detected in the sample.

Criteria for accuracy and precision were met during the matrix spike (MS) and MS duplicate (MSD) analysis of sample MW-12 for target analytes except the relative percent difference (%RPD) between the MS and MSD results exceeded laboratory specifications for acetone. The associated results have been qualified as estimated (UJ) due to analytical imprecision.

A field duplicate evaluation was performed on samples GWFD041108 (blind field duplicate) and MW-11. Criteria for precision was achieved as target analytes were not detected in the associated samples.

<u>SVOA by SW-846 8270C</u>

Project samples were analyzed within 12 hours of the performance check standard, DFTPP. Percent relative abundance of 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 associated with the project samples. In addition the average RRF was greater than or equal to 0.05 for 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 target analytes except the following:

- SDG G0437 –
  - Continuing Calibration – Hexachlorocyclopentadiene during the continuing calibration associated with the analyses of sample MW-10b 18-20. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.
- SDG G0489 –
  - Continuing Calibration – 2,4-Dinitrophenol during the continuing calibration associated with the analyses of the samples in this SDG. 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 project samples.

The %R results for LCS/LCSD analyses were within laboratory specifications for target analytes.

A method blank was reported for each analytical batch. Two equipment blanks were also submitted to the laboratory for SVOA, except the equipment blank associated with SDG G0437 was not analyzed by the laboratory for SVOA. Bis(2-ethylhexyl)phthalate and a TIC were detected during the analyses of the equipment blank and the method blank associated with SDG G0489. Action levels were developed by multiplying the highest concentration observed among the associated blank by a factor of 5. Results in the associated samples reported below the action level have been have been qualified as non-detect (U) and the detection limit has been elevated to the amount detected in the sample.

Criteria for accuracy and precision were met for target analytes during the MS and MSD analysis of sample MW-12 except the percent recovery (%R) was below laboratory specifications for the MS and MSD for 3,3'-dichlorobenzidine. The associated results have been qualified as estimated/biased low (UJ) due to analytical inaccuracy. Also the %RPD between the MS and MSD results exceeded laboratory specifications for 3,3'-dichlorobenzidine, 4-chloroaniline, bis(2-chloroethoxy)methane, 2-nitroaniline, acenaphthylene, 3-nitroaniline, 4-nitroaniline, n-nitrosodiphenylamine and carbazole. The associated results have been qualified as estimated (UJ) due to analytical imprecision.

A field duplicate evaluation was performed on samples GWFD041108 (blind field duplicate) and MW-11. Criteria for precision was achieved as target analytes were not detected in the associated samples.

Pesticide Analysis by SW-846 8081

Laboratory specifications were met 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 target analytes.

Surrogate recoveries met laboratory specifications for project samples.

The %R results for LCS analysis were within laboratory specifications for target analytes.

A method blank was reported for each analytical batch. Two equipment blanks were also submitted to the laboratory for pesticide analysis. Target compounds were not detected during the analysis of the method blanks or the equipment blanks.

The %D between beta-BHC results from the first and second columns during the analysis of sample MW-9 exceeded 25%D. Interference was not detected during the analysis. The associated results have been qualified as estimated (J).

Criteria for accuracy and precision were met for target analytes during the MS and MSD analysis of sample MW-12.

A field duplicate evaluation was performed on samples GWFD041108 (blind field duplicate) and MW-11. Criteria for precision was achieved as target analytes were not detected in the associated samples.

PCB Analysis by SW-846 8082

Laboratory specifications were met 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 target analytes.

Surrogate recoveries met laboratory specifications for project samples.

The %R results for LCS analysis were within laboratory specifications for the target analytes Aroclor 1016 and Aroclor 1260.

A method blank was reported for each analytical batch. Two equipment blanks were also submitted to the laboratory for PCB analysis. Target compounds were not detected during the analysis of the method blanks or the equipment blanks.

Criteria for accuracy and precision were met during the MS/MSD analysis of sample MW-12 for target analytes Aroclor 1016 and Aroclor 1260.

A field duplicate evaluation was performed on samples GWFD041108 (blind field duplicate) and MW-11. Criteria for precision was achieved as target analytes were not detected in the associated samples.

Metals and Mercury Analysis by SW-846 6010B and 7470/7471A

The inductively coupled plasma (ICP) instrument was calibrated according to the SW-846 Methods 6010B and 7470/7471A. All samples were bracketed by ICV/CCV with recoveries that were within 80-120% for mercury and 90-110% of the true value for all other target metals.

Recovery of the ICP interference check sample (ICS) fell within 80-120% of the true standard concentration for target analytes.

Laboratory specifications (80-120%R) were met during the LCS analysis for target metals.

The %R of the contract required detection limit (CRDL) standard fell within 75-125% of the true value for target metals.

A method blank was reported for each batch, and a calibration blank was analyzed at the beginning, after every 10 samples, and at the end of each batch. Two equipment blanks were also submitted to the laboratory for metals analysis. Refer to Attachment B-1 for an evaluation of blank contamination associated with solid samples. Arsenic, beryllium, cadmium, calcium, chromium, cobalt, copper, magnesium, nickel, selenium, thallium, vanadium and zinc were detected in the blanks associated with the analyses of the aqueous samples. Action levels were developed by multiplying the highest concentration observed among all associated blanks by a factor of 5. Samples with results reported below the action level have been have been qualified as non-detect (U) and the detection limit has been elevated to the amount detected in the sample.

Criteria for accuracy and precision were met during the MS analysis of sample MW-12 for target metals.

Chemical and matrix interference were not observed during the serial dilution analysis of sample MW-12. The %D between initial and serially diluted results was less than 10% for those target metals with results greater than fifty times the detection limit.

A laboratory duplicate evaluation was performed on sample MW-12. Refer to Attachment B-2 for the duplicate evaluation. Criteria for precision was achieved for detected results.

A field duplicate evaluation was performed on samples GWFD041108 (blind field duplicate) and MW-11. Refer to Attachment B-3 for the duplicate evaluation. Aluminum and manganese results have been qualified as estimated (J) due to analytical imprecision.

Summary

Overall, data quality objectives for the Village of Saranac Lake site at 400 Broadway were met, as there were no data deficiencies that would indicate the need for re-sampling. The analytical results are usable with the qualification of results as described in this DUSR. No analytical data has been rejected.

Megan Drosky

Megan Drosky
Environmental Scientist

C.T. MALE ASSOCIATES, P.C.

SUBJECT: Data Usability Summary Report (DUSR)
Village of Saranac Lake – 400 Broadway
Mitkem SDG No.: G0455
C.T. Male Project No.: 07.1092

DATE: July 7, 2008

On April 3, 2008, C.T. Male Associates, P.C. (C. T. Male) collected two (2) soil samples from the Village of Saranac Lake site at 400 Broadway. The samples were submitted, along with a trip blank to Mitkem Corporation (Mitkem) in Warwick, RI for the following analyses:

Parameter	Sample Date	VOC, SW-846 8260B	SVOC, SW-846 8270C	Pesticides, SW-846 8081A	PCBs, SW-846 8082	TAL Metals, SW-846 6010 and 7471B
Sample Ids						
MW-12 S-5	4/3/2008	1	1	1	1	1
MW-13 S-6	4/3/2008	1	1	1	1	1
TB040308	-	1	0	0	0	0
Total Samples		**3**	**2**	**2**	**2**	**2**

VOC – Volatile organic compounds
SVOC – Semi-volatile organic compounds
PCBs – Polychlorinated Biphenyls
TAL – Target analyte list

C. T. Male evaluated the data reported by the laboratory to determine usability per Appendix 2B of the *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NYSDEC, December 2002), with guidance from the *USEPA CLP National Functional Guidelines for Organic and Inorganic Data Review* (October 1999 and 2004, respectively). 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.

<u>Data Completeness</u>

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 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 2B of the *Technical Guidance for Site Investigation and Remediation*. QC exceedences 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.

Sample Condition upon Receipt and Holding Times

Mitkem received all the samples listed on the COC records intact and in good condition. The temperature of samples was within laboratory specification limits of 2 to 6°C upon receipt.

Project samples were prepared and analyzed within EPA-established holding times.

Volatile Organic Analysis (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 associated with the project samples. In addition the average relative response factor (RRF) was greater than or equal to 0.05 for 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 target analytes except acetone and 2-butanone during the initial and continuing calibrations associated with the analysis of sample TB040308. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards. Chloroethane, 1,1-dichloroethene and methyl tert butyl ether during the continuing calibration associated with the analyses of samples MW-12 S-5 and MW-13 S-6. The associated results have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recovery and internal standard results met laboratory specifications for project samples.

The percent recovery (%R) results for laboratory control sample (LCS) and LCS duplicate (LCSD) analyses were within laboratory specifications for the target analytes.

A method blank was reported for each analytical batch. A transport blank was also submitted to the laboratory for VOA. Target analytes and tentatively identified compounds (TICs) were not detected during the analyses of the trip or method blanks associated with the project samples.

Criteria for accuracy and precision were met during the matrix spike (MS) and MS duplicate (MSD) analysis of sample MW-12 S-5 for target analytes.

SVOA by SW-846 8270C

Project samples were analyzed within 12 hours of the performance check standard, DFTPP. Percent relative abundance of 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 associated with the project samples. In addition the average RRF was greater than or equal to 0.05 for 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 target analytes.

Surrogate recoveries and internal standard results met laboratory specifications for project samples.

The %R results for LCS/LCSD analyses were within laboratory specifications for target analytes.

A method blank was reported for each analytical batch. Target analytes and TICs were not detected during the analyses of the method blanks associated with the project samples.

Criteria for accuracy and precision were met for target analytes during the MS and MSD analysis of sample MW-12 S-5 except the %R for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol were below specifications. The associated results have been qualified as estimated (UJ) due to analytical inaccuracy.

Pesticide Analysis by SW-846 8081

Laboratory specifications were met 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 target analytes.

Surrogate recoveries met laboratory specifications for project samples.

The %R results for LCS analysis were within laboratory specifications for target analytes.

A method blank was reported for each analytical batch. Target compounds were not detected during the analysis of the method blanks.

Criteria for accuracy and precision were met for target analytes during the MS and MSD analysis of sample MW-12 S-5.

PCB Analysis by SW-846 8082

Laboratory specifications were met 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 target analytes.

Surrogate recoveries met laboratory specifications for project samples.

The %R results for LCS analysis were within laboratory specifications for the target analytes Aroclor 1016 and Aroclor 1260.

A method blank was reported for each analytical batch. Target compounds were not detected during the analysis of the method blanks.

Criteria for accuracy and precision were met during the MS and MSD analysis of sample MW-12 S-5 for target analytes Aroclor 1016 and Aroclor 1260.

Metals and Mercury Analysis by SW-846 6010B and 7471B

The inductively coupled plasma (ICP) instrument was calibrated according to the SW-846 Methods 6010B and 7471B. All samples were bracketed by ICV/CCV with recoveries that were within 80-120% for mercury and 90-110% of the true value for all other target metals.

Recovery of the ICP interference check sample (ICS) fell within 80-120% of the true standard concentration for target analytes.

Laboratory specifications (80-120%R) were met during the LCS analysis for target metals.

The %R of the contract required detection limit (CRDL) standard fell within 75-125% of the true value for target metals.

A method blank was reported for each batch, and a calibration blank was analyzed at the beginning, after every 10 samples, and at the end of each batch. Refer to Attachment B-1 for an evaluation of blank contamination associated with solid samples. Action levels were developed by multiplying the highest concentration observed among all associated blanks by a factor of 5. Samples with results reported below the action level have been have been qualified as non-detect (U) and the detection limit has been elevated to the amount detected in the sample.

Criteria for accuracy and precision were met during the MS analysis of sample MW-12 S-5 for target metals except the %R for antimony and beryllium were below specifications during the MS and post digestion spike. The associated results have been qualified as estimated (UJ) due to analytical inaccuracy.

Chemical and matrix interference were observed during the serial dilution analysis of sample MW-12 S-5. The %D between initial and serially diluted results was less than 10% for those target metals with results greater than fifty times the detection limit except the %D for aluminum, barium, cadmium, calcium, chromium, cobalt, lead, magnesium, manganese, nickel, sodium and zinc. The associated results have been qualified as estimated (J) due to interference.

A laboratory duplicate evaluation was performed on sample MW-12 S-5. Refer to Attachment B-2 for the duplicate evaluation. Criteria for precision was achieved for detected results except cobalt results have been qualified as estimated (J) due to analytical imprecision.

Summary

Overall, data quality objectives for the Village of Saranac Lake site at 400 Broadway were met, as there were no data deficiencies that would indicate the need for re-sampling. The analytical results are usable with the qualification of results as described in this DUSR. No analytical data has been rejected.

Megan Drosky

Megan Drosky
Environmental Scientist

October 2008

400 Broadway ERP Site
(ERP Site No. E517007)

Alternatives Analysis Report

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

400 Broadway
Village of Saranac Lake
Franklin County, New York

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ALTERNATIVES ANALYSIS REPORT
400 BROADWAY SITE
VILLAGE OF SARANAC LAKE
FRANKLIN COUNTY, NEW YORK

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1.0 INTRODUCTION

1.1 Purpose and Organization

The intent of this Alternatives Analysis Report (AAR) is to present site specific remediation alternatives based on the findings and conclusions of the Remedial Investigation (RI) Report for the 400 Broadway Environmental Restoration Project (ERP) prepared by C.T. Male Associates, P.C., dated October 2008. The overall goal of the AAR is to develop and evaluate feasible remedial action(s) to either achieve compliance with established regulatory clean up guidance levels and/or to protect human health and the environment from contaminated media present at the subject site. The AAR is the technical support document for the NYSDEC's Proposed Remedial Action Plan (PRAP), which solicits public comments on the proposed remedy. The AAR and PRAP will be placed in the document repositories to allow a 45-day public comment period. Any public comments on the PRAP will be addressed by the NYSDEC in a Responsiveness Summary prior to the NYSDEC issuing a Record of Decision (ROD).

This AAR is organized and prepared in accordance with the New York State Department of Environmental Conservation (NYSDEC) DRAFT DER-10 Technical Guidance for Site Investigation and Remediation, issued December 25, 2002. The AAR consists of three (3) main sections. Section 1 is an introduction which presents the purpose of the project and background information including a site description, site history, historical contaminants of concern, nature and extent of site contamination, and the contaminant fate and transport. Human and ecological exposure pathways are also discussed in this section. Section 2 identifies remedial action objectives, general response actions and remedial alternatives available for addressing the on-site contamination and their objectives. Section 3 presents an individual and comparative analysis of each of the alternatives discussed within the report.

1.2 Project Background

The Village of Saranac Lake (the "Village") submitted an application to the New York State Department of Environmental Conservation (DEC) for participation in the NYS Environmental Restoration Program (ERP) in relationship to the property known as the

400 Broadway Site located at 400 Upper Broadway (Old Lake Colby Road) in the Village of Saranac Lake, Franklin County, New York (herein "the Site"). A Site Location Map is presented as Figure 1. NYSDEC subsequently notified the Village of its eligibility to participate in the ERP and the Village executed a State Assistance Contract (SAC) which required the submission, review, approval and implementation of investigative work plans under the ERP. The Village of Saranac Lake's application and the executed SAC, specified the Town's proposed "contemplated use" of the property to be unrestricted. However, upon consultation with the DEC Project Manager, the contemplated use of the site was amended to "Restricted Residential" use, which allows multi-unit residential, commercial and industrial development and also includes passive recreational use. Passive recreational use includes public uses with limited potential for soil contact. The amended contemplated use for the site, along with the results of the RI, serve as the basis for developing the remedial program at the site.

The ERP investigation generally involved the collection and analysis of surface and subsurface soil samples; sediment and surface water samples; groundwater samples; a private well survey; a Fish and Wildlife Impact Analysis (FWIA); and a Data Usability Summary Report (DUSR). The investigation also included a non-emergency Interim Remedial Measure (IRM) and an off-site investigation. The IRM was conducted for the removal and disposal of drums and their contents and a tank carcass and its contents. The off-site investigation involved the completion of test borings and monitoring wells on the site's eastern adjoining property to aid in the collection of soil and groundwater samples for subjective and laboratory analysis. The off-site investigation was conducted to determine the potential for on-site contaminants to have originated from off-site.

Results of the site investigation were incorporated in a Remedial Investigation (RI) Report. The RI describes the investigations conducted at the site for evaluating the nature and extent of contamination in surface soil, subsurface soil, surface water, sediment and groundwater. From this data decisions regarding the need for additional remedial actions were made and remedial options were evaluated based in part on the intended use of the Site, thus constituting the AAR. The target goals of the RI were to identify contaminants of concern, evaluate 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 analysis.

1.2.1 Site Description

The Site consists of two contiguous parcels of land that are addressed as 400 Upper Broadway in the Village of Saranac Lake, Franklin County, New York. The northern parcel is approximately 1.388 acres in size. The southern parcel is approximately 1.218 acres in size. The site as a whole comprises approximately 2.6 acres.

The site is currently vacant undeveloped land. The Site's southern parcel consists predominantly of mature trees, thickets and grasses with its western portions consisting of Adirondack Park Agency delineated wetlands. The central and eastern portions of the northern parcel are lightly wooded and are at an elevation of approximately 3 to 4 feet above the southern parcel. Wetlands make up western portions of the parcel.

1.2.2 Site History

The Site's northern parcel has historically been affiliated with commercial and manufacturing activities that predominantly took place on its eastern adjoining (off-site) property. These activities included automobile sales and repair, manufacturing of aircraft landing gear and land mine fuses during World War II, utility truck and equipment storage, and as an uncontrolled dumping area. No commercial use has been affiliated with the site's southern parcel.

1.2.3 Potential Historical Contaminants of Concern

Petroleum fuels, solvents, PCBs and heavy metals may have been used in association with past automotive sales and repair and World War II related aircraft parts manufacturing use of the site.

1.2.4 Summary of the Remedial Investigation

The goal of the RI of the site was to identify and assess potential sources of contamination, and to develop a comprehensive strategy to remediate the identified contamination, as necessary to protect human health and the environment. A report entitled "Remedial Investigation/Alternatives Analysis Report, 400 Broadway Site, Village of Saranac Lake, New York"; dated October 2008 details the investigative activities which were completed and is available for review within the document repositories. The following tasks were completed as part of the RI/AAR for the site:

- Site Survey;
- Private Well Survey;
- Surface Soil Sampling;
- Surface Water and Sediment Sampling;
- Exploratory Test Trenching and Test Pitting;
- Test Boring and Monitoring Well Installations;
- Subsurface Soil Sampling;
- Groundwater Sampling;
- Community Dust Monitoring;
- Fish and Wildlife Impact Analysis; and
- Data Usability Summary Report (DUSR).

In addition to the tasks listed above, a non-emergency IRM was conducted on the site for the removal and off-site disposal of drums and their contents and a tank carcass and its contents.

1.3 Nature and Extent of Contamination

1.3.1 Analytical Data

Sampling and analysis of several media types was conducted during the RI to evaluate the nature and extent of contamination at the subject site. These media types included surface soils, subsurface soils, surface water, sediment and groundwater.

Table 1.3.1-1 lists the frequencies (i.e., 3 of 15 sampling locations) for the contaminants of concern (COCs) in each media type. The table presents compounds and analytes that were detected at concentrations which exceeded the project Standards, Criteria and Guidance Values (SCGs) which included NYSDEC Part 375 Restricted (Restricted Residential) Use Soil Cleanup Objectives (SCOs), Protection of Human Health for soils; NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) for surface water and groundwater; and the NYSDEC Technical Guidance for Screening Contaminated Sediments for sediments. It should be noted that the SCGs for sediments are divided into two categories; the Lowest Effect Level (LEL) and the Severe Effect Level (SEL). According to the NYSDEC Technical Guidance, the LEL indicates a level of sediment contamination that can be tolerated by the majority of benthic organisms, but still causes toxicity to a few species; and the SEL indicates the concentration at which pronounced disturbance of the sediment dwelling community can be expected.

Compounds and analytes detected in the samples at concentrations which exceeded the laboratory detection limit, but did not exceed the SCGs for any samples in a media type are not included on the table. The table summarizes all of the samples collected during the RI.

TABLE 1.3.1-1: COMPOUNDS AND ANALYTES EXCEEDING SCGs PER MEDIA TYPE

Media	Class	Contaminant of Concern	Detected Concentration Range	Frequency of Exceeding Standard	Applicable SCG (1)
Surface Soils (mg/kg)	VOCs	None Detected Above SCGs			
	SVOCs	Benzo(a)anthracene	2	1 of 24	1
		Benzo(b)fluoranthene	3.1	1 of 24	1
		Benzo(a)pyrene	2	1 of 24	1
		Indeno(1,2,3-cd)pyrene	0.54 to 1.2	3 of 24	0.5
	PESTs	None Detected Above SCGs			
	PCBs	Aroclor 1260	1.9	1 of 24	1
	Metals	Aluminum	148,000	1 of 24	33,000
		Arsenic	31.4	1 of 24	16
		Barium	886	1 of 24	400
		Cadmium	12	1 of 24	4.3
		Copper	1,360 to 8,240	2 of 24	270
		Lead*	469 to 2,410	4 of 24	400
Subsurface Soils (mg/kg)	VOCs	None Detected Above SCGs			
	SVOCs	Benzo(a)anthracene	1.2 to 1.9	2 of 38	1
		Benzo(b)fluoranthene	1.1 to 4.3	2 of 38	1
		Benzo(a)pyrene	2	1 of 38	1
		Indeno(1,2,3-cd)pyrene	1.4	1 of 38	0.5
		Dibenzo(a,h)anthracene	0.37	1 of 38	0.33
	PESTs	None Detected Above SCGs			
	PCBs	Aroclor 1260	8.8	1 of 38	1
	Metals	Cadmium	6	1 of 38	4.3
		Copper	294	1 of 38	270
		Magnesium	6,670 to 8,150	2 of 38	5,000
Ground	VOCs	Benzene	200	1 of 12 (off-site)(2)	1
		4-Isopropyltoluene	7	1 of 12	5

TABLE 1.3.1-1: COMPOUNDS AND ANALYTES EXCEEDING SCGs PER MEDIA TYPE

Media	Class	Contaminant of Concern	Detected Concentration Range	Frequency of Exceeding Standard	Applicable SCG (1)	
Water (ug/l)	SVOCs	Phenol	5 to 30	4 of 12 (1 off-site)(3)	1	
		2-Methylphenol	11 to 31	3 of 12	1	
		4-Methylphenol	21 to 140	3 of 12	1	
		Pentachlorophenol	5	1 of 12	1	
		Bis(2-Ethylhexyl)phthalate	7	1 of 12	5	
	PESTs	Alpha-Chlordane	0.052	1 of 12 (off-site)(4)	0.05	
	PCBs	None Detected Above the Laboratory Detection Limit				
	Metals	Iron	673 to 25,800	12 of 12(5)	300	
		Manganese	376 to 10,400	11 of 12 (4 off-site)(6)	300	
Ground Water (ug/l)		Selenium	11.2 to 26.3	7 of 12	10	
		Sodium	24,300 to 80,100	8 of 12 (3 off-site)(7)	20,000	
Surface Water (ug/l)	VOCs	None Detected Above SCGs				
	SVOCs	None Detected Above SCGs				
	PESTs	None Detected Above the Laboratory Detection Limit				
	PCBs	None Detected Above the Laboratory Detection Limit				
	Metals	Iron	64,500 to 671,000	2 of 2	300	
		Thallium	71	1 of 2	20	
Sediments (mg/kg)	VOCs	None Detected Above SCGs				
	SVOCs	None Detected Above SCGs				
	PESTs	None Detected Above the Laboratory Detection Limit				
	PCBs	None Detected Above the Laboratory Detection Limit				
	Metals				LEL	SEL
		Arsenic	9.2 to 14.4	2 of 3	6	33
		Cadmium	1.4(2)	2 of 3	0.6	9
		Zinc	171	1 of 3	120	270

Table Notes:

(1) NYSDEC 6 NYCRR Part 375 Environmental Remediation Programs, Subpart 375-6 Restricted (Restricted Residential) Use Soil Cleanup Objectives for soils. NYSDEC Technical Guidance for Screening Contaminated Sediments, Human Health Bioaccumulation for sediments. NYSDEC Division of Water Technical and Operational Guidance Series (1.1.1), Ambient Water Quality Standards and Guidance Values and Effluent Limitations, June 1998 for groundwater and surface water.

(2) Detected at off-site monitoring well MW-9.

(3) Detected at off-site monitoring well MW-9.

(4) Detected at off-site monitoring well MW-9.

(5) Detected at all of the off-site monitoring wells.

(6) Detected at off-site monitoring wells MW-8, MW-9, MW-11 and MW-12.

(7) Detected at off-site monitoring wells MW-8, MW-11 and MW-12.

* Background levels for lead vary widely. Average background levels in metropolitan areas near highways are much higher and typically range from 200 to 500 mg/kg or ppm. The EPA's Interim Lead Hazard Guidance (7/14/94) establishes a residential screening level of 400 mg/kg or ppm.

As depicted on the table, the contaminants of concern at the site are SVOCs, PCBs and metals in surface and subsurface soils; VOCs, SVOCs, pesticides and metals in groundwater; metals in surface water; and metals in sediments. The following summarizes the nature and extent of contamination for the project site per media type.

SVOCs, PCBs and Metals in Surface and Subsurface Soils

The five (5) SVOCs, one (1) PCB and six (6) metals detected above SCGs in surface and subsurface soils were confined to 3 surface soil sampling locations and 3 subsurface soil sampling locations. The single PCB above SCGs was detected at 1 surface soil sampling location and 1 subsurface soil sampling location. The 6 metals were detected above SCGs at 5 surface soil sampling locations and 4 subsurface soil sampling locations.

VOCs, SVOCs, Pesticides and Metals in Groundwater

Two (2) VOCs, five (5) SVOCs, one (1) pesticide and four (4) metals were detected in groundwater at concentrations exceeding SCGs. The VOC benzene and pesticide alpha-chlordane were detected at off-site monitoring well MW-9 only. The VOC 4-Isopropyltoluene was detected slightly above its SCG at on-site monitoring well MW-2 only.

The five (5) SVOCs were detected at various frequencies in on-site monitoring wells MW-1, MW-2 and MW-4 only, with phenol also detected in off-site monitoring well MW-9.

The metals iron, manganese and sodium were detected above SCGs at varying frequencies in both the on-site and off-site monitoring wells. Selenium was detected above its SCG in all the on-site monitoring wells only.

Metals in Surface Water

Two (2) metals were detected at concentrations above SCGs in surface water sampled from the wetland. Iron was detected above its SCG at both surface water sampling locations. Thallium was detected above its SCG at SW-1 only, which is located on the southwestern portion of the site.

Metals in Sediments

Three (3) metals were detected above SCGs in sediments sampled from the wetland. Arsenic, Cadmium and Zinc were detected at concentrations above the LEL SCGs but below the SEL SCGs. Arsenic and chromium were detected above the LEL SCGs at WS-1 and WS-3 only. Zinc was detected above its LEL SCG at WS-1 only. Metals were not detected above SCGs at WS-2.

1.3.2 Subjective Data

Subjective impacts to the site's subsurface soils were noted at several locations during advancement of the test trenches, test pits and test borings. The impacts encompassed central and northern portions of the site and portions of the site's east adjoining property and included elevated PID readings that exceeded the instrument's maximum PID reading of 9,999ppm, solvent and petroleum-type odors, and black and metallic staining of soils and fill. A comparison between the subjective impacts and the subsurface soil analytical data suggests that the impacts are old in nature and that the chemical parameters have "weathered" over time. The approximate boundaries of the subjective impacts are depicted in Figure 9A of the RI.

1.3.3 Contaminant Fate and Transport

The site contaminants are predominantly SVOCs, PCBs and metals in surface and subsurface soils; VOCs, SVOCs, pesticides and metals in groundwater; and metals in wetland surface water and sediment.

The SVOCs, PCBs and metals in surface and subsurface soils will tend to adhere to surrounding soil and fill particles and not migrate into underlying groundwater. This is exemplified by the fact that the SVOCs, PCBs and 2 of the 7 metals (arsenic and cadmium) were not detected in groundwater at concentrations exceeding the laboratory detection limit. The 5 remaining metals (aluminum, barium, copper, lead and magnesium) were detected at concentrations well below their respective SCGs. The SVOCs, PCBs and metals in surface and subsurface soil are not anticipated to volatilize to the open atmosphere, but may become airborne along with dust should the soils be disturbed.

The VOCs and SVOCs in groundwater are in a dissolved phase and will tend to migrate with groundwater flow direction towards Route 86. 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, with the exception of sodium, which is highly soluble in water.

The metals in the wetland surface water column will not volatilize, but will migrate in the direction of the wetland flow and/or precipitate downwards and settle within the bottom sediments.

The metals in wetland sediment should not migrate unless natural and/or man-made actions cause the sediments to become suspended in the water column, where they may migrate with the wetland flow direction.

1.4 Human Exposure Pathways

Exposure pathways are means by which contaminants move through the environment from a source to a point of contact with humans. A complete exposure pathway must have five (5) parts: 1) a source of contamination; 2) a mechanism for transport of a substance from the source to the air, surface water, groundwater and/or soil; 3) a point where people come in contact with contaminated air, surface water, groundwater or soil (point of exposure); 4) a route of entry (exposure) into the body; and 5) a receptor population. Routes of entry include ingesting contaminated materials, breathing contaminated air, or absorbing contaminants through the skin. If any part of an exposure pathway is absent, the pathway is said to be incomplete and no exposure or risk is possible. In some cases, although a pathway is complete, the likelihood that significant exposure will occur is small.

The potential site related contaminants were identified as those contaminants detected in various media at the site above SCGs. The potential site related contaminants that have been identified in various media at the site are presented in Table 1.4-1.

TABLE 1.4-1: PARAMETERS EXCEEDING SCGS

Parameter	Surface Soil	Subsurface Soil	Groundwater	Surface Water	Sediment
Volatile Organic Compounds					
Benzene	No	No	Yes (off-site)	No	No
4-Isopropyltoluene	No	No	Yes	No	No
Semi-Volatile Organic Compounds					
Benzo(a)anthracene	Yes	Yes	No	No	No

TABLE 1.4-1: PARAMETERS EXCEEDING SCGS					
Parameter	Surface Soil	Subsurface Soil	Groundwater	Surface Water	Sediment
Benzo(b)fluoranthene	Yes	Yes	No	No	No
Benzo(a)pyrene	Yes	Yes	No	No	No
Indeno(1,2,3-cd)pyrene	Yes	Yes	No	No	No
Dibenzo(a,h)anthracene	No	Yes	No	No	No
Phenol	No	No	Yes	No	No
2-Methylphenol	No	No	Yes	No	No
4-Methylphenol	No	No	Yes	No	No
Pentachlorophenol	No	No	Yes	No	No
Bis(2-ethylhexyl)phthalate	No	No	Yes	No	No
Pesticides					
Alpha-Chlordane	No	No	Yes (off-site)	No	No
PCBs					
Aroclor 1260	*Yes*	*Yes*	*No*	*No*	*No*
Metals					
Aluminum	Yes	No	No	No	No
Arsenic	Yes	No	No	No	Yes
Barium	Yes	No	No	No	No
Cadmium	Yes	Yes	No	No	Yes
Copper	Yes	Yes	No	No	No
Iron	No	No	Yes	Yes	No
Lead	Yes	No	No	No	No
Magnesium	No	Yes	No	No	No
Manganese	No	No	Yes	No	No
Selenium	No	No	Yes	No	No
Sodium	No	No	Yes	No	No
Thallium	No	No	No	Yes	No
Zinc	No	No	No	No	Yes

In addition to site contaminants above SCGs, subjective impacts in the form of organic vapors as measured employing PID headspace analysis were encountered in subsurface soils and fill. Soil and fill exhibiting organic vapor readings exhibited solvent and petroleum-type odors, and black and metallic staining.

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 for the site include inhalation, dermal contact and/or ingestion of potentially contaminated soil on-site; dermal contact and/or ingestion of potentially contaminated groundwater on-site; and dermal contact and/or ingestion of potentially contaminated surface water and sediments on-site.

The potential impacted populations at the site and vicinity include residents in the neighboring community, site visitors and trespassers on the site, and workers which may be engaged in work that would disturb the surface soils.

Five (5) SVOCs, one (1) PCB and seven (7) metals were detected above SCGs in surface and subsurface soils. The concentrations of these contaminants of concern may warrant remedial action in portions of the site identified, as they are present within soil that is readily accessible to dermal contact and ingestion. Furthermore, disturbance of these soils could create airborne contaminants that may be inhaled. The potential for dermal contact (including ingestion and inhalation) with exposure to the impacted soil and the associated impact is, therefore, anticipated to be high.

Elevated organic vapors (as measured with a PID), solvent and petroleum-type odors, and black and metallic staining of subsurface soils and fill were encountered at several locations during the RI. Potential exposure to these contaminants includes dermal contact (including ingestion and inhalation) during ground intrusive activities that may occur should the site be developed and vapor inhalation for occupants of any future buildings constructed on the site. Presently, the potential for dermal contact is anticipated to be low as the impacts are confined to the subsurface. However, the potential for dermal contact during subsurface disturbances and occupation of future buildings is anticipated to be high.

Groundwater impacts consisted of two (2) VOCs, five (5) SVOCs, one (1) Pesticide and four (4) Metals. The VOC benzene and the pesticide alpha-chlordane were detected in the off-site monitoring wells. The remaining contaminants were detected at varying frequencies from the on-site monitoring wells. Groundwater on the site is as shallow as 1.14 feet bgs. However, the site vicinity is served by public water provided by the Village of Saranac Lake and Town of Harrietstown. Because residents in the site vicinity do not depend on private wells as a potable water source, the potential for dermal contact through exposure to groundwater in the area of the VOC, SVOC and metal detections and the associated impact is anticipated to be low.

Surface water impacts consist of two metals in the wetland. The wetland is contiguous to larger wetlands along the eastern side of Lake Colby and is not located near residential development. Conversely, there exists a low potential for off-site human exposure to the surface water through dermal contact and ingestion.

Sediments in the on-site wetland are impacted by three (3) metals. There exists the potential for the sediment to become suspended in the water column and be carried off-site towards larger wetlands located along the eastern shores of Lake Colby. The potential for the ingestion/dermal contact by human populations of the sediment contaminants is considered to be low.

1.5 Ecological Exposure Pathways

The value of the fish and wildlife resources located within the study area is considered moderate. Brushy cleared land and residential areas have eliminated much of the natural habitat in the vicinity of the project site and have replaced it with rural wildlife habitats consisting primarily of mowed lawns with trees, paved roads, urban structure exteriors and hemlock hardwood areas surrounding the site. Overall, many of the covertypes in the study area have been heavily influenced by human activities.

1.6 Exposure Pathways Summary

Of the human exposure pathways examined in Section 1.4, the SVOCs, PCB and metals in surface soil are the only COCs that pose a direct exposure pathway to receptor populations in the form of dermal contact (including ingestion and inhalation) with exposure to the impacted soil. The potential pathways to on-site receptor populations for the remaining COCs was considered to be low; with the exception of the moderate receptor population impact regarding subsurface soils and fill as it relates to site excavation and occupants of future buildings for the site.

2.0 DEVELOPMENT OF ALTERNATIVES

2.1 Introduction

The RI of the site included intrusive and non-intrusive investigations to determine the nature and extent of COCs within surface soils, subsurface soils, surface water, sediment and groundwater. The results of the RI were used to develop and evaluate the remedial alternatives described within this report.

Feasible remedial action(s) are identified to achieve compliance with established regulatory cleanup guidance levels and/or to protect human health and the environment. The remedial alternatives for the site are developed based on published literature and current knowledge of the technologies commonly employed in similar situations and circumstances.

2.2 Remedial Action Objectives

Table 2.2-1 summarizes the COCs within each medium and the remedial action objectives (RAOs) identified for each medium. The COCs include subjective impacts and compounds and analytes which exceeded their respective SCGs. Potentially affected populations described in the table include persons who may be engaged in the residential, commercial and/or passive recreational activities at the site based upon the contemplated use, residents in the neighboring community, site visitors and trespassers on the site, and workers which may be engaged in subsurface excavation during any future site development.

Table 2.2-1: Contaminants of Concern for Site Media and Remedial Action Objectives

Media Type	COCs	Remedial Action Objective
Surface Soil	SVOCs, PCB and Metals	Prevent affected populations from direct contact and ingestion of the contaminated soils and inhalation of airborne dust that may emanate from the soils should they be disturbed.
Subsurface Soil/Fill	SVOCs, PCB, Metals, Organic Vapors	Prevent affected populations from direct contact and ingestion of the contaminated soils and inhalation of airborne dust/organic vapors that may emanate from the soils should they be disturbed.

Table 2.2-1: Contaminants of Concern for Site Media and Remedial Action Objectives		
Media Type	**COCs**	**Remedial Action Objective**
Surface Water	Metals	Conduct long-term surface water monitoring to gauge contaminant persistence and to measure decreases in persistence through natural attenuation.
Sediments	Metals	Conduct long-term sediment monitoring to gauge contaminant persistence and to measure decreases in persistence through natural attenuation.
Groundwater	VOCs (off-site), SVOCs, Pesticides (off-site) and Metals	Conduct long-term groundwater monitoring to gauge contaminant persistence and to measure decreases in persistence through natural attenuation.

The remedial action objectives are to control and possibly eliminate COCs present in the various areas and media within the site and off-site, with the ultimate goal of protecting human health and the environment.

2.3 General Response Actions

The project site is impacted by varying concentrations of SVOCs, PCB and metals in surface soils and SVOCs, PCB, metals and subjective impacts in subsurface soils. located on the eastern portion of the site; which has been defined as an AOC (Section 1.6). COCs which are present in remaining portions of the site located to the west of the AOC are not viewed as having a significant potential to impact receptor populations and the environment and will be subjected to long-term monitoring.

The general response actions are developed for addressing COCs present within the site through site specific remedial alternatives. The intent of the general response action is to address contamination and mitigate the potential for exposure to the contamination and to a lesser extent potential off-site impacts from the subject site. The following provides the approximate areas to which treatment, containment, or exposure reduction technologies may be applied to the site.

- Surface and near-surface soils are impacted by Arsenic and SVOCs. The horizontal extent of the soil impacts is approximately 325,000 square feet and the vertical extent of the soil impacts is approximately 1 foot below the ground surface (bgs) for an approximate total impacted area of 325,000 cubic feet or 12,037 cubic yards or 20,465 tons (using 1.7 as a multiplier to convert cubic yards to tons).

In developing remediation goals for the subject site, the following design considerations were evaluated relative to economical and feasible solutions for addressing the site contaminants:

- The Town of Clermont is considering use of the site for commercial (Town Highway Garage) and passive recreational use. The remedial action should reduce and possibly eliminate potential exposure to COCs by site visitors and workers should the site undergo future development activities.

2.4 Development of Alternatives

The following sections present a selection of remedial alternatives that may be implemented to address the general response action discussed in the previous section of this report. The alternatives under consideration for the AOC include:

1. No further action and long-term monitoring;

2. Implementation of institutional controls, site management plan (SMP) and long-term monitoring;

3. Emplacement of cover material with institutional controls, SMP and long-term monitoring; or

4. Excavation and disposal of impacted soils and replacement with clean fill, institutional controls and long-term monitoring.

2.4.1 Alternative No. 1 – No Further Action and Long-Term Monitoring

The No Further Action and Long-Term Monitoring Alternative is evaluated as a procedural requirement and is a requirement of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). This alternative would require no further action beyond the IRM that was conducted on the site during the RI which involved the removal for off-site disposal of approximately 115.85 tons of stockpiled telephone poles and railroad ties. Long-term monitoring of the site's surface water and groundwater would be conducted on an annual basis for a period of five (5) years to gauge contaminant persistence.

2.4.2 Alternative No. 2 – Implementation of Institutional Controls, SMP and Long-Term Monitoring

This alternative would implement institutional controls to restrict future land use and notify future owners or prospective purchasers of the presence of contamination. The institutional controls would be an environmental easement granted to the NYSDEC, who would enforce the terms of the easement and to notify future owners and/or developers of the restricted use of the property. Implementation of the SMP would provide specific requirements for site development, use and occupation.

Long-term monitoring of the site's surface water and groundwater would be conducted on an annual basis for a period of five (5) years to gauge contaminant persistence.

2.4.3 Alternative No. 3 – Emplacement of Cover Material with Institutional Controls, SMP and Long-Term Monitoring

This alternative would involve the emplacement of a 12-inch soil cover or comparable cover (i.e. building concrete floor slabs, asphalt pavement, concrete walkways) for the entirety of the AOC, inclusive of the re-establishment of appropriate vegetative cover. The institutional controls would be an environmental easement granted to the NYSDEC, who would enforce the terms of the easement and to notify future owners and/or developers of the restricted use of the property. Implementation of the SMP would provide specific requirements for site development, use and occupation.

Long-term monitoring of the site's surface water and groundwater would be conducted on an annual basis for a period of five (5) years to gauge contaminant persistence.

2.4.4 Alternative No. 4 – Excavation and Disposal of Impacted Soils and Replacement with Clean Fill, Institutional Controls and Long-Term Monitoring

This alternative would involve the excavation and disposal of contaminated soil within the boundaries of the AOC. Upon completion of the remedy, the AOC would be backfilled with clean fill and institutional controls would be implemented to address residual contaminants that may remain within the AOC. The institutional controls would restrict future land use and notify future owners or prospective purchasers of residual contamination at the site, if any. The institutional controls would be an environmental easement granted to the NYSDEC, who would enforce the terms of the easement.

Long-term monitoring of the site's surface water and groundwater would be conducted on an annual basis for a period of five (5) years to gauge contaminant persistence.

3.0 DETAILED ANALYSIS OF ALTERNATIVES

3.1 Introduction

Each remedial alternative was evaluated based on specific criteria set forth in 6NYCRR Part 375-1.10. The evaluation criteria will be used by the NYSDEC in the selection process for the most appropriate remedy considering the site conditions, level of implementation, and cost-effectiveness. From this AAR and the RI Report, the Department will prepare a Proposed Remedial Action Plan (PRAP) to be submitted to the public with the RI Report and the AAR. The Department will address any issues raised by the public in a Responsiveness Summary. The final remedy for the site will be documented in the Record of Decision (ROD) prepared by NYSDEC after a 45 day public comment period.

The first seven (7) of the following eight (8) criteria form the basic components of the detailed analysis of each alternative whereby each criteria is compared to the others to determine the most cost effective, protective remedy. The Department will use criteria #8 in their evaluation once the public comment period has ended.

1. Overall protection of public health and the environment;
2. Compliance with Standards, Criteria, and Guidance (SCGs);
3. Short-term effectiveness;
4. Long-term effectiveness and permanence;
5. Reduction of toxicity, mobility, or volume with treatment;
6. Implementability;
7. Cost; and
8. Community acceptance.

The remedial alternative approach of "No Action" could be applied to most sites where low level contamination is present and fully delineated, and does not pose a significant threat to human health or the environment. This alternative is best suited for low level contamination, but could also be applied if higher levels of contamination are present with no significant threat to the human health or the environment.

Institutional controls are means of attaching restrictions to the property to limit site activities and future use of the property, and to assure due diligence in notification of prospective purchasers and the public. These restrictions could also include installation of fencing or other means to limit access to the site or a particular area of the site. The site's current and future land use plays a significant role in selecting the most effective institutional controls. Examples of institutional controls typically include land use and drinking water use restrictions, deed restrictions, and notification in public registries of excavation and construction work activity, and appropriate posting of informational signs at the site. Depending on the severity of contamination, institutional controls could be required along with other feasible remedial alternatives. For the purpose of analyzing the alternatives below, specific examples of institutional controls (as discussed above) are not referenced, but would ultimately be selected based on the results of remedial action selected/performed.

3.2 Overall Protection of Human Health and the Environment

Each alternative will require sampling and analysis of surface water and groundwater monitoring over an extended period of time (5 years) to gauge contaminant persistence within these media.

3.2.1 Alternative No. 1: No Further Action and Long-Term Monitoring

This remedy would not provide overall protection of human health and the environment.

3.2.2 Alternative No. 2: Implementation of Institutional Controls, SMP and Long-Term Monitoring

The institutional controls and SMP would serve as a mechanism to protect human health from the contaminants.

3.2.3 Alternative No. 3: Emplacement of Cover Material with Institutional Controls, SMP and Long-Term Monitoring

The cover material, institutional controls and SMP would serve as a mechanism to protect human health from the contaminants.

3.2.4 Alternative No. 4: Excavation and Disposal of Impacted Soils and Replacement with Clean Fill, Institutional Controls and Long-Term Monitoring

Protection of human health and the environment would effectively be realized through the implementation of Alternative 4 as the contaminated soil in excess of SCGs would be remediated through the excavation and disposal of impacted soil and replacement with clean fill. Institutional controls would be implemented in the event that residual contaminants remain in the AOC site media.

3.3 Compliance with Standards, Criteria, and Guidance (SCGs)

Each alternative will require surface water and groundwater monitoring to gauge the persistence of contaminants in these media over time.

3.3.1 Alternative No. 1: No Further Action and Long-Term Monitoring

Compliance with SCGs will not be attained if Alternative No. 1 is implemented because the impacted media will remain on-site and would not be addressed through any forms of site control.

3.3.2 Alternative No. 2: Implementation of Institutional Controls, SMP and Long-Term Monitoring

Compliance with SCGs will not be attained through implementation of Alternative No. 2 because remaining impacts within soils will remain in place.

3.3.3 Alternative No. 3: Emplacement of Cover Material with Institutional Controls, SMP and Long-Term Monitoring

Compliance with SCGs would not be attained in the existing site soils through the implementation of Alternative No. 3, because these contaminated soils would be left in place. However, SCGs would be attained in the surface and near-surface soils in that the one foot of cover material would consist of clean fill below the SCOs. The community would be protected from contaminants through placement of the cover material with institutional controls and SMP.

3.3.4 Alternative No. 4: Excavation and Disposal of Impacted Soils and Replacement with Clean Fill, Institutional Controls and Long-Term Monitoring

Compliance with SCGs would effectively be realized through the implementation of Alternative 4 as all of the AOC contaminated soil in excess of SCGs would be remediated. Institutional controls would be implemented in the event that residual contaminants remain in the media.

3.4 Short Term Effectiveness

For each of the alternatives, the monitoring wells for groundwater sampling were installed during the RI and are protected with guard pipes and are easily accessible. There are no access restraints to the proposed surface water sampling locations.

3.4.1 Alternative No. 1: No Further Action and Long-Term Monitoring

The effectiveness of Alternative No. 1 will be realized in the short term and could be implemented immediately. There would be no short term reduction in the potential for impacts to human health. There will be no impact to the community or the environment during implementation of this alternative, other than what may be currently present at the site.

3.4.2 Alternative No. 2: Implementation of Institutional Controls, SMP and Long-Term Monitoring

The short term effectiveness of this remedy will be immediate. The legal documents for the institutional control and development of the SMP can be quickly drafted and filed, and become binding upon affected populations in a short period of time. There are no short term adverse impacts to affected populations concerning implementation of this alternative.

3.4.3 Alternative No. 3: Emplacement of Cover Material with Institutional Controls, SMP and Long-Term Monitoring

The short term effectiveness of this remedy would be realized upon installation of the cover material and implementation of the institutional controls and SMP.

Short term adverse impacts to affected populations during implementation of this alternative include the possible ingestion, dermal contact and inhalation of contaminants during application of the cover material. To minimize these impacts, dust suppression techniques in the form of the application of water and community dust monitoring at a minimum will need to be conducted.

3.4.4 Alternative No. 4: Excavation and Disposal of Impacted Soils and Replacement with Clean Fill, Institutional Controls and Long-Term Monitoring

The short term effectiveness of this Alternative will be immediate in that contaminated soils will be removed and disposed of off-site.

The community would be protected during the remedial action by establishing a work zone that excludes unauthorized individuals and by employing effective dust suppression techniques (application of water) and community dust monitoring. There would be no significant environmental impacts as a result of implementing this alternative.

This alternative would have the greatest potential for short term impacts to site workers and the community because a large volume of soils would be excavated and transported off-site.

3.5 Long Term Effectiveness

Each of the alternatives will require long-term monitoring (5 years) of the site's surface water and groundwater to gauge contaminant persistence in related media.

3.5.1 Alternative No. 1: No Further Action and Long-Term Monitoring

There will be no long term effectiveness if this remedy is chosen. The AOC contaminants (arsenic and SVOCs) will likely persist for an undefined period of time and will likely not decrease in severity over time through natural attenuation.

3.5.2 Alternative No. 2: Implementation of Institutional Controls, SMP and Long-Term Monitoring

The long term effectiveness and permanence of Alternative 2 is based on if the institutional controls and SMP for controlling site usage, development and maintenance practices are implemented by current and future site owners and developers.

3.5.3 Alternative No. 3: Emplacement of Cover Material with Institutional Controls, SMP and Long-Term Monitoring

The long term effectiveness and permanence of Alternative No. 3 would be achieved by placing a cover material that would protect the community from site contaminants and by providing a SMP and institutional controls controlling site usage and development and maintenance practices. There should be minimal long-term risks to human health if 1) the cover material remains intact and is inspected annually, 2) the SMP is adhered to by all related personnel during any future site development activities, and 3) institutional controls are implemented and followed by future site owners and developers.

The contaminants remaining within the AOC would be segregated from the community once the placement of the cover material is completed. The cover material would be an effective means of protection from site contaminants if it is consistently inspected to ensure that it has not been breached by naturally occurring and/or man made incidents. Additionally, if future site development should occur, then buildings, parking lots, walkways and landscaped areas would also serve as additional protective surface covers.

3.5.4 Alternative No. 4: Excavation and Disposal of Impacted Soils and Replacement with Clean Fill, Dewatering Institutional Controls and Long-Term Monitoring

Implementing Alternative No. 4 is a long term and permanently effective means of remediating soil contamination at the site. There should be no residual risks remaining upon completion of this alternative. This alternative is considered to be a reliable means of reducing and possibly eliminating the potential impacts to human health and the environment and will be further accentuated by implementation of institutional controls for remaining impacts, if any.

3.6 Reduction of Toxicity, Mobility, or Volume with Treatment

Each alternative will require sampling and analysis of surface water and groundwater monitoring over an extended period of time (5 years) to gauge contaminant persistence within these media.

3.6.1 Alternative No. 1: No Further Action and Long-Term Monitoring

This remedy would not reduce the toxicity, mobility or volume of the AOC contaminants and would not provide overall protection of human health and the environment.

3.6.2 Alternative No. 2: Implementation of Institutional Controls, SMP and Long-Term Monitoring

This alternative would not reduce the toxicity, mobility or volume of the AOC contaminants.

3.6.3 Alternative No. 3: Emplacement of Cover Material with Institutional Controls, SMP and Long-Term Monitoring

This alternative would not reduce the toxicity or volume, but it would prevent mobility of the contaminants to the surface where exposures could occur.

3.6.4 Alternative No. 4: Excavation and Disposal of Impacted Soils and Replacement with Clean Fill, Institutional Controls and Long-Term Monitoring

Reduction of the toxicity, mobility or volume of the AOC contaminants would effectively be realized through the implementation of Alternative 4 as the contaminated soil in excess of SCGs would be remediated through the excavation and disposal of impacted soil and replacement with clean fill.

3.7 Implementability

For each of the alternatives, monitoring wells for groundwater sampling are currently located on the site and are protected by guard pipes and the surface water sampling locations are easily accessible.

3.7.1 Alternative 1: No Further Action and Long-Term Monitoring

Alternative No. 1 can be easily implemented as no action will be taken relative to reducing contaminants that exist at the site.

3.7.2 Alternative No. 2: Implementation of Institutional Controls, SMP and Long-Term Monitoring

The implementation of institutional controls and the SMP involves only the drafting of legal documents and procedures that will be binding on future site owners and developers.

3.7.3 Alternative No. 3: Emplacement of Cover Material with Institutional Controls, SMP and Long-Term Monitoring

Implementing Alternative No. 3 is feasible in that the cover material can be successfully installed employing common engineering and construction practices.

The implementation of institutional controls involves only the drafting of legal documents and procedures that will be binding on future site owners and developers. The institutional controls would be developed to protect affected populations during implementation of the remedial alternative and as guidance for future land owners and developers.

3.7.4 Alternative No. 4: Excavation and Disposal of Impacted Soils and Replacement with Clean Fill, Institutional Controls and Long-Term Monitoring

The technical difficulties that are anticipated during implementation of this alternative are considered minor and include the surveying and staking of adjoining property boundaries to ensure that the remedy does not encroach on adjoining properties; the installation and maintenance of silt fencing between the AOC and adjoining properties for erosion control; construction and maintenance of a temporary road into the site for the anticipated high volume of excavation equipment and truck traffic that will be entering and exiting the site; and obtaining permits (if necessary) for the anticipated high volume of excavation equipment and truck traffic that will be entering and exiting the site along US Route 9.

The implementation of institutional controls involves only the drafting of legal documents and procedures that will be binding on future site owners and developers.

3.8 Cost

The associated costs for each of the remedial alternatives are presented in detail in Table 3.8-2, which is located within the Tables section of the report. The following Table 3.8-1 presents the approximate lump costs for each of the alternatives.

TABLE 3.8-1: Lump Sum Costs Per Alternative

Description of Alternative	Estimated Lump Sum Cost
Alternative 1: No Further Action and Long-Term Monitoring.	$38,403
Alternative 2: Implementation of Institutional Controls, SMP and Long-Term Monitoring.	$126,403
Alternative 3: Emplacement of Cover Material with Institutional Controls, SMP and Long-Term Monitoring.	$682,550
Alternative 4: Excavation and Disposal of Impacted Soils and Replacement with Clean Fill, Institutional Controls and Long-Term Monitoring.	$2,015,045

3.9 Comparative Analysis

Utilizing the evaluation criteria, each remedial alternative is compared to the other on the basis of cost and effectiveness as a means to identify the most cost effective, protective remedy. Each alternative is therefore ranked as either low, moderate or high in terms of being a cost-effective protective remedy.

Four (4) remedial alternatives were presented for the site. These included 1) No Further Action and Long-Term Monitoring, 2) Implementation of Institutional Controls, SMP and Long-Term Monitoring, 3) Emplacement of Cover Material with Institutional Controls, SMP, and Long-Term Monitoring and 4) Excavation and Disposal of Impacted Soils and Replacement with Clean Fill, Institutional Controls and Long-Term Monitoring.

Alternative 1 (No Further Action and Long-Term Monitoring) is the least expensive, yet least effective alternative for the protection of human health and the environment. This alternative would require no further action beyond the IRM conducted during the RI. Potentially affected populations would not be protected from contaminants within the boundaries of the AOC. Long-term groundwater monitoring will serve to gauge the mobilization of contaminants to these media. Based on the foregoing, Alternative 1 is ranked as low.

Alternative 2 would be more effective and more costly than Alternative No. 1 in that it would implement institutional controls to restrict future land use and notify future owners or prospective purchasers of contamination and the implementation of the SMP would provide specific requirements for site development, use and occupation. Long-term surface water and groundwater monitoring would serve to gauge contaminant persistence within these media. However, there exists the potential for dermal contact of site contaminants identified within the boundaries of the AOC as their will be no protective measures separating the potentially affected population from the contaminants. Based on the foregoing, Alternative 2 is ranked as low.

Alternative 3 would be more effective and more costly than Alternative 2 because in addition to the institutional controls, SMP and long-term monitoring identified in Alternative 2, Alternative 3 will include a cover material over the entirety of the AOC to protect the potentially affected population from contaminants within this area. As such, Alternative 3 is ranked as moderate to high.

Alternative 4 is the most costly and least implementable of the alternatives as it involves the excavation and disposal of impacted soils on the eastern portion of the site (approximately 7.46 acres) and replacement with clean fill. Implementing this alternative will be difficult due to the anticipated high truck traffic volume entering and exiting the site's east adjoining U.S. Route 9, construction and maintenance of a temporary road into the site, and potential dust and noise nuisance problems to adjoining neighbors. As such, Alternative 4 is ranked as low to moderate.

Based on the evaluation of each alternative, Alternative 3 appears to be the most cost effective and protective remedy for the site.

FIGURE 1

SITE LOCATION MAP

FIGURE 2

SITE BOUNDARY AND SAMPLING LOCATIONS MAP

FIGURE 3

HORIZONTAL EXTENT OF IMPACTS (AREA OF CONCERN) TO SURFACE AND NEAR-SURFACE SOILS LOCATION MAP

APPENDIX A

APPENDIX A

ALTERNATIVE ANALYSES COST ESTIMATES