January 2007

Remedial Investigation Report

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

ERP Site #E-510020
Durkee Street Parking Lot
Operable Unit 2
(Parking Lot and Farmer's Market)
City of Plattsburgh
Clinton County, New York

Prepared for:

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ENVIRONMENTAL RESTORATION PROJECT
REMEDIAL INVESTIGATION REPORT
DURKEE STREET PARKING LOT OPERABLE UNIT 2
(PARKING LOT AND FARMER'S MARKET)
CITY OF PLATTSBURGH, NEW YORK

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1.0 INTRODUCTION

The City of Plattsburgh (the City) Office of Community Development 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 Durkee Street Parking Lot located along the east side of Durkee Street in the City of Plattsburgh, Clinton County, New York. A Site Location Map is presented as Figure 1. NYSDEC subsequently notified the City of its eligibility to participate in the ERP and the City executed a State Assistance Contract (SAC) which required the submission, review, approval and implementation of investigative work plans under the ERP. The Draft Site Investigation Work Plan was submitted to NYSDEC and NYSDOH for review and comment in December 2004. Regulatory comments to the Work Plan were satisfactorily addressed and the Work Plan was approved in February 2005.

In general, the Remedial Investigation (RI) of the site involved two phases. The first phase of the investigation focused on the southern portions of the parking lot as plans had already been developed for redevelopment within this area. This section of the parking lot is identified as Operable Unit 1 (OU1), and is delineated on the Site Plan in Figure 2. The RI/AAR for OU1 has been submitted under separate cover. The second phase of the investigation was conducted within the central and northern portions of the parking lot, and is identified as Operable Unit 2 (OU2) on Figure 2. OU2 constitutes an asphalt-paved parking lot with Farmer's Market. The focus of this RI is for investigative tasks which were conducted in relation to OU2 (the "Site").

Prior to the initiation of the ERP, a review of available data and information pertaining to the history and environmental conditions at the site was completed by C.T. Male Associates, P.C. (C.T. Male). Information derived from review of the historical sources is incorporated within the Work Plan, which is available for review within the document repositories.

The RI for OU2 generally consisted of the collection and laboratory analysis of near-surface soil, subsurface soil and groundwater samples, the drilling and installation of monitoring wells, and the completion of a soil gas survey in support of a vapor intrusion evaluation relative to any future development of OU2.

1.1 Purpose

The purpose of the RI is to describe the investigations conducted within the site for defining the nature and extent of contamination in near-surface soil, subsurface soil, and groundwater, and to evaluate the potential for vapor intrusion into any future building developments via a soil gas survey. From this data decisions regarding the need for remedial actions are made and appropriate remedial options are evaluated based in part on the intended use of the Site. The investigation defines the site characteristics in terms of its history, use, geology, hydrogeology, known or suspected contaminants and contemplated future use. The target goals of this ERP remedial investigation are to identify contaminants of concern, define the horizontal and vertical extent of such contamination, and to produce data of sufficient quantity and quality to support the development and analyses of remedial alternatives to aid in the development of an acceptable Remedial Action Work Plan (RAWP).

1.2 Report Organization

This RI Report consists of seven (7) sections. Section 1 of the RI Report is an introduction, which presents the purpose of the project and background information such as project work tasks and modifications to the work plan, site description, site history, and previous investigations of the site. Section 2 relates to the study area investigation and consists of a description (i.e., dates of completion, number of sampling locations, etc.) of the investigative tasks. Section 3 presents the physical characteristics of the study area as obtained during the 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 gas, soil (near-surface and subsurface) and groundwater samples are compared to applicable regulatory standards and guidance values. Section 5 pertains to 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 adverse effects to human health and the environment from site related contaminants. Section 7 presents the summary and conclusions of the entire report.

1.3 Project Background

1.3.1 General

OU2 consists of an asphalt-paved public parking lot with Farmer's Market. A review of historical sources shows that prior to its current usage as a parking lot and Farmer's Market, the site was improved with several buildings associated with commercial, residential and manufacturing activities. Former on-site manufacturing activities that are of concern included automotive repair, steam laundering and milling.

Since historical practices at the site had the potential to degrade the site's environmental quality, the City of Plattsburgh made application for inclusion into the New York State Brownfield Program. The goal of inclusion into the program was to sufficiently investigate and ultimately remediate documented site contaminants at the site.

The investigation involved the collection and laboratory analysis of near-surface soil, subsurface soil, and groundwater samples, the drilling and installation of monitoring wells, and the completion of a soil gas survey. The investigative methods employed were derived in part from information contained in a limited subsurface investigation report of the Site conducted by others in May 2004, and from review of historical maps and regulatory databases.

2.0 SITE DESCRIPTION AND UTILIZATION

2.1 Site Description

OU2 is located adjacent to and east of Durkee Street in the City of Plattsburgh, Clinton County, New York. The site is approximately 3.07 acres in size, and generally consists of an asphalt-paved public parking area with a partially enclosed Farmers Market pavilion located along its southeastern property boundary. The site boundaries are depicted on the Site Plan in Figure 2.

2.2 Area Property Utilization

The adjoining and surrounding land uses in the area of the subject site are described as follows:

North:	Bridge Street is located north of the site. Land usage opposite Bridge Street includes a mix of residential and commercial facilities. A gasoline station abuts OU2 to the northeast.
South:	The southern portions of the Durkee Street parking lot (i.e. OU1) are located adjacent to OU2.
East:	Land usage east of the site consists of the Saranac River.
West:	Durkee Street is located west of the site. Land usage opposite this street includes office and retail buildings and a vacant automotive repair facility.

2.3 Utilities

2.3.1 Site

Overhead lighting fixtures that illuminate the parking lot are located on the site. Power to the lights is provided by the Plattsburgh Municipal Lighting Department via underground utility lines. Pad mounted transformers are located along the site's western property line. The farmer's market building is supplied with public water and sewer that is provided by the City of Plattsburgh. The buried water and sewer lines traverse the site from east to west.

2.3.2 Area Utilities

Area utilities consist primarily of overhead and underground electrical power supplied by the Plattsburgh Municipal Lighting Department and New York State Electric and Gas (NYSEG). Municipal water and sanitary sewer are provided by the City of Plattsburgh. Underground electrical utilities providing power to the overhead parking lights traverse the approximate middle of the site from south to north.

2.4 Site History

Sanborn Fire Insurance Maps were reviewed to determine if past "Site" usages had the potential to compromise the environmental integrity of the site. Detailed historical information regarding the parking lot as a whole is presented in the Work Plan, which is available for review within the document repositories. The historic maps relating to OU2 depict past usages including a structure utilized for auto repair activities (1918 and 1927 maps) and the Plattsburgh Steam Laundry (1918 map) located along the east side of Durkee Street on western portions of OU2 and a former mill (1909 map) located on eastern portions of OU2. Other past usages depicted on the maps included a bowling/billiards hall, various storage buildings, apartments and dwellings, and a structure once located at the northwest corner of OU2 that was historically utilized for retail and storage, and as a bakery and restaurant. An apparent manmade water inlet into northeastern portions of OU2 from the adjoining Saranac River was depicted on the 1918, 1927, 1935, and 1965 maps.

2.5 Previous Site Investigations

C.T. Male is unaware of any previous investigations that may have been conducted on the site by others and has not conducted its own previous investigations, with the exception of near-surface and subsurface soil and groundwater samples which were inadvertently collected for laboratory analyses at locations within the boundaries of OU2 during C.T. Male's investigation of OU1 (see sections 3.5 and 3.6). Previous investigations conducted by others within OU1 have shown evidence of petroleum impacted soils and groundwater, the results of which are detailed in the RI report for OU1.

2.6 Regulatory Databases

An Environmental Database Report was reviewed to determine if the site or any nearby properties were listed as being under the auspices of regulatory agencies relating to issues of environmental quality. The searched databases identified the OU1 site as a State Spill Site; assigned NYSDEC Spill #0402000 on April 26, 2004. The database report indicated that groundwater beneath the site was affected by an unknown petroleum source. The spill associated with the findings of a subsurface investigation conducted on the site by the Verterre Group in 2004. Adjoining properties identified in the searched databases included Hy-Way Oil (further discussed below), which is located adjacent to and northeast of OU2 and is identified as a closed spill site, and A&L Auto Repair (further discussed below), which is located adjacent to and west of OU2 and is identified as a closed spill site.

The Hy-Way Oil was listed as a spill site on two occasions. The first spill (9400497) took place in 1994 and involved a faulty passenger vehicle gasoline tank discharging approximately 15 gallons of gasoline into the Saranac River via a storm water line located at this facility. The drain discharged directly to the river. The spill was subsequently closed that same year, having met NYSDEC cleanup standards. The second spill (9702207) took place in 1997 and involved the detection of low levels of petroleum hydrocarbons in groundwater. The report indicated that there was no evidence of associated impacts to the adjoining Saranac River, and the spill was subsequently closed that same year, not having met NYSDEC cleanup standards.

The A&L Auto Repair facility was listed as a NYSDEC spill site on September 27, 2002 following the discharge of an unknown quantity of waste oil on land. The spill was closed on November 21, 2002. The database report did not include any additional information regarding the spill.

3.0 STUDY AREA INVESTIGATION

3.1 Site Characterization

The investigation was conducted within the property boundaries of the subject site, which currently serves as an asphalt-paved parking lot and Farmer's Market. It should be noted that portions of OU2 were investigated during the site investigation of OU1 and that a supplemental investigation and additional groundwater monitoring was also conducted on OU2. The following details the phases of investigation (in chronological order) for OU2.

- Because the northern boundary dividing OU1 from OU2 had not yet been defined during the 2004 site investigation of OU1, three near-surface soil sampling locations and two soil borings which were converted to monitoring wells were inadvertently located within the boundaries of OU2. These near-surface soil sampling locations (identified as SS-8, SS-9 and SS-10) and soil boring/monitoring well locations (SB-10/MW-10 and SB-11/MW-11) are depicted on the sampling locations map in Figure 3
- The field work for the RI of OU2 was conducted during the summer of 2005 and included the collection of near-surface soil samples (identified as SS-11 to SS-22), subsurface soil/fill samples (SB-13 to SB-20), groundwater samples (MW-13 to MW-20) and soil gas samples (SG-4 to SG-8). During groundwater sampling, monitoring wells MW-13, MW-14 and MW-15 were devoid (dry) of groundwater and were not sampled. These wells were sampled during groundwater sampling of monitoring wells which were installed as part of the supplemental investigation of OU2 in the winter 2006.
- The supplemental investigation of OU2 was conducted in winter 2006 and included the advancement of soil borings (identified as SB-21 to SB-26) which were converted to monitoring wells (MW-21 to MW-26) to aid in the collection of subsurface soil/fill and groundwater samples for laboratory analyses. The borings/wells were installed and the media sampled to further delineate the severity and extent of chlorinated volatile organic compounds (CVOCs) which were detected at concentrations exceeding NYSDEC guidelines from groundwater sampled at monitoring well MW-10.

- Additional groundwater monitoring was conducted in December 2006 (i.e. December 2006 groundwater monitoring) at monitoring wells MW-10, MW-23, MW-25 and MW-26 to update CVOC analytical data and to determine if bio-attenuation and the Interim Remedial Measure (IRM) conducted at OU1 had an effect on groundwater quality in this area.

Investigation of the project site was performed through the completion of specific work tasks. The following sub-sections provide dates of work task completion, select work task results (i.e., number of borings advanced, monitoring wells installed, etc.) not presented elsewhere, and a description of project deviations from the NYSDEC approved Site Investigation Work Plan.

Investigative tasks performed by C.T. Male included sampling and analysis of soil and groundwater, as well as completion of a soil gas survey in support of a vapor intrusion evaluation. The investigation also included a supplementary investigation of OU2 and the December 2006 groundwater monitoring.

All of the analytical data for this project was validated in accordance with the Guidance for the Development of Data Usability Summary Report (DUSR). The DUSR provides an evaluation of the analytical data to determine whether or not the data meets the project specific criteria for data quality and data use.

3.2 Boundary Survey

A boundary survey of the entire site (OU1 and OU2) was conducted by C.T. Male to locate existing site features and property lines. The initial field work was completed in July and August 2004. Follow-up field work was performed in October 2005 and March 2006 to establish the locations of the test borings/monitoring wells, and monitoring well elevations (grade and top of PVC), near-surface soil and soil gas sampling locations for the RI and supplemental investigation of OU2. The Site Boundary Survey is presented in Figure 2. The metes and bounds description for OU2 is included in Appendix A.

3.3 Fish and Wildlife Impact Analysis (FWIA)

Due to the site's historical, commercial and industrial usage and its current use as an asphalt-paved parking lot and Farmer's Market, it was determined at the commencement of the RI that the need for a Fish and Wildlife Impact Analysis (FWIA) would be predicated upon the results of the RI. Subsequently, the RI findings presented in this document do not appear to warrant a FWIA.

3.4 Survey of Public and Private Wells

According to officials at the Clinton County Health Department, the project Site and its surrounding area are serviced by public water furnished by the City of Plattsburgh. Private water wells are reportedly not located on, or in the vicinity of the project site.

3.5 Near-Surface Soil Sampling and Analysis

Near-surface soil samples were collected at fifteen (15) individual locations and are depicted as SS-8 to SS-22 on Figure 3. As discussed in section 3.1, near-surface soil samples SS-8 through SS-11 were collected in 2004 during the investigation of OU1, and are incorporated in this investigation.

Because the site was covered with asphalt pavement, the asphalt surface and granular sub base (if present) were removed prior to sample collection. The collected samples were forwarded to the laboratory of record for analysis for TCL volatile and semi-volatile organic compounds, pesticides and PCBs, and TAL metals.

Quality Assurance/Quality Control (QA/QC) samples were collected during the near-surface soil sampling event, as follows.

- One equipment blank was collected of the stainless steel spoon and bowl prior to the collection of sample SS-20.
- One duplicate sample was collected of SS-19.
- The MS/MSD was performed on SS-21.

3.6 Site Wide Subsurface/Hydrogeologic Evaluation

The Subsurface/Hydrogeologic evaluation included the completion of 16 exploratory test borings denoted as SB-10, SB-11 and SB-13 to SB-26. As discussed in section 3.1, SB-10 and SB-11 were completed within the boundaries of OU2 during the investigation of OU1 (August 2004) and SB-21 through SB-26 were completed during the supplemental investigation of OU2 (March 2006). All of the test borings were converted to monitoring wells upon completion of subsurface soil sampling. The locations of the test borings/monitoring wells are depicted in Figure 3.

During advancement of the borings, soil samples were collected at continuous two (2) foot intervals for soil classification, PID screening, and potential laboratory analysis. The soil classification for each boring is presented on the Subsurface Exploration Logs in Appendix B. Recovered soil samples were screened for the presence of volatile organic compound vapors employing a photo ionization detector (PID). The PID screening results are presented on the Organic Vapor Headspace Analysis Logs in Appendix C. At least one soil sample from each test boring was collected from above the water table and secured for laboratory analysis based in part on headspace screening results and organoleptic perception of suspect contamination.

The test borings were advanced to depths that ranged from 13 feet bgs at soil boring SB-11 to 23 feet bgs at soil boring SB-23. A total of 18 soil/fill samples were collected employing proper sampling protocols. Soil/fill samples collected from SB-10, SB-11, and SB-13 through SB-20 were forwarded to the laboratory of record for analyses for TCL volatile and semi-volatile organic compounds, PCBs and pesticides, and TAL metals. Soil/fill samples collected from soil borings SB-21 through SB-26, as part of the supplemental investigation of OU2, were analyzed for TCL volatile and semi-volatile organic compounds.

All of the samples were obtained from discrete two (2) foot intervals at each location, with the exception of MW-17. At this location, a representative sample was created by combining the soils from the 14 to 18 foot depth interval due to poor sample recovery.

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

- One equipment blank each (2 total) was collected of the split spoon sampling barrel prior to sampling at SB-15 and SB-21.
- One duplicate sample each was collected of SB-15 and SB-22.
- An MS/MSD was performed on SB-13 and SB-26.

Each of the test borings were converted to 2-inch diameter PVC permanent monitoring wells. Each monitoring well was protected with a flush mounted curb box with bolt down cover. Monitoring well construction details are provided in Appendix D.

Table 3.6-1 provides a summary of the boring and monitoring well identification numbers, boring depths, depths at which the monitoring wells were set, monitoring well screened interval depths, and the depth from which soil samples were collected for laboratory analysis.

TABLE 3.6-1: Soil Boring and Monitoring Well Summary

Boring ID	Monitoring Well ID	Boring Depth (ft/bgs)	MW Depth (ft/bgs)	MW Screened Interval (ft/bgs)	Analytical Soil Sample Depth (ft/bgs)
SB-10	MW-10	19.4	19.0	9.0 to 19.0	8-10 & 14-16
SB-11	MW-11	13.0	13.0	3.0 to 13.0	0.5 to 2
SB-13	MW-13	16.0	14.0	4.0 to 14.0	6 to 8
SB-14	MW-14	18.0	16.0	6.0 to 16.0	8 to 10
SB-15	MW-15	18.4	18.0	8.0 to 18.0	8 to 10
SB-16	MW-16	20.0	18.0	8.0 to 18.0	10 to 12
SB-17	MW-17	20.0	20.0	10.0 to 20.0	14 to 18
SB-18	MW-18	17.3	17.0	7.0 to 17.0	10 to 12
SB-19	MW-19	19.5	19.5	9.5 to 19.5	4 to 6
SB-20	MW-20	18.0	16.0	6.0 to 16.0	8 to 10
SB-21	MW-21	23.0	23.0	8.0 to 23.0	6-8 & 18-20
SB-22	MW-22	17.0	17.0	7.0 to 17.0	4 to 6

TABLE 3.6-1: Soil Boring and Monitoring Well Summary

Boring ID	Monitoring Well ID	Boring Depth (ft/bgs)	MW Depth (ft/bgs)	MW Screened Interval (ft/bgs)	Analytical Soil Sample Depth (ft/bgs)
SB-23	MW-23	19.0	19.0	9.0 to 19.0	14 to 16
SB-24	MW-24	22.0	22.0	12.0 to 22.0	4 to 6
SB-25	MW-25	20.0	20.0	10.0 to 20.0	14 to 16
SB-26	MW-26	20.0	20.0	10.0 to 20.0	16 to 18

Notes: bgs denotes below ground surface

Groundwater samples were collected from each of the monitoring wells installed as part of the RI (monitoring wells MW-10 and MW-11 (August 2004)) and MW-13 to MW-20 (August 2005)), as part of the supplemental investigation (monitoring wells MW-21 to MW-26 (March 2006)), and as part of the December 2006 groundwater monitoring (MW-10, MW-23, MW-25 and MW-26) to establish current CVOC levels in groundwater. Prior to the collection of the groundwater samples, each well was developed utilizing a surge block, bailer and small diameter submersible pump (Grunfos Redi-Flow II) to restore the hydraulic connection between the wells and aquifer materials.

Following the development of all of the monitoring wells, each well was purged prior to sampling. The wells were then sampled employing proper sampling techniques and the samples forwarded to the laboratory of record for analyses. The wells sampled as part of the RI were analyzed for TCL volatile and semi-volatile organic compounds, PCBs and pesticides, and TAL metals. The wells sampled as part of the supplemental investigation and the December 2006 groundwater monitoring were analyzed for TCL volatile and semi-volatile organic compounds only, as CVOCs were the constituents of concern.

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

- One equipment blank each of the peristaltic pump tubing and/or factory sealed disposable polyethylene bailers was collected prior to collection of groundwater samples from monitoring wells Mw-13, MW-18 and MW-25.
- One duplicate sample each was collected of MW-18, MW-23 and MW-25.
- One MS/MSD each was performed on MW-10, MW-16 and MW-26

3.7 Soil Gas Survey

A soil gas survey was conducted to evaluate the potential for vapor intrusion in the event that the site should be developed in the future. A total of six (6) soil gas probes were each advanced to approximate depths of two (2) to 3 feet below grade within the Site. Soil gas samples were collected in lab provided 6-liter Summa canisters and analyzed by EPA Method TO15. QA/QC samples included the following:

- A duplicate sample was collected of SG-5.
- One outdoor air ambient sample was collected for the establishment of background levels for comparison of analytical data obtained from the six sampling locations within OU2.

3.8 Data Usability Summary Report (DUSR)

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 report for the RI is presented as Exhibit 1.

4.0 PHYSICAL CHARACTERISTICS OF THE STUDY AREA

4.1 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.

4.1.1 Surface Features

Presently, the site consists of an asphalt-paved parking lot with a Farmer's Market along its eastern property line. Overall, the Site slopes from the west (Durkee Street) towards the east-southeast (Saranac River). Previous utilization of the Site included commercial and recreational facilities, residential dwellings and tenements. An apparent manmade water inlet from the Saranac River was at one time located on northeastern portions of the Site.

Based on a review of historical maps, it does not appear that the Site's current eastern property boundary extended to its present location along the Saranac River. Rather, it is inferred that fill was historically deposited on eastern portions of the Site to bring this portion of the Site to grade with western portions of the Site. Additionally, the manmade inlet identified on historical maps on northeastern portions of the Site has been filled in and currently makes up portions of the parking lot.

4.1.2 Surface Water Bodies

Surface water bodies are not located on the site. The Saranac River abuts the Site's eastern property line. The river generally flows in a northerly direction and discharges into Lake Champlain at a location approximately one-half (1/2) mile northeast of the Site.

4.1.3 Surface Drainage Patterns

Storm water generated during the course of precipitation events surface flows across the parking lot from the west towards the east-southeast and is funneled onto rip rap along the banks of the Saranac River via a corrugated metal storm water pipe located on eastern portions of OU2 (see Figure 2).

4.1.4 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 of variable texture (boulders to silt). This soil unit has a variable thickness that ranges from between one (1) and 50 meters and consists of a usually poorly sorted sand-rich diamict that was deposited beneath glacier ice. The permeability of this soil unit varies with its compaction.

According to the Geologic Map of New York, Adirondack Sheet, bedrock in the vicinity of the Site is mapped in the category of the Trenton Group, which consists of shale and limestone. Bedrock was encountered at depths that ranged from 17 to 23 feet bgs at soil borings SB-15, SB-17, SB-18, SB-19, SB-21, SB-22 SB-25 and SB-26. These borings were completed on central and western portions of the site.

4.1.5 Site Soils

The site soils were explored through the advancement of 16 soil borings that were later converted to monitoring wells. A subsurface boring log for each test boring performed for this project was prepared, and is presented in Appendix B. The logs summarize and present the classifications of the subsurface soils, moisture content and other pertinent visual observations of the soil stratum for the Site. The Site soils, as visually classified using the Unified Soil Classification System at the time of test boring completion consists of the following generalized types.

- Fill material of variable composition from borings installed on western portions of the Site in the vicinity of Durkee Street. The fill ranged in thickness from 9 feet to approximately 15 feet below grade and consisted of various percentages of sand, gravel, silt, brick, ash, wood and concrete. Borings installed on western portions of the site included SB-11, SB-13, SB-14, and SB-20. The soil profile underlying the fill materials consisted primarily of glacial till that extended to boring completion depths that ranged from thirteen (13) to eighteen (18) feet below grade. Refusal (which could signify the presence of bedrock) was not encountered at the boring termination depths.

- Fill material of variable composition from borings installed on central portions of the site. The fill ranged in thickness from beneath the asphalt pavement to approximately 14 feet below grade and was composed of varying percentages of sand, gravel, silt, brick, ash, wood, glass, cinders and organics. Borings installed on central portions of the site included SB-10, SB-15, SB-16, SB-18, SB-21 and SB-22. The soil profile underlying the fill materials consisted primarily of glacial till that extended to boring completion depths that ranged from 17 to approximately 23 feet below grade. Auger and sampling spoon refusal, which may be indicative of the presence of bedrock, was encountered at depths that ranged from 17 to 23 feet bgs at soil borings SB-15, SB-18, SB-21 and SB-22.

- Fill materials of variable composition were encountered within the six (6) borings (SB-17, SB-19, and SB-23 to SB-26) installed on eastern portions of the site nearest the Saranac River. The fill ranged in thickness from beneath the asphalt pavement to approximately 20 feet below grade and was composed of varying percentages of sand, gravel, silt, brick, ash, wood, cinders and organics. The soil profile underlying the fill materials consisted primarily of varying percentages of sand, silt and gravel that extended to boring completion depths that ranged from 19 to approximately 22 feet below grade. Auger and sampling spoon refusal, which may be indicative of the presence of bedrock, was encountered at depths that ranged from 19.5 to 20 feet bgs at soil borings SB-17, SB-19, SB-25 and SB-26.

4.1.6 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 located in an unconfined aquifer potentially yielding more than 100 gallons per minute.

Groundwater conditions were assessed through the advancement of test borings and the subsequent installation of permanent monitoring wells. The installation of groundwater monitoring wells allowed for the collection of static water level data.

Water level measurements were collected from the monitoring wells located on OU2 on August 8 and September 21, 2005 and March 13, 2006. Water levels collected in March 2006 included the monitoring wells (MW-21 to MW-26) that were installed during the supplemental investigation of OU2 (see section 3.1). Based on the collected water level data, the water table across the site ranged in depth from approximately six (6) to 18 feet below existing site grades. Monitoring wells MW-13, MW-14, and MW-15 were each dry (devoid of groundwater) when water levels were collected in August 2005. Monitoring well MW-15 was dry when water levels were collected in September 2005 and Monitoring well MW-17 was dry when water levels were collected in March 2006. Based on the water level depths listed above and the site's subsurface profile (see Subsurface Exploration Logs in Appendix B), groundwater appears to be perched atop the glacial till layer. The till layer is nearest the surface on western portions of the site and increases in depth proceeding in an easterly direction towards the Saranac River. The till layer was not observed in soil borings SB-17 and SB-26. Boring SB-17 is located within a former manmade inlet that was previously discussed in section 2.4. Boring SB-26 is located along the eastern side of the farmer's market near the Saranac River.

The water levels obtained in August and September 2005, and March 2006 were used for construction of groundwater contour maps, which are presented as Figures 4, 5, and 6, respectively. The maps depict overall groundwater flow direction across the site from west to east towards the Saranac River.

Based on the groundwater contours presented in Figures 4, 5 and 6 and assumptions made relative to the effective porosity and permeability of the soils/fill underlying the site, the velocity of groundwater flow across the site was estimated employing Darcy's equation. Solving for velocity, the equation is arranged such that V = velocity in feet per year; K = permeability in centimeters per second; I = the slope of the water table in vertical feet over horizontal feet; and N = the effective porosity of the site soils/fill. Based on the types of soil/fill underlying the site, K was assigned a value of 1×10^{-4} cm/sec and N was assigned a value of 0.27. Employing Darcy's equation, the following groundwater velocities where calculated.

Date of Water Levels	Velocity (feet/day)	Velocity (feet/year)	Average (feet/year)
August 8, 2005	1.38	503.7	NA
September 21, 2005	1.13	413.85	458.78
March 13, 2006	0.78	285.56	401.04

The following field observations and parameters (pH, conductivity, and temperature) were recorded during the groundwater sampling events completed in August 2004, August 2005, March 2006 and December 2006.

- The pH values for the groundwater samples had values ranging from 6.57 at MW-17 to 8.27 at MW-21. The range of 1.7 units can be attributed to groundwater being sampled at select wells during different seasons. Monitoring well MW-17 was sampled in summer 2005 and MW-21 was sampled in winter 2006.

- The groundwater sample temperatures ranged from 8.6 (MW-22) to 25.4 (MW-17) degrees Celsius. As discussed in the preceding paragraph, the temperature fluctuations can be correlated to the seasonal time periods that the wells were sampled. Monitoring well MW-22 was sampled in winter 2006 and MW-17 was sampled in summer 2005.

- The conductivity for the groundwater samples ranged from 593 μs (MW-17) to 8,200 μs (MW-25).

- Turbidity values for the sampled groundwater were monitored prior to collecting the analytical samples. All turbidity levels were 50 NTUs or less during sampling with the exception of a turbidity value of 151.5 NTU at monitoring well MW-19. The soil profile within the screened interval of MW-19 consisted of fine sand and silt, which could not be fully developed from the water column prior to the collection of the groundwater sample.

The table below lists the field parameter values for each well prior to sample collection.

TABLE 4.1.6: Groundwater Sampling Field Observations Summary

Well ID	Turbidity (1)	pH & Temp.	Specific Conductance	Well ID	Turbidity	pH & Temp.	Specific Conductance
August 2004 Sampling Event							
MW-10	47.4 NTU	7.69 @ 15.7°C	1,485 μs	MW-11	45.5 NTU	6.85 @ 17.0°C	4,150 μs
August 2005 Sampling Event							
MW-13 (Dry)	NA	NA	NA	MW-17	27.2 NTU	6.57 @ 25.4°C	593 μs
MW-14 (Dry)	NA	NA	NA	MW-18	13.42 NTU	6.97 @ 17.7°C	1,261 μs
MW-15	NA	NA	NA	MW-19	151.5 NTU	6.67 @	824 μs

TABLE 4.1.6: Groundwater Sampling Field Observations Summary

Well ID	Turbidity [(1)]	pH & Temp.	Specific Conductance	Well ID	Turbidity	pH & Temp.	Specific Conductance
(Dry)						18.1°C	
MW-16	4.60 NTU	6.87 @ 17.4°C	1,390 µs	MW-20	21.0 NTU	7.34 @ 21.1°C	835 µs
March 2006 Sampling Event							
MW-13*	NA	NA	NA	MW-23	31.6 NTU	7.17 @ 10.5°C	4,800µs
MW-14*	NA	NA	NA	MW-24	3.0 NTU	7.44 @ 11.1°C	2,460 µs
MW-15 (Dry)	NA	NA	NA	MW-25	4.15 NTU	7.17 @ 9.8°C	8,200 µs
MW-21	1.5 NTU	8.27 @ 9.9°C	5,360 µs	MW-26	8.5 NTU	6.98 @ 10.8°C	7,550 µs
MW-22	12.5 NTU	7.60 @ 8.6°C	2,240 µs				
December 2006 Sampling Event							
MW-10	36.9 NTU	7.48 @ 13.1°C	1,250 µs	MW-25	20.07 NTU	7.51 @ 12.2°C	985 µs
MW-23	12.89 NTU	7.43 @ 13.0°C	1,659 µs	MW-26	47.8 NTU	7.10 @ 12.3 °C	1,191 µs

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

* Due to insufficient groundwater volume, parameters were not recorded prior to the March 2006 sampling of MW-13 and MW-14.

5.0 NATURE AND EXTENT OF CONTAMINATION

The nature and extent of contamination at the project site is based on subjective and quantitative analyses of samples collected during the RI and the supplemental investigation of the site. Samples collected during the RI included near-surface soil, subsurface soil/fill, groundwater and soil gas. The RI soil and groundwater samples were analyzed for TCL organics (i.e. volatile and semi-volatile organic compounds, pesticides and PCBs) and TAL metals and the soil gas samples were analyzed for volatile organics by EPA Method TO-15. Samples collected during the supplemental investigation of OU2 included subsurface soil/fill and groundwater, which were analyzed for TCL volatile and semi-volatile organic compounds. Groundwater samples collected as part of the December 2006 groundwater monitoring were analyzed for TCL volatile and semi-volatile organic compounds.

The analytical data for the RI, supplemental investigation and December 2006 groundwater monitoring are summarized in Section 5.7 and incorporated together in Table 5.7.1, which lists all detected parameters exceeding SCGs.

5.1 Sources

Historical potential sources of contamination were identified within the Site as a result of the completion of the "Site Investigation Work Plan." These potential sources included past manufacturing activities, automotive repair, steam laundering and milling activities, and a gasoline tank that was identified along an historic motor freight station. Additionally, fill materials of unknown origin underlie the entirety of the site at thicknesses ranging from beneath the asphalt pavement to 20 feet below grade.

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

Project SCGs were established for comparison of analytical results to the three (3) media types that were sampled. The media types are near-surface and subsurface soils, groundwater, and soil gas.

Laboratory analysis for near-surface and subsurface soils/fill sampled as part of the initial RI were TCL organics which are volatile and semi-volatile organic compounds, pesticides and PCBs, and TAL metals. Laboratory analysis for subsurface soils/fill sampled as part of the supplemental investigation of OU2 consisted of TCL volatile and semi-volatile organic compounds. Analytical results for the TCL and TAL parameters were compared to NYSDEC TAGM 4046 Recommended Soil Cleanup Objectives (RSCOs).

Laboratory analysis for groundwater included TCL organics and TAL metals for the initial RI and TCL volatile and semi-volatile organic compounds for the supplemental investigation and December 2006 groundwater monitoring. Analytical results were compared to NYSDEC Groundwater Standards and Guidance Values promulgated in the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS).

New York State currently does not have SCGs for subsurface vapors. In the absence of this information, soil vapor sampling results were compared to background ambient air levels collected during the sampling, NYSDOH Air Guidance Values, and the USEPA Building Assessment and Survey Evaluation (BASE) database, which make up site specific SCGs. The NYSDOH air guidance values and the BASE database are presented in the NYSDOH February 2005 Public Comment Draft entitled "Guidance for Evaluating Soil Vapor Intrusion in the State of New York".

5.3 Near-Surface Soils

5.3.1 General

Fifteen (15) near-surface soil samples, depicted as SS-8 through SS-22 on Fig. 3 were collected across the site from either zero (0) to 2 inches beneath the parking asphalt or from beneath the gravel and sub-base in the asphalt. The samples were forwarded to the laboratory of record for analysis for TCL volatile and semi-volatile organic compounds, pesticides and PCBs, and TAL metals.

The full analytical summary table of near-surface soil sampling results is presented in Table 5.3.1. Values on the table which are bolded have exceeded their corresponding SCGs.

5.3.2 Volatile Organic Compounds in Near-Surface Soil

The analytical results for volatile organic compounds identified five (5) compounds at concentrations exceeding the laboratory detection limit, but at concentrations below their SCGs. These compounds are identified in Table 5.3.1.

5.3.3 Semi-Volatile Organic Compounds in Near-Surface Soils

Two (2) SVOCs (identified in Table 5.3.1) were detected at concentrations exceeding the laboratory detection limit, but below SCGs.

5.3.4 Pesticides and PCBs in Near-Surface Soils

One (1) Pesticide (4,4-DDT) was detected at a concentration exceeding the laboratory detection limit, but below SCGs (see Table 5.3.1).

5.3.5 Metals in Near-Surface Soils

Twenty (20) of the 23 analyzed metals were detected at concentrations above the laboratory detection limit with seven (7) metals detected at concentrations above SCGs. Metals detected above SCGs are identified in bold on Table 5.3.1 in the Tables section of the report, are further summarized in Table 5.3.5 and are identified on the "Metals Above SCGs" in Near-Surface Soils Locations Map in Figure 7.

TABLE 5.3.5: Metals Exceeding SCGs in Near-Surface Soils

Metal	SCG (mg/kg)	Eastern USA Background (mg/kg)	Frequency of Exceeding SCGs	Concentration Range Exceeding SCGs (mg/kg)	Location(s) Exceeding SCGs
Beryllium	0.16	0 to 1.75	6 of 15	0.171 to 0.386	SS-10, SS-12, SS-16, SS-17, SS-19, & SS-20
Calcium	SB*	130 to 35,000	8 of 15	36,300 to 266,000	SS-8, SS-9, SS-10, SS-11, SS-18, SS-19, SS-20, SS-22
Copper	25	1 to 50	1 of 15	49.0	SS-13
Iron	2,000	2,000 to 550,000	15 of 15	4,810 to 12,200	All Locations

TABLE 5.3.5: Metals Exceeding SCGs in Near-Surface Soils

Metal	SCG (mg/kg)	Eastern USA Background (mg/kg)	Frequency of Exceeding SCGs	Concentration Range Exceeding SCGs (mg/kg)	Location(s) Exceeding SCGs
Magnesium	SB	100 to 5,000	7 of 15	5,150 to 24,500	SS-8, SS-9, SS-10, SS-11, SS-19, SS-20, SS-22
Nickel	13	0.5 to 25	3 of 15	14.4 to 18.2	SS-8, SS-10 & SS-13
Zinc	20	9 to 50	5 of 16	22.7 to 153	SS-18, SS-19, SS-20

* SB denotes Site Background which consists of the concentration ranges in the Eastern USA Background column.

Of the metals detected above SCGs, the following were detected at concentrations exceeding their respective Eastern USA Background ranges:

- Calcium at all locations.
- Magnesium at all locations.
- Zinc at SS-13

5.4 Subsurface Soils

5.4.1 General

Sixteen (16) soil borings depicted as SB-10, SB-11, and SB-13 to SB-26 on Figure 3 were advanced within the site. A total of 18 subsurface soil/fill samples were collected from the borings and were analyzed for TCL organics and TAL metals, with the exception of samples collected from soil borings SB-21 to SB-26 (supplemental investigation); which were analyzed for TCL volatile and semi-volatile organic compounds only.

The full analytical summary results for subsurface soil sampling for soil borings SB-10, SB-11 and SB-13 to SB-20 are presented in Table 5.4-1 and the analytical summary results for subsurface soil sampling for soil borings SB-21 to SB-26 are presented in Table 5.4-2 in the Tables section of the report. Values on the tables which are bolded have exceeded their corresponding SCGs.

5.4.2 Volatile Organic Compounds in Subsurface Soils

A total of 11 VOCs (see Tables 5.4-1 and 5.4-2) were detected at concentrations above the laboratory detection limit. Of those detected, none were at concentrations above their applicable SCGs.

5.4.3 Semi-volatile Organic Compounds in Subsurface Soils

Twenty-two (22) SVOCs were detected at concentrations above the laboratory detection limit with eight (8) SVOCs detected above SCGs. SVOCs detected above SCGs are identified in bold in Tables 5.4-1 and 5.4-2, are further summarized in Table 5.4.3 and are identified on the "SVOCs Above SCGs" in Subsurface Soil/Fill Locations Map (Figure 8).

TABLE 5.4.3: SVOCs Exceeding SCGs in Subsurface Soils/Fill

SVOC	SCG (mg/kg)	Frequency of Exceeding SCGs	Concentration Range Exceeding SCGs (mg/kg)	Sampling Location(s) Exceeding SCGs
Dibenzofuran	6.2	1 of 18	8.9	SB-14
Benzo(a)anthracene	0.224 or MDL	6 of 18	0.4 to 20	SB-14, SB-18, SB-21 (6-8'), SB-22, SB-24 & SB-26
Chrysene	0.4	5 of 18	0.49 to 19	SB-14, SB-18, SB-21 (6-8'), SB-22 & SB-26
Benzo(b)fluoranthene	1.1	5 of 18	0.45 to 17	SB-14, SB-21 (6-8'), SB-22, SB-24 & SB-26

TABLE 5.4.3: SVOCs Exceeding SCGs in Subsurface Soils/Fill

SVOC	SCG (mg/kg)	Frequency of Exceeding SCGs	Concentration Range Exceeding SCGs (mg/kg)	Sampling Location(s) Exceeding SCGs
Benzo(k)fluoranthene	1.1	4 of 18	0.23 to 8.4	SB-14, SB-21 (6-8'), SB-22 & SB-26
Benzo(a)pyrene	0.061 or MDL	8 of 18	0.11 to 17	SB-14, SB-18, SB-21 (6-8'), SB-22, SB-23, SB-24, SB-25 & SB-26
Indeno(1,2,3-cd)pyrene	3.2	1 of 18	5.5	SB-14
Dibenz(a,h)anthracene	0.014 or MDL	4 of 18	0.064 to 0.78	SB-14, SB-22 & SB-26

Of the SVOCs detected above SCGs, the following soil borings exhibited the highest frequency of SVOCs.

- Eight (8) of the 8 SVOCs above SCGs were detected at SB-14, which is located on western portions of the site (Figure 3).
- Six (6) of the 8 SVOCs above SCGs were each located at SB-22 and SB-24, which are located on central and eastern portions of the site, respectively.
- Five (5) of the 8 SVOCs above SCGs were located at SB-21, which is located on central portions of the site.

5.4.4 Pesticides and PCBs in Subsurface Soils

Pesticides and PCBs were not detected at concentrations above the laboratory detection limit from all subsurface soil samples collected as part of the initial RI. Samples collected as part of the supplemental investigation were not analyzed for pesticides and PCBs.

5.4.5 Metals in Subsurface Soils

With the exception of silver and thallium, all metals included in the TAL methodology were detected in the subsurface soil/fill samples above the laboratory method and/or instrument detection limits from soils collected as part of the initial RI. Samples collected as part of the supplemental investigation were not analyzed for metals.

Of the detected metals, seven (7) were detected at concentrations above SCGs. Metals detected above SCGs are depicted in bold on Table 5.4-1, are further summarized in Table 5.4.5 and are identified on the "Metals Above SCGs" in Subsurface Soils Locations Map in Figure 9.

TABLE 5.4.5: Metals Exceeding SCGs in Subsurface Soils/Fill

Metal	SCG* (mg/kg)	Eastern USA Background (mg/kg)	Frequency of Exceeding SCGs	Concentration Range Exceeding SCGs (mg/kg)	Location(s) Exceeding SCGs
Beryllium	0.16	0 to 1.75	8 of 11	0.173 to 0.368	SB-13 to SB-20
Calcium	SB	130 to 35,000	5 of 11	38,100 to 117,000	SB-10 (8-10'), SB-10 (14-16'), SB-11, SB-15 & SB-20
Copper	25	1 to 50	1 of 11	57.7	SB-14
Iron	2,000	2,000 to 550,000	11 of 11	5,560 to 14,600	All Locations
Magnesium	SB	100 to 5,000	6 of 11	5,610 to 16,700	SB-10 (8-10'), SB-10 (14-16'), SB-11, SB-15, SB-18 & SB-19
Mercury	0.1	0.001 to 0.2	3 of 11	0.11 to 1.0	SB-13, SB-14, & SB-18

TABLE 5.4.5: Metals Exceeding SCGs in Subsurface Soils/Fill

Metal	SCG* (mg/kg)	Eastern USA Background (mg/kg)	Frequency of Exceeding SCGs	Concentration Range Exceeding SCGs (mg/kg)	Location(s) Exceeding SCGs
Zinc	20	9 to 50	9 of 11	21.0 to 237	SB-10 (8-10′), SB-11, SB-13 to SB-16, SB-18 to SB-20

* SB denotes Site Background which consists of the concentration ranges in the Eastern USA Background column.

Of the metals detected above SCGs, the following were detected at concentrations exceeding their respective Eastern USA Background ranges:

- Calcium at sampling locations SB-10 (8′ to 10), SB-10 (14′ to 16′), SB-11, SB-15, and SB-20.
- Copper at sampling location SB-14.
- Magnesium at sampling locations SB-10 (8′ to 10′), SB-10 (14′ to 16′), SB-11, SB-15, SB-18, SB-19.
- Mercury at sampling location SB-14.
- Zinc at sampling locations SB-14.

5.5 Groundwater

5.5.1 General

Sixteen (16) monitoring wells depicted as MW-10, MW-11 and MW-13 to MW-26 on Figure 3 were advanced within the site. A total of 19 groundwater samples were collected from the monitoring wells and were analyzed for TCL organics and TAL metals, with the exception of samples collected from monitoring wells MW-21 to MW-26 (supplemental investigation and December 2006 groundwater monitoring); which were analyzed for TCL volatile and semi-volatile organic compounds only. A groundwater sample was not collected from monitoring well MW-15, as this well was dry. Also, the volume of groundwater at monitoring wells MW-13 and MW-14 was of insufficient quantity to permit the full laboratory analyses for TCL organics and TAL metals. As such, groundwater sampled at monitoring well MW-13 was only analyzed for TCL volatile and semi-volatile organic compounds, and groundwater sampled at monitoring well MW-14 was only analyzed for TCL volatile organic compounds.

The full analytical summary results for groundwater sampling for monitoring wells MW-10, MW-11 and MW-13 to MW-20 (sampled during the RI) are presented in Table 5.5-1. The analytical summary results for groundwater sampling for monitoring wells MW-21 to MW-26 (sampled as part of the supplemental investigation) are presented in Table 5.5-2. Analytical summary results for groundwater sampling for monitoring wells MW-10, MW-23, MW-25 and MW-26 (sampled as part of the December 2006 groundwater monitoring) are presented in Table 5.5-3. Values on the tables which are bolded have exceeded their corresponding SCGs.

5.5.2 Volatile Organic Compounds in Groundwater

Eight (8) VOCs were detected above the laboratory detection limit with six (6) VOCs detected above SCGs. VOCs detected above SCGs are identified in bold on Tables 5.5-1, 5.5-2 and 5.5-3, are further summarized in Table 5.5.2 below and are identified on the "VOCs, SVOCs and Metals" Above SCGs in Groundwater Locations Map in Figure 10. CVOC concentrations identified on Table 5.5.2 and Figure 10 are correlated to the time period that these wells were sampled to examine the persistence of the CVOCs at these wells over time.

VOC	SCG (ug/kg)	Monitoring Well ID	Concentrations Above SCGs per Sampling Period			
			8/2004	8/2005	3/2006	12/2006
Methyl tert-butyl ether	10	MW-17	NS	57	NS	NS
Vinyl Chloride	2	MW-10	170	NS	NS	ND
		MW-23	NS	NS	ND	17
		MW-25	NS	NS	2.2	ND
		MW-26	NS	NS	13	11

VOC	SCG (ug/kg)	Monitoring Well ID	Concentrations Above SCGs per Sampling Period			
			8/2004	8/2005	3/2006	12/2006
1,1-Dichloroethene	5	MW-10	6.0	NS	NS	ND
trans-1,2-Dichloroethene	5	MW-10	410	NS	NS	ND
		MW-23	NS	NS	< SCG	8.0
cis-1,2-Dichloroethene	5	MW-10	680	NS	NS	8.2
		MW-23	NS	NS	32	52
		MW-25	NS	NS	24	< SCG
		MW-26	NS	NS	6.0	7.3
Trichloroethene	5	MW-10	99	NS	NS	11
		MW-23	NS	NS	< SCG	< SCG
		MW-25	NS	NS	< SCG	ND
		MW-26	NS	NS	ND	< SCG

NS denotes that the well was not sampled for the referenced parameter

ND denotes that the parameter was not detected

< SCG denotes that the parameter was detected at a concentration below its applicable SCG

Five of the detected VOCs are chlorinated in nature and one VOC (MtBE) is a constituent of gasoline. Five (5) of the 5 chlorinated volatile organic compounds (CVOCs) were detected at monitoring well MW-10. The detection of CVOCs at MW-10 resulted in the supplemental investigation. Two (2) of the 5 CVOCs were detected in monitoring wells MW-25 and MW-26 and 1 of the 5 CVOCs was detected at MW-23.

MtBE, which is a constituent of gasoline, was detected above its SCG at monitoring well MW-17. Monitoring well MW-17 straddles the site's northeast adjoining gasoline station property.

As depicted on the preceding table, CVOCs detected at MW-10 during the August 2004 sampling event have sharply decreased in persistence when compared to values obtained during the December 2006 groundwater monitoring. This sharp decrease in concentrations can be attributed to bio-attenuation, and may be attributed in part to the excavation and disposal of soil and fill material and the evacuation of groundwater that took place during the IRM of OU1.

The persistence of CVOCs in groundwater at monitoring wells (MW-21 to MW-26) installed as part of the supplemental investigation have remained consistent with slight fluctuations in CVOC concentrations from their initial sampling in March 2006 to their most recent sampling in December 2006.

It should be noted that two low-level CVOCs (vinyl chloride (16 ug/l) and cis-1,2-dichloroethene (75 ug/l)) were detected at monitoring well MW-9 during the investigation in summer 2004. The CVOC concentrations above SCGs at MW-9 have been incorporated with the remaining CVOC concentrations above SCGs within the boundaries of OU2 and are depicted on Figure 11, which provides a visual depiction of the extent of the CVOC impacts. Monitoring well MW-9 was destroyed during the IRM of OU1, which took place in Fall 2005 and Winter 2006. CVOCs were not detected in groundwater at monitoring wells (MW-1 and MW-2) down gradient of MW-9.

5.5.3 Semi-volatile Organic Compounds in Groundwater

Nine (9) SVOCs were detected above the laboratory detection limit with one (1) SVOC detected above its SCG. The SVOC detected above its SCG is identified in bold on Table 5.5-1 and is identified on the "VOCs, SVOCs and Metals Above SCGs" in Groundwater Locations Map (Figure 10).

Bis(2-Ethylhexyl)phthalate (5.3 ug/kg) was detected above its SCG of 5.0 ug/kg at MW-10. Bis(2-Ethylhexyl)phthalate was also detected in the equipment blank, and according to the DUSR report, has been qualified as non-detect.

5.5.4 Pesticides and PCBs in Groundwater

Pesticides and PCBs were not detected above the method and instrument detection limits in any of the samples analyzed.

5.5.5 Metals in Groundwater

TAL metals analyses was not performed for groundwater sampled from monitoring wells MW-13, MW-14 and MW-15 (see section 5.5.1) and MW-21 to MW-26 (see section 3.1).

Sixteen (16) of the 23 metals included in the TAL methodology were detected at concentrations exceeding the laboratory detection limit with five (5) metals at concentrations above SCGs. Metals detected above SCGs are depicted in bold in Table 5.5.1, are further summarized in Table 5.5.5 and are identified on the "VOCs, SVOCs and Metals Above SCGs" in Groundwater Locations Map (Figure 10).

TABLE 5.5.5: Metals Exceeding SCGs in Groundwater

Metal	SCG* (ug/kg)	Frequency of Exceeding SCGs	Concentration Range Exceeding SCGs (ug/kg)	Sampling Location(s) Exceeding SCGs
Iron	300	6 of 7	1,380 to 38,200	MW-10, MW-11 MW-17, MW-18, MW-19 & MW-20
Lead	25	1 of 7	80.5	MW-19
Magnesium	35,000	7 of 7	50,400 to 128,000	All Sampling Locations
Manganese	300	6 of 7	713 to 1,720	MW-10, MW-11, MW-16, MW-17, MW-18, and MW-19
Sodium	20,000	6 of 7	224,000 to 1,790,000	MW-10, MW-11, MW-17, MW-18, MW-19, and MW-20

5.6 Soil Gas

Six (6) soil gas samples depicted as SG-4 to SG-9 on Figure 3 were collected within the site to determine the potential for vapor intrusion in the event that the site should undergo future development. The samples were analyzed by EPA Method TO15. Review of the analytical results indicates twenty-two (22) soil gas constituents at concentrations above the laboratory detection limit, with nine (9) constituents at concentrations above SCGs. Analytical summary results for the soil gas survey are presented in Table 5.6 within the Tables section of the report and are further summarized in Table 5.6-1.

TABLE 5.6-1: Soil Gas Exceeding SCGs

Parameter	Applicable SCG* (ug/m^3)	Frequency of Exceeding SCGs	Concentration Range Exceeding SCGs (ug/m^3)	Sampling Location(s) Exceeding SCGs
n-Hexane	6.4	2 of 6	7.8 to 120	SG-6 and SG-7
Chloroform	< 0.4	2 of 6	2.4 to 11	SG-4 and SG-8
Benzene	3.7	6 of 6	4.5 to 12	All Sampling Locations
Toluene	16	6 of 6	20 to 53	All Sampling Locations
Ethylbenzene	1.6	6 of 6	4.2 to 38	All Sampling Locations
Xylene (m,p)	7.3	5 of 6	12 to 120	All sampling Locations
Xylene (o)	2.6	5 of 6	3.7 to 43	All Sampling Locations
Styrene	< 1.6	3 of 6	2.5 to 5.1	SG-5, SG-7, and SG-9
1,2,4-Trimethylbenzene	3.1	1 of 6	3.2	SG-6

* SCG is the highest reference value promulgated in either the NYSDOH Air Guidance Values, the EPA BASE Data Background Levels or the Ambient Analytical data obtained during the sampling event.

With the exception of chloroform, the detected parameters are petroleum based.

5.7 Summary of Extent of Contamination

5.7.1 Overview

Analytical results for sampled near-surface and subsurface soils, groundwater and soil gas were compared to site specific SCGs identified in Section 5.2. The following table (Table 5.7.1) lists those compounds and analytes that exceeded project specific SCGs along with the frequency that the applicable SCG was exceeded per analyzed media.

TABLE 5.7.1: Summary Table of Compounds and Analytes Exceeding SCGs

Media	Class	Contaminant of Concern	Detected Concentration Range	Frequency of Exceeding Standard	Applicable SCG (1)	Eastern USA Background (2)
Near-surface Soils (mg/kg)	VOCs	None Detected Above SCGs				
	SVOCs	None Detected Above SCGs				
	PESTs	None Detected Above SCGs				
	PCBs	None Detected Above SCGs				
	Metals	Beryllium	0.171 to 0.386	6 of 15	0.16	0 to 1.75
		Calcium	36,300 to 266,000	8 of 15	SB	130 to 35,000
		Copper	49.0	1 of 15	25	1 to 50
		Iron	4,810 to 12,200	15 of 15	2,000	2,000 to 550,000
		Magnesium	5,150 to 24,500	7 of 15	SB	100 to 5,000
		Nickel	14.4 to 18.2	3 of 15	13	0.5 to 25
		Zinc	22.7 to 153	5 of 16	20	9 to 50
Subsurface Soil/fill (mg/kg)	VOCs	None Detected Above SCGs				
	SVOCs	Dibenzofuran	8.9	1 of 18	6.2	NA
		Benzo(a)anthracene	0.4 to 20	6 of 18	0.224 or MDL	NA
		Chrysene	0.49 to 19	5 of 18	0.4	NA
		Benzo(b)fluoranthene	0.45 to 17	5 of 18	1.1	NA
		Benzo(k)fluoranthene	0.23 to 8.4	4 of 18	1.1	NA
		Benzo(a)pyrene	0.11 to 17	8 of 18	0.061 or MDL	NA
		Indeno(1,2,3-cd)pyrene	5.5	1 of 18	3.2	NA
		Dibenzo(a,h)anthracene	0.064 to 0.78	4 of 18	0.014 or MDL	NA
	PESTs	None Detected Above SCGs				
	PCBs	None Detected Above SCGs				
	Metals	Beryllium	0.173 to 0.368	8 of 11	0.16	0 to 1.75
		Calcium	38,100 to 117,000	5 of 11	SB	130 to 35,000

TABLE 5.7.1: Summary Table of Compounds and Analytes Exceeding SCGs

Media	Class	Contaminant of Concern	Detected Concentration Range	Frequency of Exceeding Standard	Applicable SCG (1)	Eastern USA Background (2)
		Copper	57.7	1 of 11	25	1 to 50
		Iron	5,560 to 14,600	11 of 11	2,000	2,000 to 550,000
		Magnesium	5,610 to 16,700	6 of 11	SB	100 to 5,000
		Mercury	0.110 to 1.0	3 of 11	0.1	0.001 to 0.2
		Zinc	21.0 to 237	9 of 11	20	9 to 50
Ground Water (ug/l)	**VOCs**	Methyl tert-butyl ether	57	1 of 16	10	NA
		Vinyl Chloride	2.2 to 170	3 of 16	2	NA
		1,1-Dichloroethene	6.0	1 of 16	5	NA
		trans-1,2-Dichloroethene	8.0 to 410	2 of 16	5	NA
		cis-1,2-Dichloroethene	6.0 to 680	4 of 16	5	NA
		Trichloroethene	11 to 99	1 of 16	5	NA
	SVOCs	bis(2-Ethylhexyl) phthalate	5.3	1 of 16	5	NA
	PESTs	**None Detected Above SCGs**				
	PCBs	**None Detected Above SCGs**				
	Metals	Iron	1,380 to 38,200	6 of 7	300	NA
		Lead	80.5	1 of 7	25	NA
		Magnesium	50,400 to 128,000	7 of 7	35,000 (GV)	NA
		Manganese	713 to 1,720	6 of 7	300	NA
		Sodium	224,000 1,790,000	6 of 7	20,000	NA
Soil Gas (ug/m^3) (3)		n-Hexane	7.8 to 120	2 of 6	6.4	NA
		Chloroform	2.4 to 11	2 of 6	<0.4	NA
		Benzene	4.5 to 12	6 of 6	3.7	NA
		Toluene	20 to 53	6 of 6	16	NA
		Ethylbenzene	4.2 to 38	6 of 6	1.6	NA
		Xylene (m,p)	12 to 120	5 of 6	7.3	NA
		Xylene (o)	3.7 to 43	5 of 6	2.6	NA
		Styrene	2.5 to 5.1	3 of 6	<1.6	NA
		1,2,4-Trimethylbenzene	3.2	1 of 6	3.1	NA

Table Notes:

(1) Technical and Administrative Guidance Memorandum #4046, Determination of Soil Cleanup Objectives and Cleanup Levels, NYSDEC, January 24, 1994, Revised April 1995 for soil. 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) Eastern USA background concentrations as reported in a 1984 survey of reference material by E. Carol McGovern, NYSDEC.

(3) The SCG for Soil Gas is the highest reference value promulgated in either the NYSDOH Air Guidance Values, the EPA BASE Data Background Levels or the Ambient Analytical data obtained during the sampling event.

GV	Guidance Value
NA	Not Applicable
MDL	The Laboratory Minimum Detection Limit (MDL)
**	New York State Background
***	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.

5.7.2 Near-surface Soils

Volatile and semi-volatile organic compounds, pesticides and PCBs were not detected at concentrations exceeding their respective SCGs from the analyzed near-surface soil samples.

Six (6) metals were detected at concentrations exceeding SCGs with calcium, magnesium and zinc being the only metals detected at concentrations exceeding their respective Eastern USA Background levels. These three metals were detected at the following locations.

- Calcium at SS-18 through SS-20 and SS-22.
- Magnesium at SS-11, SS-19, SS-20 and SS-22.
- Zinc at SS-13.

5.7.3 Subsurface Soils/Fill

Volatile organic compounds, pesticides and PCBs were not detected at concentrations exceeding applicable SCGs from all subsurface soil samples analyzed as part of the RI.

Eight (8) semi-volatile organic compounds were detected at concentrations exceeding their respective SCGs. Of the SVOCs detected above SCGs, the following soil borings exhibited the highest frequency of SVOCs.

- Eight (8) of the 8 SVOCs above SCGs were detected at SB-14, which is located on western portions of the site (Figure 3).
- Six (6) of the 8 SVOCs above SCGs were each located at SB-22 and SB-24, which are located on central and eastern portions of the site, respectively.
- Five (5) of the 8 SVOCs above SCGs were located at SB-21, which is located on central portions of the site.

Seven (7) metals were detected at concentrations exceeding their respective SCGs. Of the metals detected above SCGs, the following were also detected at concentrations exceeding their respective Eastern USA Background levels.

- Calcium at sampling locations SB-10 (8′ to 10′ bgs), SB-10 (14′ to 16′ bgs), SB-11, SB-15, and SB-20.
- Copper at SB-14.
- Magnesium at sampling locations SB-10 (8′ to 10′ bgs), SB-10 (14′ to 16′ bgs), SB-11, SB-15, SB-18, and SB-19.
- Mercury at sampling location SB-14.
- Zinc at sampling location SB-14.

5.7.4 Groundwater

Pesticides and PCBs were not detected at concentrations exceeding applicable SCGs from all analyzed groundwater samples.

Five (5) CVOCs and MTBE were detected at concentrations exceeding SCGs from groundwater sampled at select monitoring wells. MtBE, which is a constituent of gasoline, was detected above its SCG at monitoring well MW-17, which is located adjacent to an off-site gasoline station. The CVOCs were detected at varying frequencies during different sampling periods at monitoring wells MW-10, MW-23, MW-25 and MW-26. Based on analytical data for CVOC concentrations over the extended sampling periods (August 2004 to December 2006), it appears that CVOC persistence has diminished over time and may be attributed to bio-attenuation and/or the effects of the IRM conducted within the boundaries of OU1.

One SVOC (bis(2-Ethylhexyl)phthalate) was detected in groundwater above its applicable SCG at MW-10. Bis(2-Ethylhexyl)phthalate was also detected in the equipment blank, and according to the DUSR report, has been qualified as non-detect.

Five (5) metals were detected at concentrations exceeding their respective SCGs. These included iron (7 of 7 sampling locations), lead (1 of 7 sampling locations), magnesium (7 of 7 sampling locations), manganese (6 of 7 sampling locations) and sodium (6 of 7 sampling locations).

5.7.5 Soil Gas

Petroleum related organic vapors were detected above SCGs in soil gas, as would be expected in relation to the site's current usage as a parking lot. Chloroform, which is a chlorinated vapor, was detected above its SCG at two (2) sampling location (SG-4 and SG-8). These soil gas sampling locations are not located in the vicinity of CVOCs that were detected above SCGs in groundwater at monitoring wells MW-10, MW-23, MW-25 and MW-26 (see Figure 3).

5.8 Past Site Activities Relative to Site Contaminants

Past usages of the site included commercial and manufacturing activities that included, but were not limited to, steam laundering, milling, and automotive repair. Additionally, a gasoline tank was once utilized in association with a former historic motor freight station. The site is underlain by various amounts of fill material that range in thickness from 9 feet bgs on western portions of the site to approximately 20 feet bgs on eastern portions of the site. The fill material consists primarily of sand, gravel, cinder, ash, brick, concrete and wood. The origin of the fill material is unknown. The following relates past site activities to contaminants uncovered during the RI.

- Past steam laundering and milling activities may have contributed to the CVOCs detected in groundwater at monitoring wells MW-10, MW-23, MW-25 and MW-26 (and MW-9, which is located within the boundaries of OU1) and the chlorinated vapors detected at soil gas sampling points SG-4 and SG-8. Historic Sanborn mapping presented in the December 2004 Site Investigation Work Plan (available in the document repositories) depicts the footprints of the Plattsburgh Steam Laundry (1918 map), Clark Textile Company (1918 map), a garage (1927 map), and a factory building (1935 map) atop and/or in close proximity to the above sampling locations.

- Fill materials containing cinders and ash beneath the site are the likely contributor to SVOC detections within this media.

- Metals detected above SCGs and Eastern USA Background levels may be affiliated with application of road salt to the parking lot surface, are naturally occurring in the environment, and/or are a constituent of the site's underlying fill material and past manufacturing activities.

- Soil gas vapors detected above SCGs consist primarily of petroleum related constituents that are typical of the site's usage as a parking lot.

5.9 Fish and Wildlife Impact Analysis (FWIA) Results

Due to the site's historical, commercial and industrial usage and its current use as an asphalt-paved parking lot and Farmer's Market, it was determined at the commencement of the RI that the need for a Fish and Wildlife Impact Analysis (FWIA) would be predicated upon the results of the RI. Subsequently, the RI findings presented in this document do not appear to warrant a FWIA.

5.10 Survey of Public and Private Wells

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

5.11 Data Usability Summary Report

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 1 of this report.

6.0 CONTAMINANT FATE AND TRANSPORT

6.1 General Overview

The site related contaminants include: 1) metals in near-surface soils; 2) semi-volatile organic compounds and metals in subsurface soils; 3) one (1) petroleum related volatile organic compound, chlorinated volatile organic compounds, one (1) semi-volatile organic compound, and metals in groundwater; and 4) one (1) chlorinated and organic vapors in subsurface soil gas. The contaminants are believed to be associated with the site's usage as a parking lot, the historic emplacement of fill on the site, and former manufacturing activities such as steam laundering, milling, and automotive repair. Compounds detected above SCGs are presented in Table 5.7.1.

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

6.2 Definition of Relevant Properties

Characteristics which affect fate and transport include the compound or analyte density, organic carbon/water partition coefficient, solubility in water, volatility, and degradability.

The following table (Table 6.2) presents various properties of the known and potential contaminants of concern. Organic vapors detected as part of the soil gas survey are not discussed in this section as they exist within interstitial spaces between soil and fill particles and are not expected to infuse into underlying groundwater but rather, are expected to volatilize into the atmosphere.

The specific gravity of a contaminant describes the weight of the contaminant relative to water, where one is the weight of water. The volatile organic compounds listed in Table 6.2 all have specific gravity values that are less than one with the exception of four (4) CVOCs, whose specific gravities are slightly greater than one. Semi-volatile organic compounds and metals identified on the table all have a specific gravity value greater than one, with the exception of bis(2-Ethylhexyl)phthalate. Therefore, the volatile organic compounds and one semi-volatile organic compound having specific gravity values less than one (1) would have a tendency to float within the upper portions of the aquifer whereas the four (4) chlorinated volatile organic compounds, semi-volatile organic compounds and metals with a specific gravity value of greater than one (1) would tend to migrate vertically downward. At the subject site, the depth to the water table is approximately 6.92 feet to 16.78 feet below existing site grades (as measured on March 13, 2006). A lower permeability glacial till is present at depths from 14 feet to 23 feet below grade.

TABLE 6.2 - Physical and Chemical Properties of Site Contaminants

Compound	Density	Kow(1)	Koc(2)	Water Solubility(3)	Henry's Law Constant(4)
Volatile Organic Compounds:					
Methyl tert-butyl ether	0.7405	1.06	11.23	50,000	5.87E-04
Vinyl Chloride	0.9106	0.60	0.39E	1.1	1.22E+00
1,1-Dichloroethene	1.2180	1.84	1.81	2.25E+03	1.91E-02
Trans-1,2-Dichloroethene	1.2565	2.09	1.77	600	7.2E-03
Cis-1,2-Dichloroethene	1.2837	NDA	NDA	800	2.65E-03
Trichloroethene	1.4642	2.53	2.03	1,100	6.32E03
Semi-Volatile Organic Compounds:					
Dibenzofuran	1.0886	4.17	4.10	10.03	5.82E-05
Benzo(a)anthracene	1.274	5.90	6.14	1.4E-02	2.30E-06
Benzo(a)pyrene	1.3510	6.00	6.00	3.8E-03	2.4E-06
Benzo(b)fluoranthene	NDA	6.57	5.74	1.40E-02	1.20E-05
Benzo(k)fluoranthene	NDA	6.85	550,000	5.50E-04	1.04E-03
Chrysene	1.274	5.61	5.39	6E-03	7.26E-20
Indeno(1,2,3-cd)pyrene	NDA	6.58	1,600,000	None	6.95E-08
Dibenz(a,h)anthracene	1.282	6.36	6.22	2.49E-03	7.33E-09
Bis(2-Ethylhexyl)phthalate	0.9873	4.65	5.00	3.00E-01	1.10E-05
Metals:					
Beryllium	1.848	NA	NA	NDA	NA
Calcium	1:54	NA	NA	Decomposes	NA
Copper	8.94	NA	NA	0.12	NA
Iron	7.86	NA	NA	NDA	NA
Magnesium	1.74	NA	NA	NDA	NA
Manganese	7.43	NA	NA	NDA	NA
Mercury	13.53	NA	NA	2.0E-21	NA
Nickel	8.9	NA	NA	6.1	NA
Sodium	0.97	NA	NA	Decomposes	NA
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.

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.

6.3 Contaminant Persistence

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

Mobility is expected to be lowest in near-surface soils, which tend to have some organic carbon. Below several feet in depth, the organic carbon content of soils is likely to be very low, and even a compound with a high Koc will be moderately mobile. However, fill containing organic materials such as ash, cinder or building rubble may have organic carbon levels that equal or exceed near-surface soils. The VOCs have organic carbon partition coefficients that range from 0.39 for vinyl chloride to 11.23 for MtBE, indicating low to medium sorption and medium to high mobility. The SVOCs have a wide range of organic carbon partition coefficient values that range from 5.00 for bis(2-Ethylhexyl)phthalate, indicating low sorption and high mobility, to 1,600,000 for indeno(1,2,3-cd)pyrene, indicating medium to high sorption and low to medium mobility in soil.

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

Water solubility indicates the tendency of a compound to dissolve in and travel in water. The site contaminants (except for metals) have a wide range of solubilities, but are generally soluble. When contaminant concentrations are above approximately ten percent of the water solubility, a separate phase will tend to form. The water solubility values of the volatile and semi-volatile organic contaminants in groundwater vary, but are on the order of 1.1 to 50,000 mg/l (VOCs) and 0.00055 to 10.03 mg/l (SVOCs). Since the concentration of contaminants detected at the site are less than their corresponding water solubility values, separate phase layers are not likely to exist within the site. The majority of the metals of concern are nearly insoluble in water, with the exception of calcium and sodium, which readily dissolve in water.

Volatility in diffuse aqueous conditions such as those that occur in groundwater at the 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 (with the exception of metals, which are not commonly volatile) include volatile and semi-volatile organic compounds, which will volatilize to some degree when unsaturated vapor, such as soil gas or the open atmosphere, are present. VOC contaminants in near-surface soil thus volatilize quickly to the atmosphere. VOCs with densities less than one (1) are typically lighter than water and will migrate vertically within the vadose zone due to capillary forces. In the subsurface soils, these compounds commonly dissolve in the groundwater in the saturated and vadose zone. The VOCs dissolved in the groundwater tend to volatilize into the vadose zone. CVOCs with densities greater than one (1) tend to migrate vertically downward to the bottom of the aquifer that comes in contact with a confining soil layer. CVOCs at the bottom of the aquifer will tend to flow with groundwater in the general direction of the confining layer.

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

6.4 Contaminant Migration

The potential routes of contaminant migration are through groundwater and the atmosphere. Depending on their solubility, contaminants could dissolve in groundwater and be transported in the direction of groundwater flow. Because the site is presently covered with asphalt, contaminants present in the vapor phase of the unsaturated soil/fill zone could vertically migrate to the open atmosphere or into structures constructed at the site. The contaminant dispersal would depend on its volatility and the depth of soil/fill cover. A soil gas survey showed detections of petroleum and chlorinated related organic vapors above SCGs within subsurface soils/fill. SVOCs and metals in near-surface soils could be transported to the atmosphere should this media be disturbed or by displacement of this media by excessive winds or stormwater runoff.

6.4.1 Groundwater Migration

Because the site groundwater contains VOCs, SVOCs and metals having densities greater to, or less than water, there may be migration of contaminants occurring in the upper portions of the shallow aquifer and along the top of the lower, less permeable till layer of the aquifer.

Because heavier than water volatile and semi-volatile organic compounds are present within the site at concentrations above SCGs, migration of contaminants may be occurring within lower portions of the aquifer. It is expected that these compounds will migrate in the direction of groundwater flow. The majority of the detected metals (with the exception of calcium and sodium) are insoluble in water and tend to adsorb and/or absorb to surrounding soil and fill particles; indicating a low propensity to migrate in the direction of groundwater.

Generally, groundwater contamination consists of CVOCs that were detected at MW-10, MW-23, MW-25 and MW-26 and MtBE which was detected at MW-17. The wells that are impacted by CVOCs are located down gradient to historical on-site manufacturing buildings and activities. The well that is impacted by MtBE is located adjacent to an off-site gasoline station. Additionally, several metals of concern (notably beryllium, copper, mercury, nickel, and zinc) were detected in near-surface and subsurface soils, but not in groundwater.

Groundwater movement beneath the site migrates towards the Saranac River at a more rapid pace than if the site were underlain with the site's native soils (glacial till) due to the historical disposition of fill materials. There are likely to be other physical and chemical factors involved which may impede the migration rate of the contaminants in the groundwater including natural biodegradation, bio-accumulation by organic materials, sorption onto soil and fill particles, and volatilization into the vadose zone and the unsaturated soils. Based on the calculated average groundwater flow velocity of 401.04 feet/year (see section 4.1.6), contaminants generated from past uses of the site prior to its conversion into a parking lot in the 1960's have more than likely degraded in severity over time through the aforementioned biodegradation, bio-accumulation, sorption and volatilization. Contaminant "hot spots" were not encountered at any of the sampling locations during the site investigation with the exception of low level VOCs and metals in groundwater and low level SVOCs and metals in soils.

6.4.2 Atmospheric Migration

Site contaminants (VOCs and SVOCs) in soil vapor will diffuse slowly upward and horizontally to unsaturated soil vapor. Because the site is presently covered with asphalt pavement and the concrete footprint of the farmer's market, contaminants may migrate upwards in the surface soil and diffuse to the atmosphere primarily through cracks in the pavement and concrete. The rate of diffusion into the atmosphere depends on the differential in vapor saturation and atmospheric pressure. Under natural conditions, the differential is expected to be low within the soil. At the soil/atmosphere interface, the differential can change frequently, with great increases in differential causing contaminants to transport rapidly from surface soil to the atmosphere. Site contaminants which may volatilize from the site soils/fill to the atmosphere will disperse or abiotically degrade, with rates dependent on wind speed and levels of atmospheric radicals. Since the levels of contaminants are at relatively low levels, VOC and SVOC contaminants in the atmosphere are not expected to accumulate at detectable levels under existing conditions. Metals do not typically exhibit volatility and therefore would not likely enter the atmosphere unless site soils/fill were disturbed such that dust particles with metals adhered to them enter the atmosphere.

The soil gas survey showed the presence of several petroleum related organic vapors and one chlorinated organic vapor at concentrations exceeding SCGs.

7.0 EXPOSURE ASSESSMENT

7.1 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 remediation. In performing the qualitative exposure assessment, the potential site related contaminants and the actual or potential exposure pathways were identified. The potentially exposed populations and the extent of actual or potential exposure were also evaluated.

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 5.7.1.

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

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

The potential impacted populations at the site and vicinity include residents in the neighboring community, parking lot patrons, others passing through the site, and any workers engaged in future site development activities or other ground disturbances imposed on the site.

Several volatile and semi-volatile organic compounds and metals were detected in near-surface and subsurface soils and fill materials at concentrations exceeding SCGs. The site is currently covered by an asphalt paved parking lot and the potential for exposure to underlying contaminants is considered to be low. However, disturbance of the subsurface soils and fill materials during any future construction activities could potentially create airborne contaminants that may be inhaled and/or ingested. The potential for dermal contact, inhalation and ingestion of the impacted subsurface soil and fill material during any future construction activities would therefore become low to moderate.

Several metals, VOCs, and one SVOC, were detected in groundwater at concentrations exceeding SCGs. Considering that the depth to groundwater is greater than 4 feet below grade, the potential for dermal contact through exposure to groundwater and the associated impact is anticipated to be low, unless groundwater is encountered and subsequently disturbed during construction activities. Ingestion of the contaminated groundwater is unlikely since the area surrounding and down gradient of the site is serviced by public water and no private water supply wells are known to exist.

8.0 SUMMARY AND CONCLUSIONS

8.1 Summary

The site investigation work tasks for OU2 have been completed in substantial conformance with the Final Site Investigation Work Plan for Operable Units 1 and 2 dated January 2005 and the NYSDEC approved work plan for the supplemental investigation of OU2. Any deviations to the work plan have been discussed within the body of this report.

8.1.1 Site Background

The site (OU2) forms central and northern portions of the Durkee Street Parking Lot. OU1, which makes up southern portions of the parking lot, was initially investigated to allow development of this portion of the parking lot. During the investigation of OU1, near-surface soil sampling locations and soil borings that were converted monitoring wells were inadvertently located within the boundaries of OU2 as the northern boundary dividing OU1 from OU2 had not yet been defined during the investigation of OU1. Analytical results of media sampled from these sampling locations have been incorporated within this report.

A review of historical sources shows that prior to its current usage as a parking lot, the site was improved with several buildings associated with commercial, residential and manufacturing activities. Former on-site manufacturing activities included laundering, milling, motor repair and food preparation/service.

An environmental investigation of the adjacent OU1 site by others was conducted in 2004. Select soil samples submitted for laboratory analysis as part of the investigation showed several parameters (VOCs, SVOCs and metals) exceeding regulatory guidance levels. The report concluded that based on the analytical results of the sampled soils, the site may pose a threat to groundwater and may require remediation. Groundwater was not sampled as part of the 2004 investigation.

An Environmental Database Report was reviewed by C.T. Male to further characterize the historical uses of the site. The searched databases identified the subject site as an open State Spill Site. The database report indicated that groundwater beneath the site was affected by an unknown petroleum source. The spill is believed to be associated with OU1 and the aforementioned subsurface investigation conducted by others in 2004.

8.1.2 Physical Characteristics of the Project Site

The project site consists of a paved parking lot servicing the downtown commercial and residential district. The site slopes from the west (Durkee Street) towards the east-southeast (Saranac River). Previous utilization of the site included commercial buildings, residential dwellings and tenements. Based on review of historical maps, it does not appear that the site's current eastern property boundary extended to its present location along the Saranac River. Rather, it is inferred that fill was historically deposited on eastern portions of the site to bring this portion of the site to grade with western portions of the site. The fill material consists of various percentages of sand, gravel, silt, brick, ash, wood and concrete and ranges in thickness from approximately four (4) to fifteen (15) feet bgs on western portions of the site nearest Durkee Street to approximately 20 feet bgs on eastern portions of the site nearest the Saranac River. The origin of the fill is unknown but may be in part from razed on-site buildings. Glacial till underlies the fill material.

Surface water bodies are not located on the site. The Saranac River abuts the site's eastern property line. The river generally flows in a northerly direction and discharges into Lake Champlain at a location approximately ½ mile northeast of the site.

Storm water generated during the course of precipitation events surface flows across the parking lot and eventually discharges along the banks of the Saranac River.

The site is underlain with fill that ranges in depth from nine (9) to 20 feet bgs. Native soil, which is made up of glacial till, underlies the fill material at total depths that range from 13 to 23 feet bgs. Drilling refusal, which may be indicative of the presence of bedrock, was encountered at depths that ranged from 17 to 23 feet bgs.

Groundwater was encountered on western portions of the site in the vicinity of Durkee Street at depths that ranged from 6.92 to 9.42 feet bgs and on eastern portions of the site near the Saranac River at depths that ranged from 14.53 to 15.38 feet bgs. Overall groundwater flow direction across the site is from west to east-southeast towards the Saranac River and is consistent with the slope of the till layer which underlies the overburden fill material.

8.1.3 Boundary Survey

A boundary survey of the entire parking lot (OU1 and OU2) was conducted to locate existing site features and property lines. The initial field work was completed in July and August 2004. Follow-up field work was performed in October 2004 and October 2005 to pick up the locations of the test borings/monitoring wells, and monitoring well elevations that were completed as part of the investigations of OU1 and OU2 and in March 2006 to pick up the locations of the test borings/monitoring wells that were completed as part of the supplemental investigation of OU2.

8.1.4 Fish and Wildlife Impact Analysis (FWIA)

Due to the site's historical, commercial and industrial usage and its current use as an asphalt-paved parking lot and Farmer's Market, it was determined at the commencement of the RI that the need for a Fish and Wildlife Impact Analysis (FWIA) would be predicated upon the results of the RI. Subsequently, the RI findings presented in this document do not appear to warrant a FWIA.

8.1.5 Survey of Public and Private Wells

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

8.1.6 Nature and Extent of Contamination

The primary contaminants of concern at the site are metals in near-surface soils; SVOCs and metals in subsurface soils and fill material; VOCs, one SVOC and metals in groundwater; and organic vapors in soil gas. The following summarizes the nature and extent of contamination for the project site per media type.

Near-surface Soils

Fifteen (15) near-surface soil samples were collected as part of the RI.

VOCs, SVOCs, pesticides and PCBs were not detected at concentrations exceeding SCGs from all near-surface soil sampling locations.

Seven (7) metals were detected above SCGs at varying frequencies from 12 of the 15 sampling locations. Of the metals detected above SCGs, the following were detected at concentrations exceeding their respective Eastern USA Background ranges.

- Calcium at all locations exceeding SCGs.
- Magnesium at all locations exceeding SCGs.
- Zinc at SS-13.

Subsurface Soils and Fill Material

Eighteen (18) subsurface soil/fill samples were collected as part of the initial RI and supplemental investigation.

No VOCs were detected above SCGs. Pesticides and PCBs were not detected above the method detection limit.

Eight (8) SVOCs were detected at varying frequencies above SCGs.

Seven (7) metals were detected above SCGs at varying frequencies at all RI sampling locations with calcium, copper, magnesium, mercury and zinc detected at concentrations exceeding both SCGs and their Eastern USA Background values. The metals of interest include copper, mercury, and zinc. All three (3) metals were detected above SCGs and Eastern USA Background levels at SB-14 only.

The SVOC and Metal detections are more than likely affiliated with the nature of the fill underlying the entirety of the site which is composed of varying percentages of C&D debris, cinders and ash. No specific source has been identified for these contaminants.

Groundwater

Nineteen (19) groundwater samples were collected as part of the initial RI, the supplemental investigation and the December 2006 groundwater monitoring.

Five (5) CVOCs and MTBE were detected at concentrations exceeding SCGs from the sampled wells. MtBE, which is a constituent of gasoline, was detected above its SCG at monitoring well MW-17, which is located adjacent to an off-site gasoline station. The CVOCs were detected at varying frequencies during different sampling periods at monitoring wells MW-10, MW-23, MW-25 and MW-26. Based on analytical data for

CVOC concentrations over the extended sampling periods (August 2004 to December 2006), it appears that CVOC persistence has diminished over time and may be attributed to bio-attenuation and/or the effects of the IRM conducted within the boundaries of OU1. It should be noted that two CVOCs were also detected at monitoring well MW-9, which lies within the boundaries of OU1, just south of OU2's southern boundary. Monitoring well MW-9 was destroyed during the IRM at OU1. CVOCs were not detected in groundwater at monitoring wells (MW-1 and MW-2) downgradient of MW-9.

One (1) semi-volatile organic compound (bis(2-Ethylhexyl)phthalate) was detected in groundwater above its applicable SCG at one sampling location only. Bis(2-Ethylhexyl)phthalate was also detected in the equipment blank, and according to the DUSR report, has been qualified as non-detect.

Five (5) metals were detected at concentrations exceeding their respective SCGs. These included iron (7 of 7 sampling locations), lead (1 of 7 sampling locations), magnesium (7 of 7 sampling locations), manganese (6 of 7 sampling locations) and sodium (6 of 7 sampling locations).

Soil Gas

Seven (7) petroleum related organic vapors were detected above SCGs at varying frequencies at all soil gas sampling locations, which would be expected in relation to the site's historic and current usage as a parking lot and the potential for petroleum based liquids to have leaked from vehicles and entered underlying soils via cracks in the asphalt. One chlorinated vapor, chloroform, was found at a concentration exceeding its SCG at SG-4.

8.1.7 Fate and Transport

The primary contaminants of concern at the site are metals in near-surface soils; SVOCs and metals in subsurface soils and fill material; VOCs, one SVOC and metals in groundwater; and organic vapors in soil gas.

The metals in near-surface soil/fill will tend to adhere to surrounding soil and fill particles and not migrate into underlying groundwater. This is exemplified by the presence of only three (3) of the 7 metals and no SVOCs identified in the near-surface soil and subsurface soil/fill sampling results within the sampled groundwater. SVOCs in subsurface soils may volatilize to the atmosphere should the soils/fill be disturbed. Generally, VOCs in subsurface soils/fill will tend to migrate vertically upwards to the open atmosphere but may dissolve in groundwater if the water table passes over areas of soil/fill impacted by these compounds. However, since VOCs were not detected in the subsurface soil/fill, this is of minimal concern.

The VOCs and SVOC in groundwater are in a dissolved phase and will tend to migrate with groundwater flow direction towards the Saranac River. Due to low concentrations, natural attenuation and dispersion, discharge to the river, if any, is considered to be minimal. Metals in groundwater (except sodium, which dissolves in water) are expected to adhere to surrounding soil and fill particles and will not necessarily follow groundwater flow direction nor volatilize to the vadose zone.

The transport mechanisms for the contaminants present at the site are migration within the groundwater and/or volatilization into the atmosphere. The chlorinated compounds, with the exception of vinyl chloride, tend to occur and migrate in the lower portions of the aquifer due to their densities being greater than 1. Vinyl chloride, along with the petroleum compound (MtBE), will tend to occur and migrate in upper portions of the aquifer due to their densities being less than 1. The SVOCs are confined to the soil and fill materials and will more than likely be dispersed to the atmosphere should this media be disturbed. However, should the SVOCs migrate downwards into the groundwater, they will tend to sink to the bottom of the aquifer to a less permeable soil type (glacial till) and migrate in the direction of groundwater flow and/or the surface of the less permeable unit. Most metals are strongly held, reducing their migration and extent of contamination, with the exception of calcium and sodium, which readily dissolve in groundwater. VOC contaminants within the groundwater and vadose zone will volatilize into the unsaturated soils above the water table, and eventually will diffuse into the atmosphere.

8.2 Conclusions

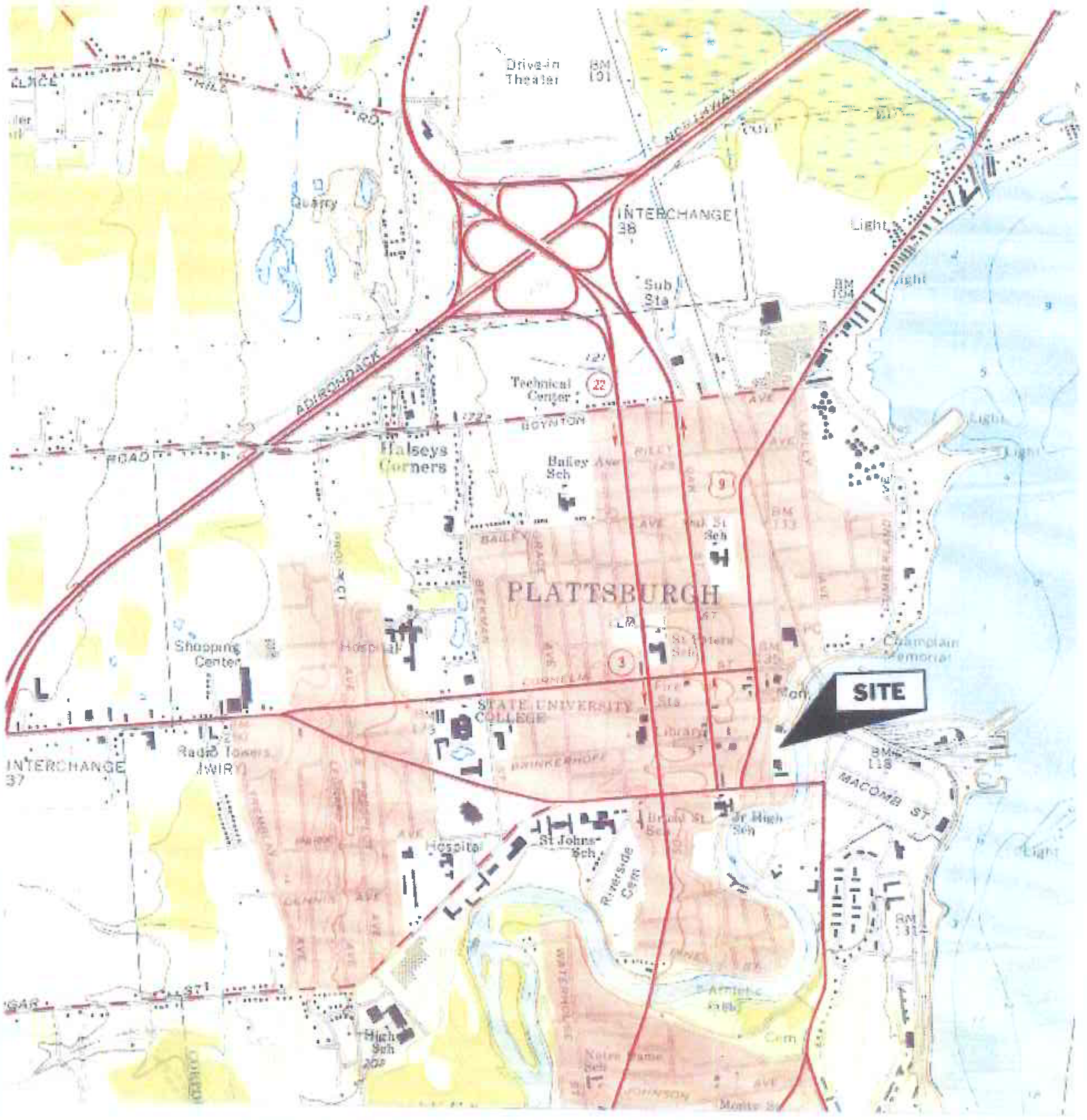
Based upon the findings and conclusions of this site investigation, additional investigative activities are not warranted for OU2 at this time. The site investigation has adequately delineated the presence and extent of the contaminants of concern identified for the site. Further investigations may be necessary during the design phase of the selected remedial actions to refine the areas of concern and gather additional information necessary to complete the remedial design. However, the existing data is considered to be sufficient for the preparation of the Alternatives Analysis Report (AAR). The AAR presents and discusses potential options for addressing the contaminants of concern.

8.2.1 Data Limitations and Disclaimer

All of the site investigation analytical data has been independently validated in accordance with NYSDEC DUSR requirements. The DUSR did not reject any of the analytical data and declared that all analytical results are considered usable with minor edits/qualifications. Modifications of analytical results pursuant to review of the DUSR have been incorporated where necessary on the analytical summary tables.

FIGURE 1

SITE LOCATION MAP



MAP REFERENCE

United States Geological Survey
7.5 Minute Series Topographic Map
Quadrangles: Plattsburgh, NY
Date: 1966

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SITE LOCATION MAP
DURKEE STREET PARKING LOT

CITY OF PLATTSBURGH **CLINTON COUNTY, NY**

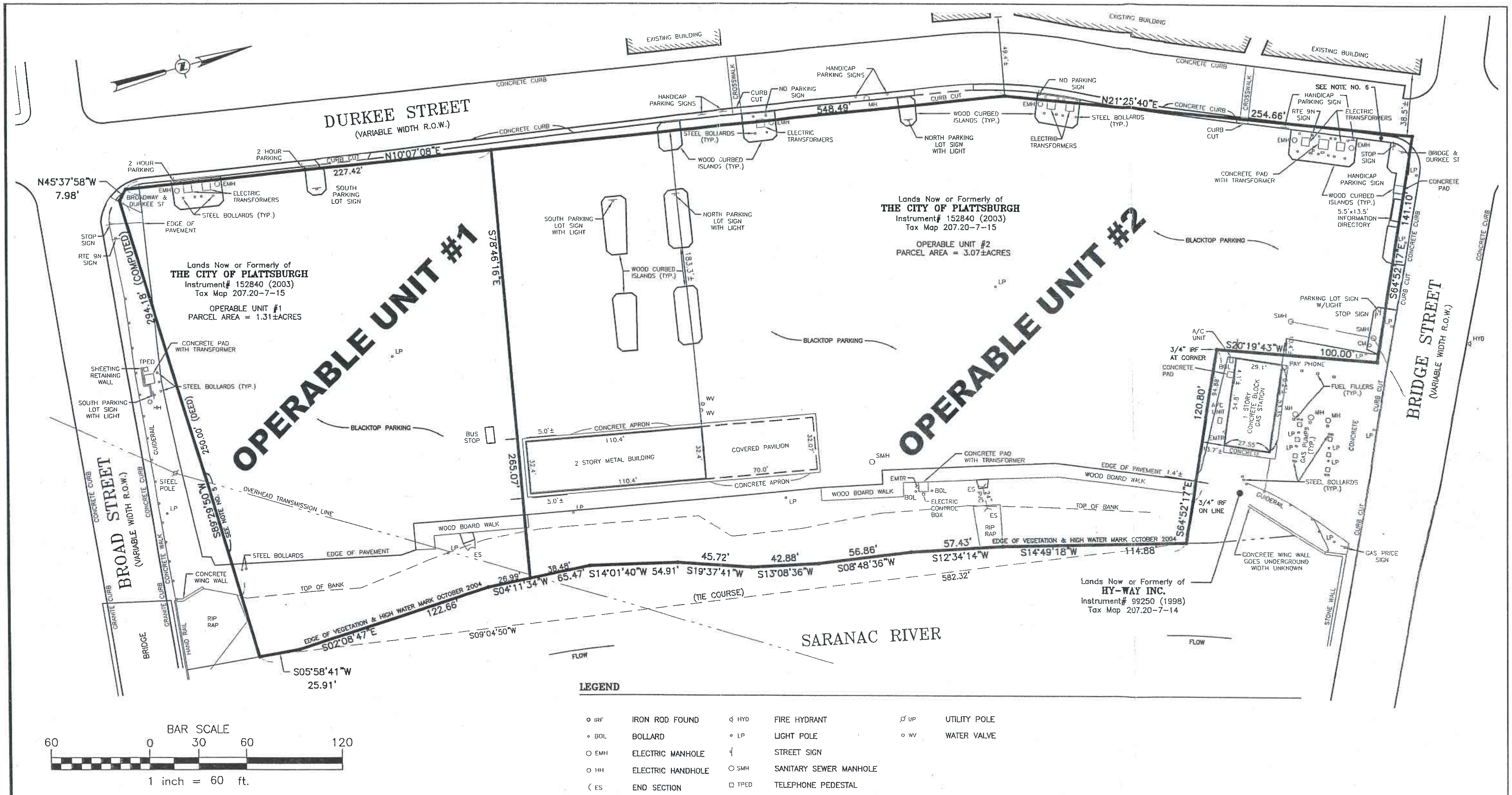
SCALE: 1" = 2000'

DRAFTER: SHB

PROJECT No. 04.9498

FIGURE 2

SITE PLAN



LEGEND

○ IRF	IRON ROD FOUND	HYD	FIRE HYDRANT	UP	UTILITY POLE		
∘ BOL	BOLLARD	∘ LP	LIGHT POLE	∘ WV	WATER VALVE		
○ EMH	ELECTRIC MANHOLE		STREET SIGN				
○ HH	ELECTRIC HANDHOLE	○ SMH	SANITARY SEWER MANHOLE				
(ES	END SECTION	□ TPED	TELEPHONE PEDESTAL				

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

MAP REFERENCE:
1. SHEET SP-1, PREPARED BY RABIDEAU ARCHITECTS OF BURLINGTON, VT, DATED 12/15/03, LAST REVISED 3/17/04.

2. BOUNDARY SURVEY, PORTION OF LANDS OF CITY OF PLATTSBURGH DURKEE STREET PARKING LOT, PREPARED BY C.T. MALE ASSOCIATES, P.C., DWG NO. 04-0670, DATED OCTOBER 5, 2004, REVISED 11/30/04.

CAD DWG. FILE NAME:WP MAPS_REV.DWG

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FIGURE 2
SITE PLAN

PLATTSBURGH GATEWAY PROJECT
DURKEE STREET PARKING LOT

CITY OF PLATTSBURGH
CLINTON COUNTY, NY

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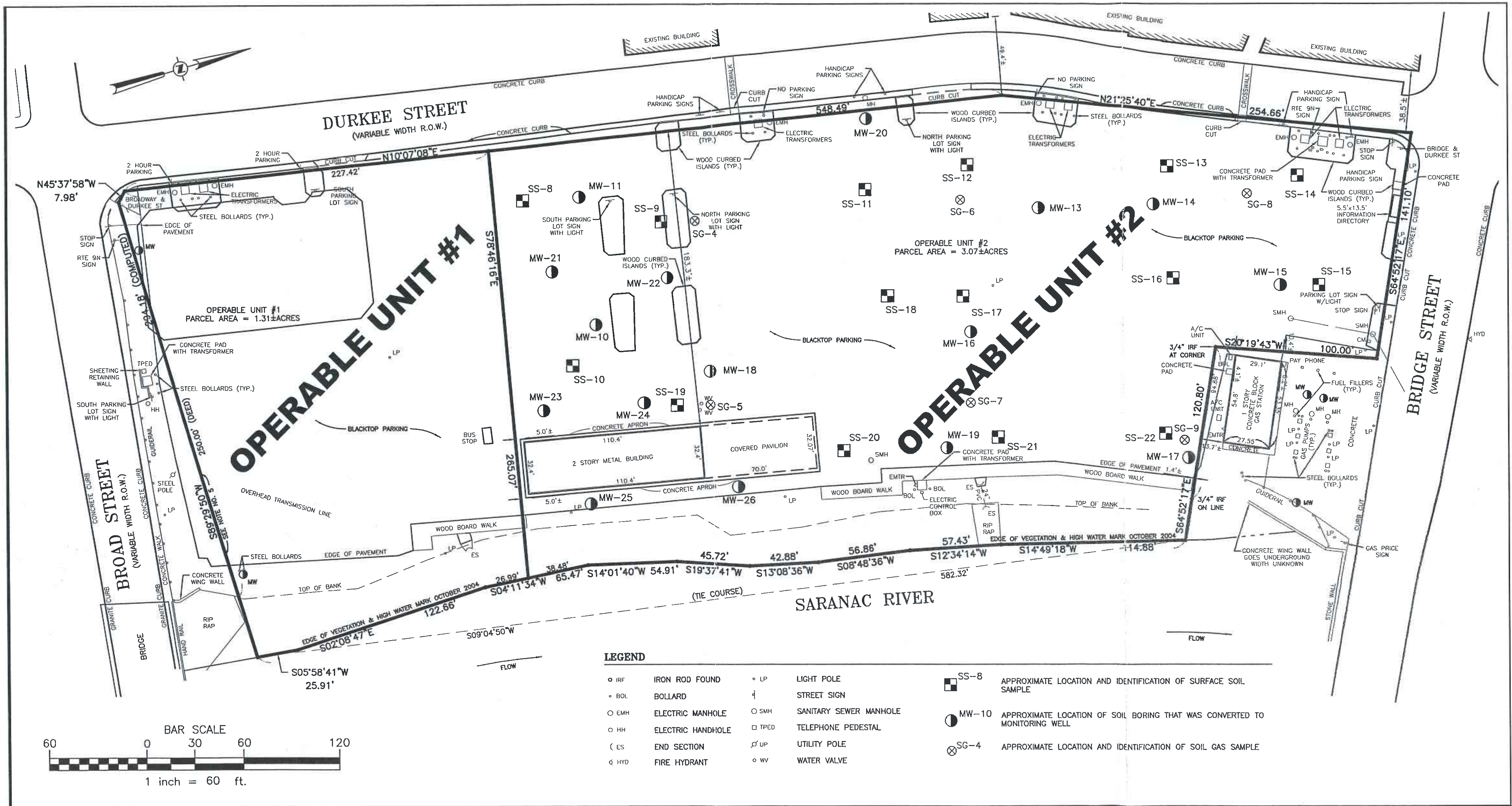
SHEET 1 OF 3
DWG. NO: 04-0684

FIGURE 3

SAMPLING LOCATIONS MAP



LEGEND

○ IRF	IRON ROD FOUND	∘ LP	LIGHT POLE	SS-8	APPROXIMATE LOCATION AND IDENTIFICATION OF SURFACE SOIL SAMPLE
∘ BOL	BOLLARD	╡	STREET SIGN	MW-10	APPROXIMATE LOCATION OF SOIL BORING THAT WAS CONVERTED TO MONITORING WELL
○ EMH	ELECTRIC MANHOLE	○ SMH	SANITARY SEWER MANHOLE	⊗ SG-4	APPROXIMATE LOCATION AND IDENTIFICATION OF SOIL GAS SAMPLE
○ HH	ELECTRIC HANDHOLE	□ TPED	TELEPHONE PEDESTAL		
(ES	END SECTION	UP	UTILITY POLE		
HYD	FIRE HYDRANT	∘ WV	WATER VALVE		

NOTE:
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CAD DWG. FILE NAME: FIG3.DWG

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FIGURE 3
SAMPLING LOCATIONS MAP

PLATTSBURGH GATEWAY PROJECT
DURKEE STREET PARKING LOT (OU2)

CITY OF PLATTSBURGH
CLINTON COUNTY, NY

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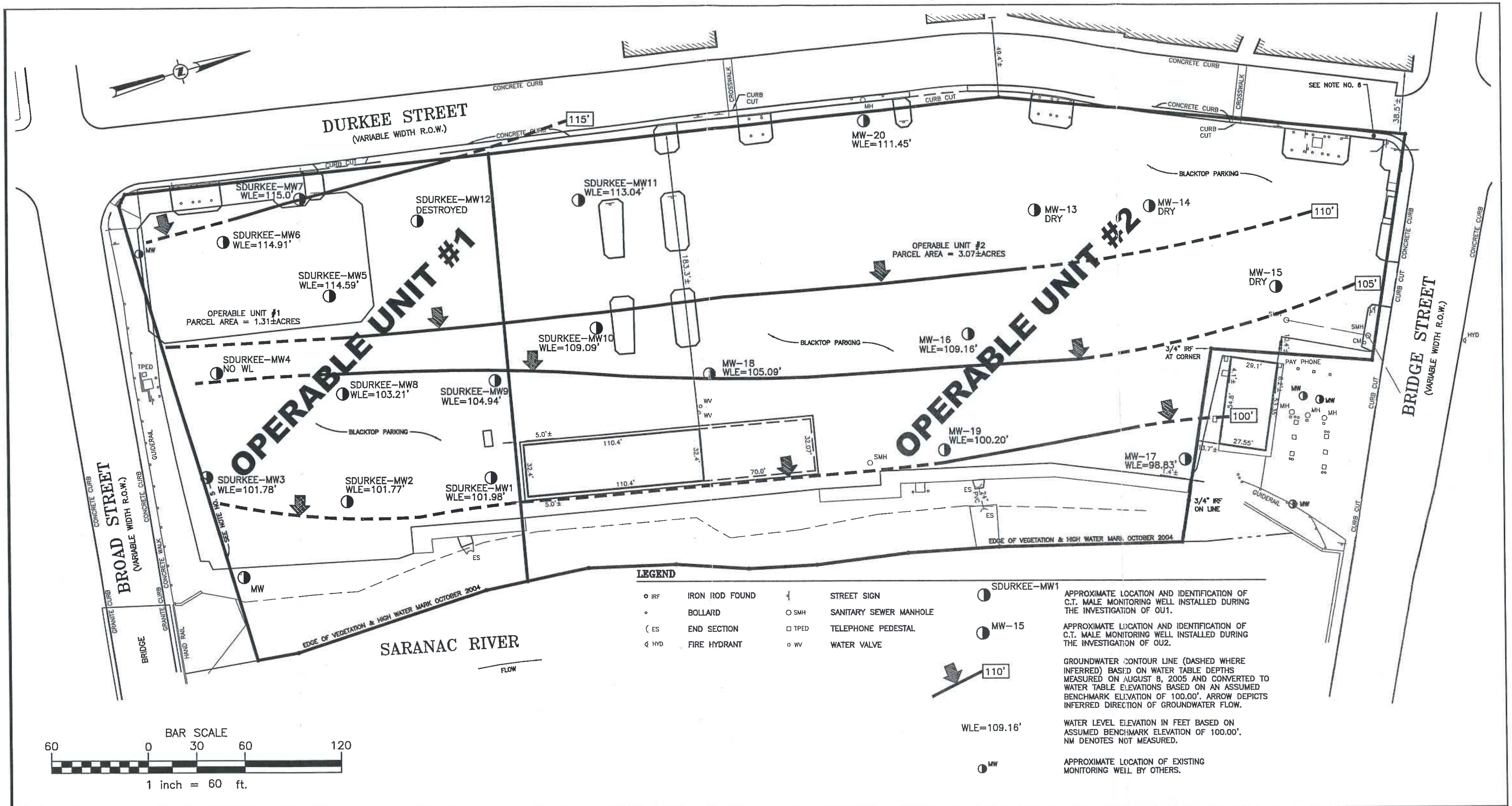
FIG3
SHEET 1 OF 8
DWG. NO: 06-0367

FIGURE 4

GROUNDWATER CONTOUR MAP

(AUGUST 8, 2005)



LEGEND

o IRF	IRON ROD FOUND	⫞	STREET SIGN
∘	BOLLARD	○ SMH	SANITARY SEWER MANHOLE
(ES	END SECTION	☐ TPED	TELEPHONE PEDESTAL
◊ HYD	FIRE HYDRANT	∘ WV	WATER VALVE

◐ SDURKEE-MW1	APPROXIMATE LOCATION AND IDENTIFICATION OF C.T. MALE MONITORING WELL INSTALLED DURING THE INVESTIGATION OF OU1.
◐ MW-15	APPROXIMATE LOCATION AND IDENTIFICATION OF C.T. MALE MONITORING WELL INSTALLED DURING THE INVESTIGATION OF OU2.
110'	GROUNDWATER CONTOUR LINE (DASHED WHERE INFERRED) BASED ON WATER TABLE DEPTHS MEASURED ON AUGUST 8, 2005 AND CONVERTED TO WATER TABLE ELEVATIONS BASED ON AN ASSUMED BENCHMARK ELEVATION OF 100.00'. ARROW DEPICTS INFERRED DIRECTION OF GROUNDWATER FLOW.
WLE=109.16'	WATER LEVEL ELEVATION IN FEET BASED ON ASSUMED BENCHMARK ELEVATION OF 100.00'. NM DENOTES NOT MEASURED.
◐ MW	APPROXIMATE LOCATION OF EXISTING MONITORING WELL BY OTHERS.

NOTE:
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CAD DWG. FILE NAME: FIG4.DWG

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FIGURE 4
GROUNDWATER CONTOUR MAP
AUGUST 8, 2005

PLATTSBURGH GATEWAY PROJECT
DURKEE STREET PARKING LOT (OU2)

CITY OF PLATTSBURGH
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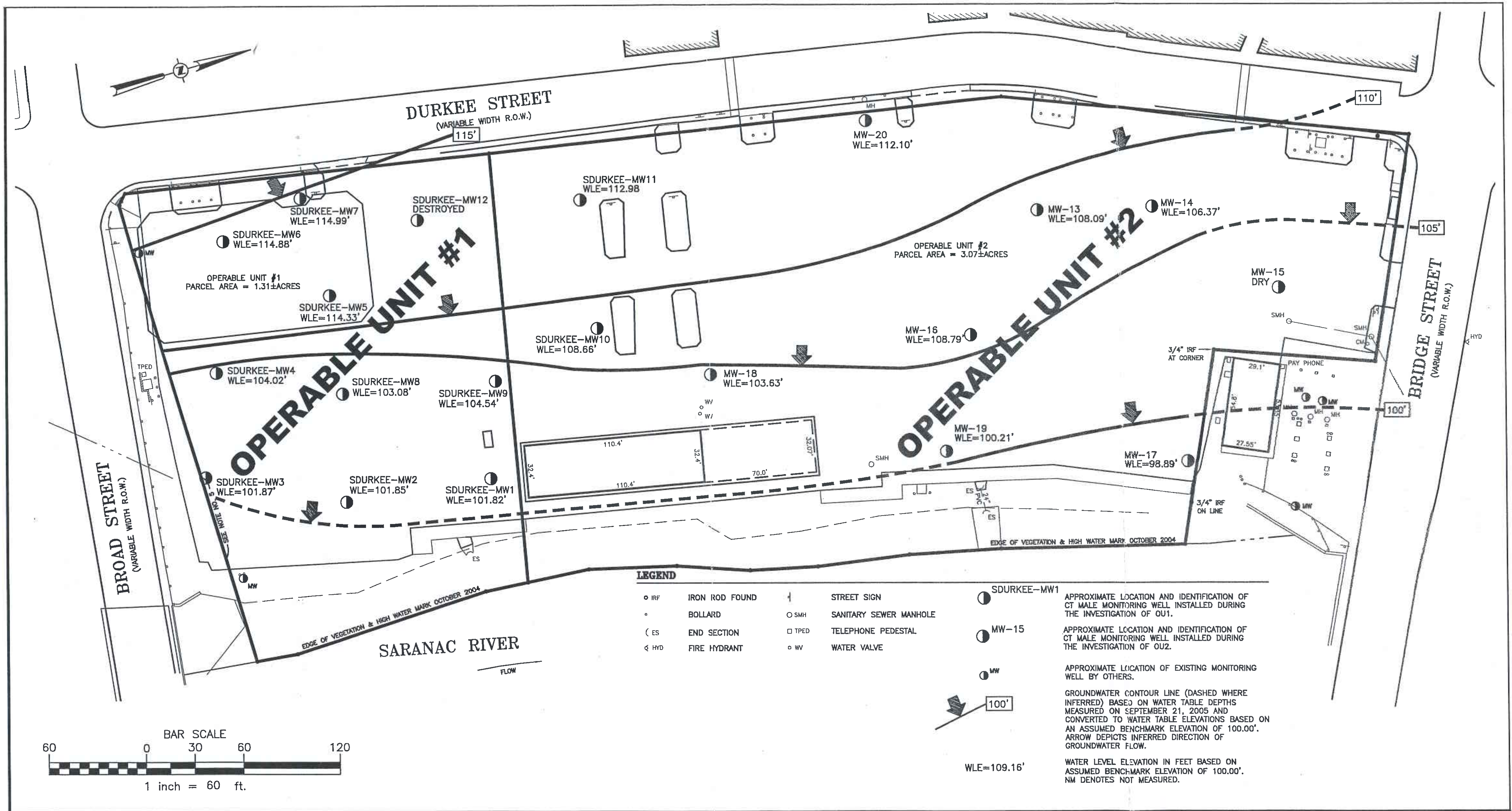
FIG4
SHEET 2 OF 8
DWG. NO: 06-0367

FIGURE 5

GROUNDWATER CONTOUR MAP

(SEPTEMBER 21, 2005)



LEGEND

○ IRF	IRON ROD FOUND	┤	STREET SIGN
▫	BOLLARD	○ SMH	SANITARY SEWER MANHOLE
(ES	END SECTION	□ TPED	TELEPHONE PEDESTAL
HYD	FIRE HYDRANT	○ WV	WATER VALVE

◐ SDURKEE-MW1	APPROXIMATE LOCATION AND IDENTIFICATION OF CT MALE MONITORING WELL INSTALLED DURING THE INVESTIGATION OF OU1.
◐ MW-15	APPROXIMATE LOCATION AND IDENTIFICATION OF CT MALE MONITORING WELL INSTALLED DURING THE INVESTIGATION OF OU2.
◐ MW	APPROXIMATE LOCATION OF EXISTING MONITORING WELL BY OTHERS.
100'	GROUNDWATER CONTOUR LINE (DASHED WHERE INFERRED) BASED ON WATER TABLE DEPTHS MEASURED ON SEPTEMBER 21, 2005 AND CONVERTED TO WATER TABLE ELEVATIONS BASED ON AN ASSUMED BENCHMARK ELEVATION OF 100.00'. ARROW DEPICTS INFERRED DIRECTION OF GROUNDWATER FLOW.
WLE=109.16'	WATER LEVEL ELEVATION IN FEET BASED ON ASSUMED BENCHMARK ELEVATION OF 100.00'. NM DENOTES NOT MEASURED.

NOTE:
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FIGURE 5
GROUNDWATER CONTOUR MAP
SEPTEMBER 21, 2005

PLATTSBURGH GATEWAY PROJECT
DURKEE STREET PARKING LOT (OU2)

CITY OF PLATTSBURGH
CLINTON COUNTY, NY

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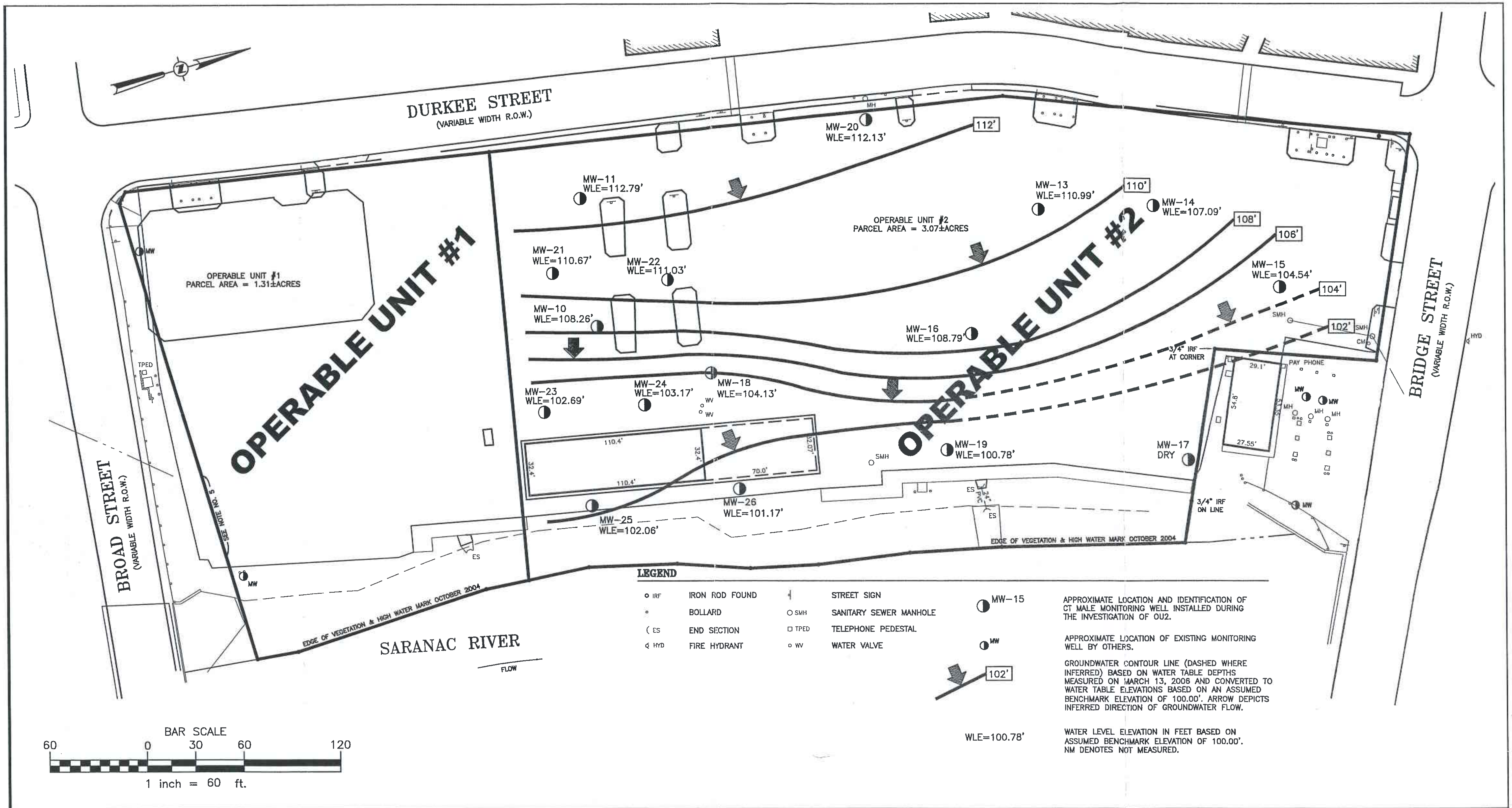
FIG5
SHEET 3 OF 8
DWG. NO: 06-0367

FIGURE 6

GROUNDWATER CONTOUR MAP

(MARCH 13, 2006)



NOTE:
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DATE : MAY 2006

FIGURE 6
GROUNDWATER CONTOUR MAP
MARCH 13, 2006

PLATTSBURGH GATEWAY PROJECT
DURKEE STREET PARKING LOT (OU2)

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CLINTON COUNTY, NY

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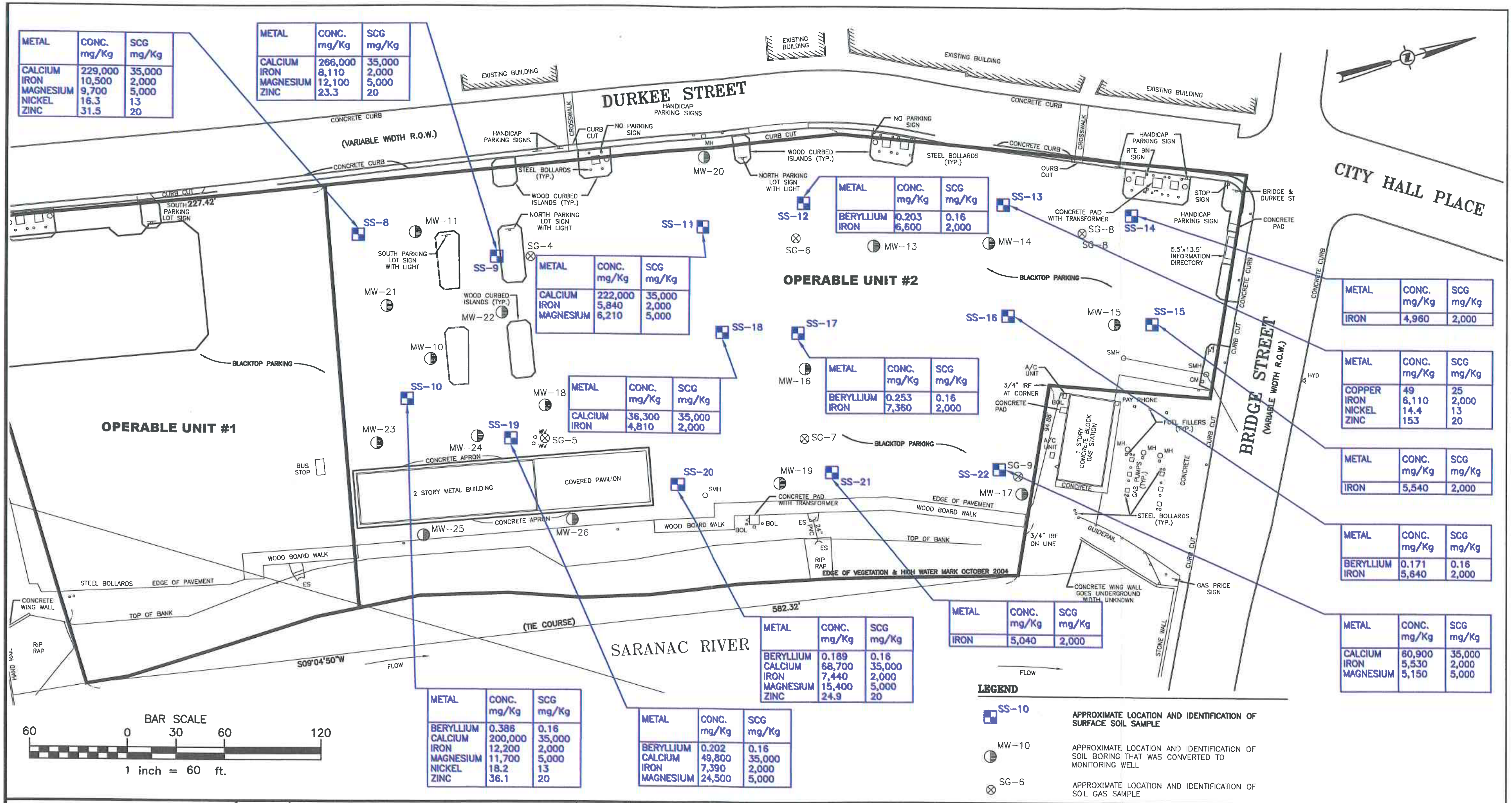
FIG6
SHEET 4 OF 8
DWG. NO: 06-0367

CAD DWG. FILE NAME: FIG6.DWG

FIGURE 7

METALS ABOVE SCGs IN NEAR-SURFACE SOILS LOCATIONS MAP



METAL	CONC. mg/Kg	SCG mg/Kg
CALCIUM	229,000	35,000
IRON	10,500	2,000
MAGNESIUM	9,700	5,000
NICKEL	16.3	13
ZINC	31.5	20

METAL	CONC. mg/Kg	SCG mg/Kg
CALCIUM	266,000	35,000
IRON	8,110	2,000
MAGNESIUM	12,100	5,000
ZINC	23.3	20

METAL	CONC. mg/Kg	SCG mg/Kg
BERYLLIUM	0.203	0.16
IRON	6,600	2,000

METAL	CONC. mg/Kg	SCG mg/Kg
CALCIUM	222,000	35,000
IRON	5,840	2,000
MAGNESIUM	6,210	5,000

METAL	CONC. mg/Kg	SCG mg/Kg
CALCIUM	36,300	35,000
IRON	4,810	2,000

METAL	CONC. mg/Kg	SCG mg/Kg
BERYLLIUM	0.253	0.16
IRON	7,360	2,000

METAL	CONC. mg/Kg	SCG mg/Kg
IRON	4,960	2,000

METAL	CONC. mg/Kg	SCG mg/Kg
COPPER	49	25
IRON	6,110	2,000
NICKEL	14.4	13
ZINC	153	20

METAL	CONC. mg/Kg	SCG mg/Kg
IRON	5,540	2,000

METAL	CONC. mg/Kg	SCG mg/Kg
BERYLLIUM	0.171	0.16
IRON	5,640	2,000

METAL	CONC. mg/Kg	SCG mg/Kg
BERYLLIUM	0.189	0.16
CALCIUM	68,700	35,000
IRON	7,440	2,000
MAGNESIUM	15,400	5,000
ZINC	24.9	20

METAL	CONC. mg/Kg	SCG mg/Kg
IRON	5,040	2,000

METAL	CONC. mg/Kg	SCG mg/Kg
CALCIUM	60,900	35,000
IRON	5,530	2,000
MAGNESIUM	5,150	5,000

METAL	CONC. mg/Kg	SCG mg/Kg
BERYLLIUM	0.386	0.16
CALCIUM	200,000	35,000
IRON	12,200	2,000
MAGNESIUM	11,700	5,000
NICKEL	18.2	13
ZINC	36.1	20

METAL	CONC. mg/Kg	SCG mg/Kg
BERYLLIUM	0.202	0.16
CALCIUM	49,800	35,000
IRON	7,390	2,000
MAGNESIUM	24,500	5,000

LEGEND

SS-10	APPROXIMATE LOCATION AND IDENTIFICATION OF SURFACE SOIL SAMPLE
MW-10	APPROXIMATE LOCATION AND IDENTIFICATION OF SOIL BORING THAT WAS CONVERTED TO MONITORING WELL
SG-6	APPROXIMATE LOCATION AND IDENTIFICATION OF SOIL GAS SAMPLE

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

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CAD DWG. FILE NAME: FIG7.DWG

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SCALE : ±1"=60'
DATE : MAY 2006

FIGURE 7
METALS ABOVE SCGs IN NEAR-SURFACE SOILS LOCATIONS MAP
PLATTSBURGH GATEWAY PROJECT
DURKEE STREET PARKING LOT (OU2)

CITY OF PLATTSBURGH
CLINTON COUNTY, NY

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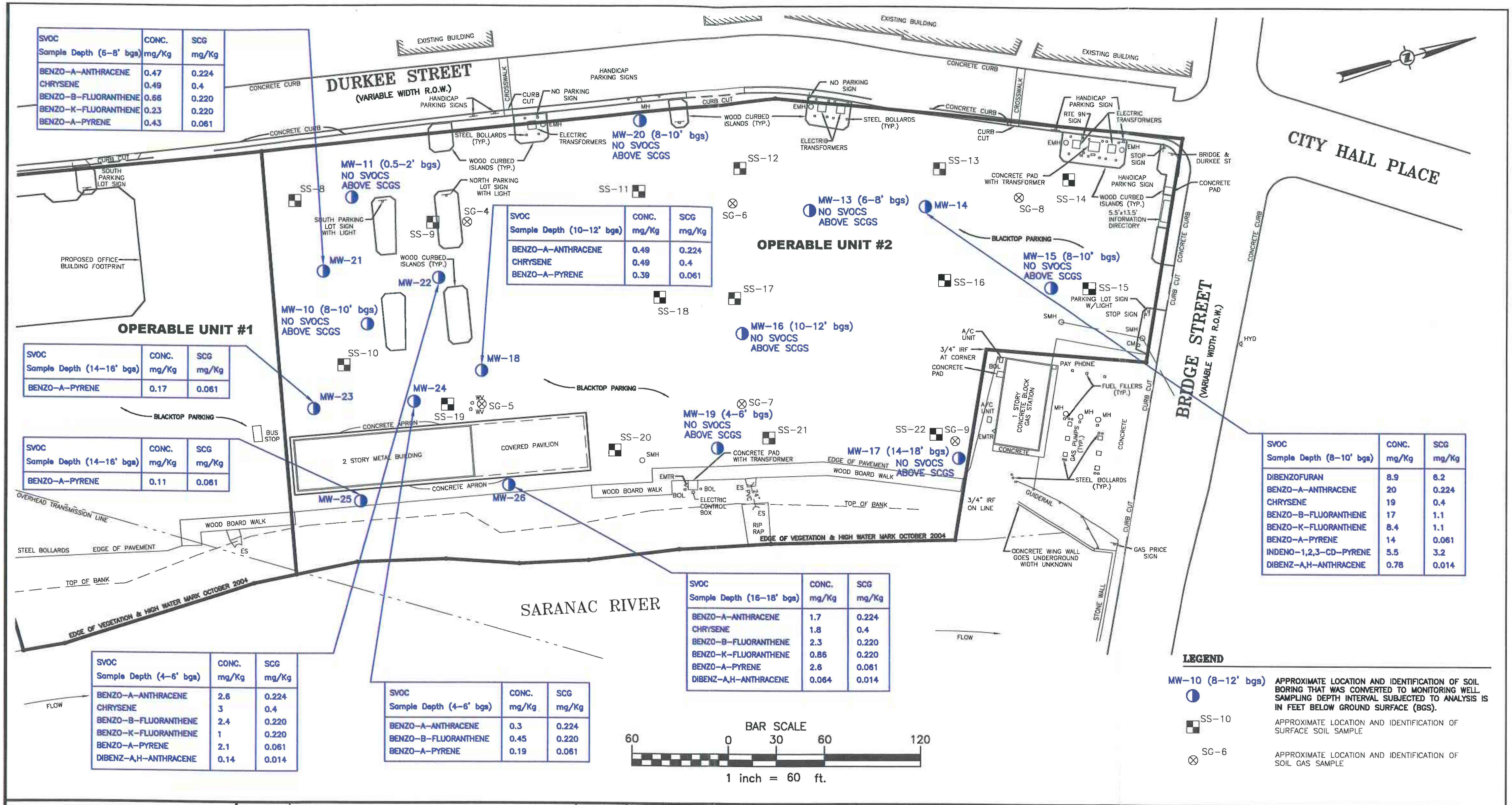
FIG7
SHEET 5 OF 8
DWG. NO: 06-0367

FIGURE 8

SVOCs ABOVE SCGs IN SUBSURFACE SOIL/FILL LOCATIONS MAP



SVOC Sample Depth (6-8' bgs)	CONC. mg/Kg	SCG mg/Kg
BENZO-A-ANTHRACENE	0.47	0.224
CHRYSENE	0.49	0.4
BENZO-B-FLUORANTHENE	0.66	0.220
BENZO-K-FLUORANTHENE	0.23	0.220
BENZO-A-PYRENE	0.43	0.061

SVOC Sample Depth (10-12' bgs)	CONC. mg/Kg	SCG mg/Kg
BENZO-A-ANTHRACENE	0.49	0.224
CHRYSENE	0.49	0.4
BENZO-A-PYRENE	0.39	0.061

SVOC Sample Depth (14-16' bgs)	CONC. mg/Kg	SCG mg/Kg
BENZO-A-PYRENE	0.17	0.061

SVOC Sample Depth (14-16' bgs)	CONC. mg/Kg	SCG mg/Kg
BENZO-A-PYRENE	0.11	0.061

SVOC Sample Depth (8-10' bgs)	CONC. mg/Kg	SCG mg/Kg
DIBENZOFURAN	8.9	6.2
BENZO-A-ANTHRACENE	20	0.224
CHRYSENE	19	0.4
BENZO-B-FLUORANTHENE	17	1.1
BENZO-K-FLUORANTHENE	8.4	1.1
BENZO-A-PYRENE	14	0.061
INDENO-1,2,3-CD-PYRENE	5.5	3.2
DIBENZ-A,H-ANTHRACENE	0.78	0.014

SVOC Sample Depth (16-18' bgs)	CONC. mg/Kg	SCG mg/Kg
BENZO-A-ANTHRACENE	1.7	0.224
CHRYSENE	1.8	0.4
BENZO-B-FLUORANTHENE	2.3	0.220
BENZO-K-FLUORANTHENE	0.86	0.220
BENZO-A-PYRENE	2.6	0.061
DIBENZ-A,H-ANTHRACENE	0.064	0.014

SVOC Sample Depth (4-6' bgs)	CONC. mg/Kg	SCG mg/Kg
BENZO-A-ANTHRACENE	2.6	0.224
CHRYSENE	3	0.4
BENZO-B-FLUORANTHENE	2.4	0.220
BENZO-K-FLUORANTHENE	1	0.220
BENZO-A-PYRENE	2.1	0.061
DIBENZ-A,H-ANTHRACENE	0.14	0.014

SVOC Sample Depth (4-6' bgs)	CONC. mg/Kg	SCG mg/Kg
BENZO-A-ANTHRACENE	0.3	0.224
BENZO-B-FLUORANTHENE	0.45	0.220
BENZO-A-PYRENE	0.19	0.061

BAR SCALE
60 0 30 60 120
1 inch = 60 ft.

LEGEND

MW-10 (8-12' bgs) ◐	APPROXIMATE LOCATION AND IDENTIFICATION OF SOIL BORING THAT WAS CONVERTED TO MONITORING WELL. SAMPLING DEPTH INTERVAL SUBJECTED TO ANALYSIS IS IN FEET BELOW GROUND SURFACE (BGS).
▚ SS-10	APPROXIMATE LOCATION AND IDENTIFICATION OF SURFACE SOIL SAMPLE
⊗ SG-6	APPROXIMATE LOCATION AND IDENTIFICATION OF SOIL GAS SAMPLE

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

MAP REFERENCE:
1. SHEET SP-1, PREPARED BY RABIDEAU ARCHITECTS OF BURLINGTON, VT, DATED 12/15/03, LAST REVISED 3/17/04.

2. BOUNDARY SURVEY, PORTION OF LANDS OF CITY OF PLATTSBURGH DURKEE STREET PARKING LOT, PREPARED BY C.T. MALE ASSOCIATES, P.C., DWG NO. 04-0670, DATED OCTOBER 5, 2004, REVISED 11/30/04.

CAD DWG. FILE NAME: FIG8.DWG

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CHECKED : S.BIEBER
PROJ. NO: 04.9498
SCALE : ±1"=60'
DATE : MAY 2006

FIGURE 8
SVOCs ABOVE SCGs IN SUBSURFACE SOIL/FILL LOCATIONS MAP
PLATTSBURGH GATEWAY PROJECT DURKEE STREET PARKING LOT (OU2)

CITY OF PLATTSBURGH
CLINTON COUNTY, NY

C.T. MALE ASSOCIATES, P.C.
50 CENTURY HILL DRIVE, P.O. BOX 727, LATHAM, NY 12110
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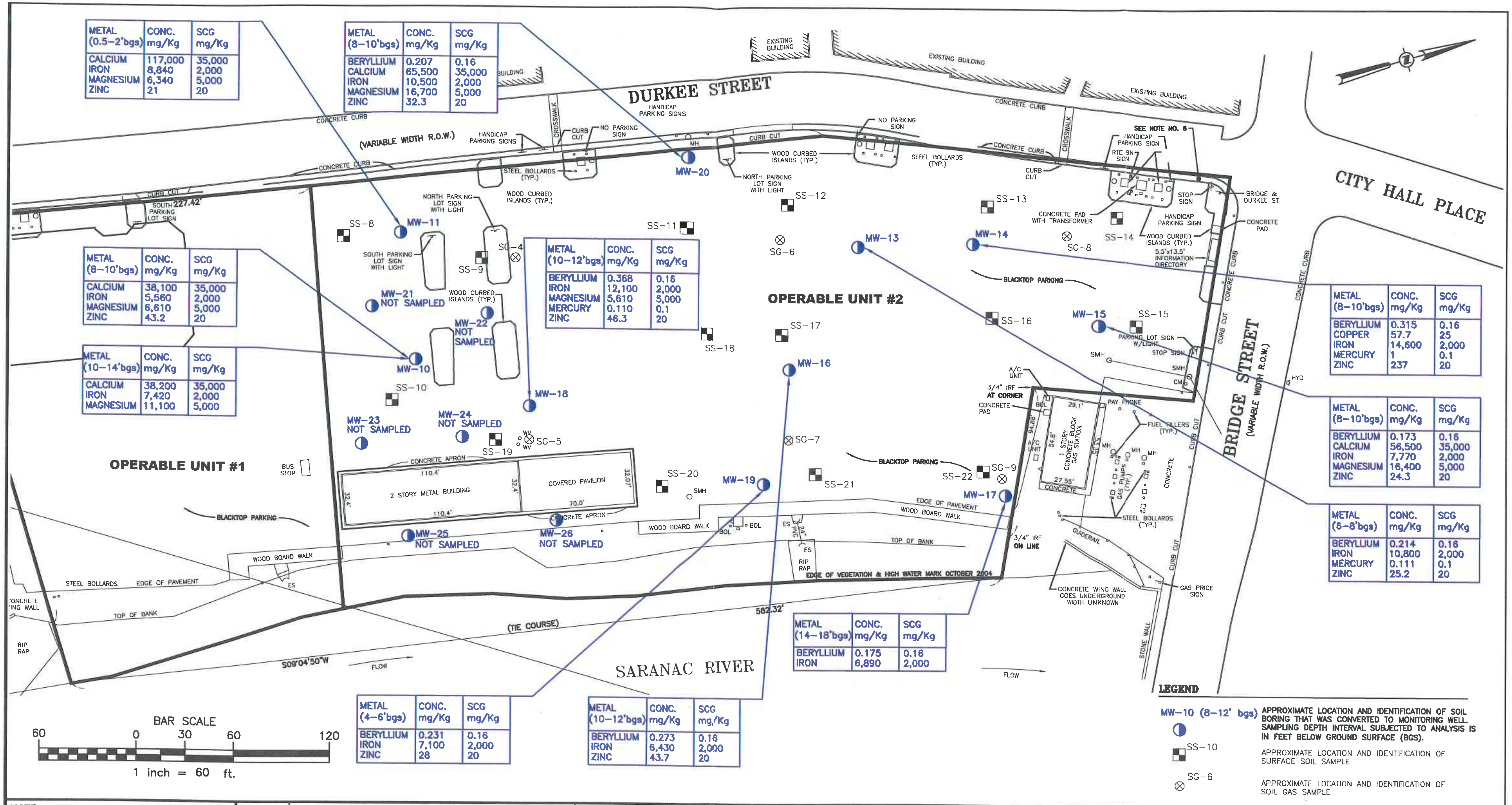
FIG8
SHEET 6 OF 8
DWG. NO: 06-0367

FIGURE 9

METALS ABOVE SCGs IN SUBSURFACE SOILS/FILL LOCATIONS MAP



METAL (0.5–2'bgs)	CONC. mg/Kg	SCG mg/Kg
CALCIUM	117,000	35,000
IRON	8,840	2,000
MAGNESIUM	6,340	5,000
ZINC	21	20

METAL (8–10'bgs)	CONC. mg/Kg	SCG mg/Kg
BERYLLIUM	0.207	0.16
CALCIUM	65,500	35,000
IRON	10,500	2,000
MAGNESIUM	16,700	5,000
ZINC	32.3	20

METAL (8–10'bgs)	CONC. mg/Kg	SCG mg/Kg
CALCIUM	38,100	35,000
IRON	5,560	2,000
MAGNESIUM	6,610	5,000
ZINC	43.2	20

METAL (10–12'bgs)	CONC. mg/Kg	SCG mg/Kg
BERYLLIUM	0.368	0.16
IRON	12,100	2,000
MAGNESIUM	5,610	5,000
MERCURY	0.110	0.1
ZINC	46.3	20

METAL (10–14'bgs)	CONC. mg/Kg	SCG mg/Kg
CALCIUM	38,200	35,000
IRON	7,420	2,000
MAGNESIUM	11,100	5,000

METAL (8–10'bgs)	CONC. mg/Kg	SCG mg/Kg
BERYLLIUM	0.315	0.16
COPPER	57.7	25
IRON	14,600	2,000
MERCURY	1	0.1
ZINC	237	20

METAL (8–10'bgs)	CONC. mg/Kg	SCG mg/Kg
BERYLLIUM	0.173	0.16
CALCIUM	56,500	35,000
IRON	7,770	2,000
MAGNESIUM	16,400	5,000
ZINC	24.3	20

METAL (6–8'bgs)	CONC. mg/Kg	SCG mg/Kg
BERYLLIUM	0.214	0.16
IRON	10,800	2,000
MERCURY	0.111	0.1
ZINC	25.2	20

METAL (14–18'bgs)	CONC. mg/Kg	SCG mg/Kg
BERYLLIUM	0.175	0.16
IRON	6,890	2,000

METAL (4–6'bgs)	CONC. mg/Kg	SCG mg/Kg
BERYLLIUM	0.231	0.16
IRON	7,100	2,000
ZINC	28	20

METAL (10–12'bgs)	CONC. mg/Kg	SCG mg/Kg
BERYLLIUM	0.273	0.16
IRON	6,430	2,000
ZINC	43.7	20

LEGEND

MW-10 (8–12' bgs) ◐	APPROXIMATE LOCATION AND IDENTIFICATION OF SOIL BORING THAT WAS CONVERTED TO MONITORING WELL. SAMPLING DEPTH INTERVAL SUBJECTED TO ANALYSIS IS IN FEET BELOW GROUND SURFACE (BGS).
▚ SS-10	APPROXIMATE LOCATION AND IDENTIFICATION OF SURFACE SOIL SAMPLE
⊗ SG-6	APPROXIMATE LOCATION AND IDENTIFICATION OF SOIL GAS SAMPLE

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

MAP REFERENCE:
1. SHEET SP–1, PREPARED BY RABIDEAU ARCHITECTS OF BURLINGTON, VT, DATED 12/15/03, LAST REVISED 3/17/04.

2. BOUNDARY SURVEY, PORTION OF LANDS OF CITY OF PLATTSBURGH DURKEE STREET PARKING LOT, PREPARED BY C.T. MALE ASSOCIATES, P.C., DWG NO. 04–0670, DATED OCTOBER 5, 2004, REVISED 11/30/04.

CAD DWG. FILE NAME: FIG9.DWG

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTED	CHECK	APPR.
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CHECKED : S.BIEBER
PROJ. NO: 04.9498
SCALE : ±1"=60'
DATE : MAY 2006

FIGURE 9
METALS ABOVE SCGs IN SUBSURFACE SOILS LOCATIONS MAP
PLATTSBURGH GATEWAY PROJECT
DURKEE STREET PARKING LOT (OU2)

CITY OF PLATTSBURGH
CLINTON COUNTY, NY

C.T. MALE ASSOCIATES, P.C.
50 CENTURY HILL DRIVE, P.O. BOX 727, LATHAM, NY 12110
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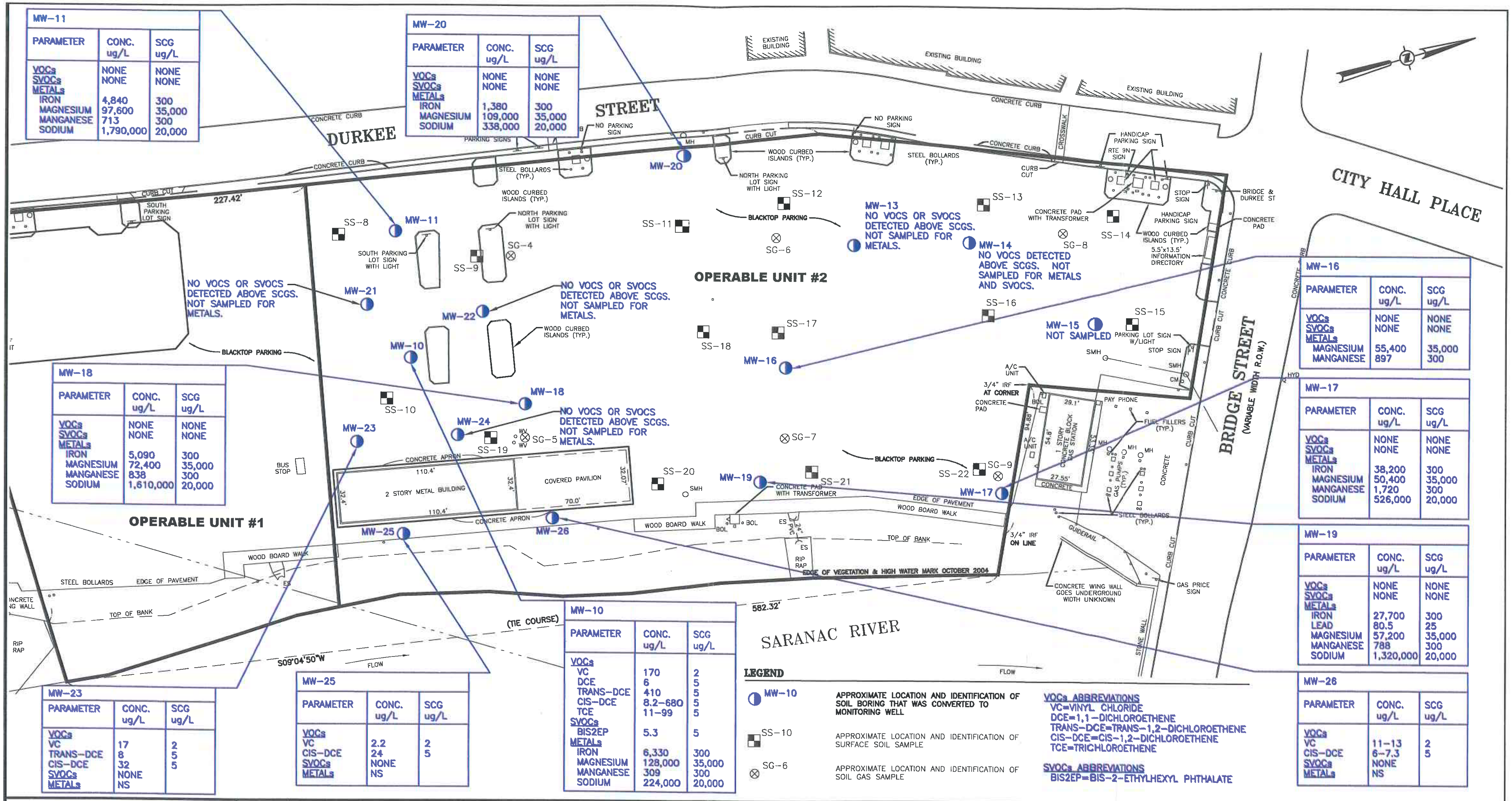
FIG9
SHEET 7 OF 8
DWG. NO: 06–0367

FIGURE 10

VOCs, SVOCs AND METALS ABOVE SCGs IN GROUNDWATER LOCATIONS MAP



MW-11

PARAMETER	CONC. ug/L	SCG ug/L
VOCs	NONE	NONE
SVOCs	NONE	NONE
METALs		
IRON	4,840	300
MAGNESIUM	97,600	35,000
MANGANESE	713	300
SODIUM	1,790,000	20,000

MW-20

PARAMETER	CONC. ug/L	SCG ug/L
VOCs	NONE	NONE
SVOCs	NONE	NONE
METALs		
IRON	1,380	300
MAGNESIUM	109,000	35,000
SODIUM	338,000	20,000

MW-18

PARAMETER	CONC. ug/L	SCG ug/L
VOCs	NONE	NONE
SVOCs	NONE	NONE
METALs		
IRON	5,090	300
MAGNESIUM	72,400	35,000
MANGANESE	838	300
SODIUM	1,610,000	20,000

MW-23

PARAMETER	CONC. ug/L	SCG ug/L
VOCs		
VC	17	2
TRANS-DCE	8	5
CIS-DCE	32	5
SVOCs	NONE	
METALs	NS	

MW-25

PARAMETER	CONC. ug/L	SCG ug/L
VOCs		
VC	2.2	2
CIS-DCE	24	5
SVOCs	NONE	
METALs	NS	

MW-10

PARAMETER	CONC. ug/L	SCG ug/L
VOCs		
VC	170	2
DCE	6	5
TRANS-DCE	410	5
CIS-DCE	8.2-680	5
TCE	11-99	5
SVOCs		
BIS2EP	5.3	5
METALs		
IRON	6,330	300
MAGNESIUM	128,000	35,000
MANGANESE	309	300
SODIUM	224,000	20,000

MW-16

PARAMETER	CONC. ug/L	SCG ug/L
VOCs	NONE	NONE
SVOCs	NONE	NONE
METALs		
MAGNESIUM	55,400	35,000
MANGANESE	897	300

MW-17

PARAMETER	CONC. ug/L	SCG ug/L
VOCs	NONE	NONE
SVOCs	NONE	NONE
METALs		
IRON	38,200	300
MAGNESIUM	50,400	35,000
MANGANESE	1,720	300
SODIUM	526,000	20,000

MW-19

PARAMETER	CONC. ug/L	SCG ug/L
VOCs	NONE	NONE
SVOCs	NONE	NONE
METALs		
IRON	27,700	300
LEAD	80.5	25
MAGNESIUM	57,200	35,000
MANGANESE	788	300
SODIUM	1,320,000	20,000

MW-26

PARAMETER	CONC. ug/L	SCG ug/L
VOCs		
VC	11-13	2
CIS-DCE	6-7.3	5
SVOCs	NONE	
METALs	NS	

LEGEND

◑ MW-10	APPROXIMATE LOCATION AND IDENTIFICATION OF SOIL BORING THAT WAS CONVERTED TO MONITORING WELL
▚ SS-10	APPROXIMATE LOCATION AND IDENTIFICATION OF SURFACE SOIL SAMPLE
⊗ SG-6	APPROXIMATE LOCATION AND IDENTIFICATION OF SOIL GAS SAMPLE

VOCs ABBREVIATIONS
VC=VINYL CHLORIDE
DCE=1,1-DICHLOROETHENE
TRANS-DCE=TRANS-1,2-DICHLOROETHENE
CIS-DCE=CIS-1,2-DICHLOROETHENE
TCE=TRICHLOROETHENE

SVOCs ABBREVIATIONS
BIS2EP=BIS-2-ETHYLHEXYL PHTHALATE

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

MAP REFERENCE:
1. SHEET SP-1, PREPARED BY RABIDEAU ARCHITECTS OF BURLINGTON, VT, DATED 12/15/03, LAST REVISED 3/17/04.

2. BOUNDARY SURVEY, PORTION OF LANDS OF CITY OF PLATTSBURGH DURKEE STREET PARKING LOT, PREPARED BY C.T. MALE ASSOCIATES, P.C., DWG NO. 04-0670, DATED OCTOBER 5, 2004, REVISED 11/30/04.

CAD DWG. FILE NAME: FIG10.DWG

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTED	CHECK	APPR.
1/8/06	1	REVISED ANALYTICAL RESULTS (MW-10, 23 AND 26)	J.MARX		
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CHECKED : S.BIEBER
PROJ. NO: 04.9498
SCALE : ±1"=60'
DATE : MAY 2006

FIGURE 10
VOCs, SVOCs AND METALs ABOVE SCGs IN GROUNDWATER LOCATIONS MAP
PLATTSBURGH GATEWAY PROJECT
DURKEE STREET PARKING LOT (OU2)

CITY OF PLATTSBURGH
CLINTON COUNTY, NY

C.T. MALE ASSOCIATES, P.C.
50 CENTURY HILL DRIVE, P.O. BOX 727, LATHAM, NY 12110
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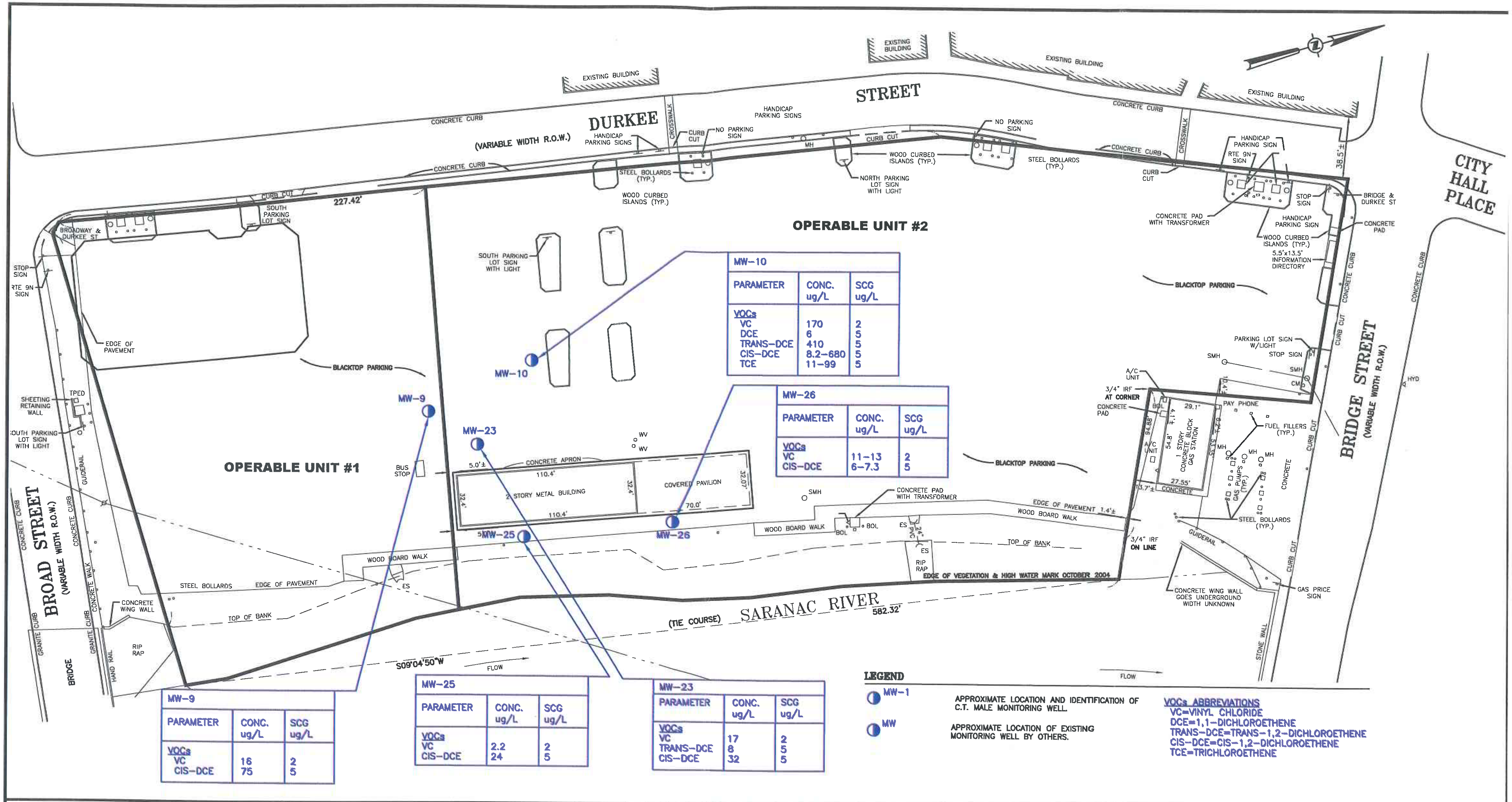
FIG10
SHEET 8 OF 8
DWG. NO: 06-0367

FIGURE 11

EXTENT OF CVOCs ABOVE SCGs IN GROUNDWATER LOCATIONS MAP



MW-10		
PARAMETER	CONC. ug/L	SCG ug/L
VOCs		
VC	170	2
DCE	6	5
TRANS-DCE	410	5
CIS-DCE	8.2-680	5
TCE	11-99	5

MW-26		
PARAMETER	CONC. ug/L	SCG ug/L
VOCs		
VC	11-13	2
CIS-DCE	6-7.3	5

MW-9		
PARAMETER	CONC. ug/L	SCG ug/L
VOCs		
VC	16	2
CIS-DCE	75	5

MW-25		
PARAMETER	CONC. ug/L	SCG ug/L
VOCs		
VC	2.2	2
CIS-DCE	24	5

MW-23		
PARAMETER	CONC. ug/L	SCG ug/L
VOCs		
VC	17	2
TRANS-DCE	8	5
CIS-DCE	32	5

LEGEND

◐ MW-1	APPROXIMATE LOCATION AND IDENTIFICATION OF C.T. MALE MONITORING WELL.
◐ MW	APPROXIMATE LOCATION OF EXISTING MONITORING WELL BY OTHERS.

VOCs ABBREVIATIONS
VC=VINYL CHLORIDE
DCE=1,1-DICHLOROETHENE
TRANS-DCE=TRANS-1,2-DICHLOROETHENE
CIS-DCE=CIS-1,2-DICHLOROETHENE
TCE=TRICHLOROETHENE

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

MAP REFERENCE:
1. SHEET SP-1, PREPARED BY RABIDEAU ARCHITECTS OF BURLINGTON, VT, DATED 12/15/03, LAST REVISED 3/17/04.

2. BOUNDARY SURVEY, PORTION OF LANDS OF CITY OF PLATTSBURGH DURKEE STREET PARKING LOT, PREPARED BY C.T. MALE ASSOCIATES, P.C., DWG NO. 04-0670, DATED OCTOBER 5, 2004, REVISED 11/30/04.

CAD DWG. FILE NAME: FIG11.DWG

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DESIGNED : S. BIEBER
DRAFTED : J. MARX
CHECKED : S. BIEBER
PROJ. NO: 04.9498
SCALE : ±1"=60'
DATE : JAN. 8, 2007

FIGURE 11
EXTENT OF CVOCS ABOVE SCGS IN GROUNDWATER LOCATIONS MAP
PLATTSBURGH GATEWAY PROJECT
DURKEE STREET PARKING LOT (OU1 AND OU2)

CITY OF PLATTSBURGH
CLINTON COUNTY, NY

C.T. MALE ASSOCIATES, P.C.
50 CENTURY HILL DRIVE, P.O. BOX 727, LATHAM, NY 12110
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FIG11
SHEET 1 OF 1
DWG. NO:07-0114

TABLE 5.3.1

SUMMARY TABLE OF NEAR-SURFACE SOIL SAMPLE RESULTS

TABLE 5.3.1: NEAR-SURFACE SOILS ANALYTICAL RESULTS SUMMARY
DURKEE STREET PARKING LOT (OU2)
(Validated Data)
C.T. Male Project No. 04.9498

COMPOUND	NYSDEC TAGM 4046 RSCOs$^{(1)}$ (mg/kg)	EASTERN USA BACKGROUND$^{(2)}$ (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		SS-14 mg/kg		SS-15 mg/kg		SS-16 mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs																				
Acetone	0.2	Not Applicable	0.0082	UJ	0.0079	UJ	0.0078	UJ	0.0035	U	0.0035	U	0.0037	UJ	0.0035	UJ	0.0035	U	0.0035	U
Carbon Disulfide	2.7	Not Applicable	0.00011	U	0.00011	U	0.00011	U	0.00038	U	0.00039	U	0.00041	UJ	0.00038	UJ	0.00038	U	0.002	J
Methylene Chloride	0.1	Not Applicable	0.00075	UJ	0.00072	UJ	0.00071	UJ	0.013	U	0.0065	U	0.002	UJ	0.0019	UJ	0.003	U	0.0019	U
Chloroform	0.3	Not Applicable	0.00026	U	0.00025	U	0.00025	U	0.00036	U	0.00037	U	0.00039	UJ	0.00036	UJ	0.00036	U	0.00036	U
Toluene	1.5	Not Applicable	0.00028	U	0.00027	U	0.00027	U	0.00042	U	0.0013	J	0.00045	UJ	0.00042	UJ	0.00042	U	0.00042	U
SVOCs																				
2-Chloronaphthalene	No Standard	Not Applicable	0.0075	U	0.0072	U	0.029	U	0.56	U	0.58	U	1.2	UJ	0.57	UJ	0.57	U	0.57	U
bis(2-Ethylhexyl)phthalate	50	Not Applicable	0.0082	U	0.0079	U	0.032	U	0.65	U	0.67	U	1.4	UJ	0.66	UJ	0.66	U	0.66	U
PESTICIDES																				
4,4-DDT	2.1	Not Applicable	0.002	UJ	0.0019	UJ	0.0019	UJ	0.00074	UJ	0.00076	UJ	0.0029	JP	0.00075	UJ	0.00075	UJ	0.00075	U
PCBs (none Detected Above TAGM RSCOs)																				
METALS																				
Aluminum	SB	33,000	4310		3080		4610		2050		3860		2660	J	1760	J	2450		2880	
Antimony	SB	NA	0.618	U	0.587	U	0.587	U	0.332	U	0.349	U	4.880	J	3.210	J	0.341	U	0.343	U
Arsenic	7.5 or SB	3-12	4.250		3.640		4.320		1.960	U	1.420	U	2.110	J	0.409	UJ	1.080	U	0.975	U
Barium	300 or SB	150-600	23.7		22.4		25.6		20.2	J	13.2	J	48.3	J	11.2	J	17.0	J	14.4	J
Beryllium	0.16 or SB	0-1.75	0.355	U	0.293	U	**0.386**	J	0.134	J	**0.203**	J	0.483	UJ	0.267	UJ	0.157	J	**0.171**	J
Cadmium	10* or SB	0.1-1	1.340		0.942		1.450		0.033	U	0.035	U	0.715	J	0.034	UJ	0.034	U	0.034	U
Calcium	SB	130-35,000	**229,000**		**266,000**		**200,000**		**222,000**		4720		30000	J	18200	J	7820		2650	
Chromium	50** or SB	1.5-40	10.4		7.300		11.4		4.490		3.970		6.190	J	3.130	J	3.690		3.370	
Cobalt	30 or SB	2.5-60	7.300		5.670		8.210		2.510	J	1.910	J	6.730	J	1.730	J	1.790	J	1.320	J
Copper	25 or SB	1-50	12.1		9.460		12.3		6.270		2.390	J	**49.0**	J	2.310	J	4.510		2.470	J
Iron	2,000 or SB	2,000-550,000	**10,500**		**8110**		**12,200**		**5840**		**6600**		**6110**	J	**4960**	J	**5540**		**5640**	
Lead	SB	NA***	8.030		7.080		9.850		11.2		4.450		77.8	J	9.480	J	4.760		1.550	
Magnesium	SB	100-5,000	**9700**		**12,100**		**11,700**		**6210**		1470		2040	J	1700	J	1910		1110	
Manganese	SB	50-5,000	367		365		367		344		174		129	J	118	J	228		193	
Mercury	0.1	0.001-0.2	0.01	U	0.01	U	0.01	U	0.023	U	0.021	U	0.034	J	0.006	UJ	0.020		0.028	U
Nickel	13 or SB	0.5-25	**16.3**		12.0		**18.2**		6.480		4.260		**14.4**	J	3.750	J	4.450		3.300	U
Potassium	SB	8,500-43,000	2180		1770		2220		869		196	J	430	J	247	J	271	J	252	J
Selenium	2 or SB	0.1-3.9	0.344	U	0.326	U	0.326	U	0.568	U	1.020	U	0.381	UJ	0.356	UJ	0.671	U	0.356	U
Silver	SB	NA	0.115	U	0.109	U	0.109	U	0.080	U	0.084	U	0.088	UJ	0.082	UJ	0.082	U	0.083	U
Sodium	SB	6,000-8,000	622		506	J	629		487	J	263	J	412	J	26.9	UJ	117	J	27.0	U
Thallium	SB	NA	0.362	U	0.344	U	0.344	U	0.534	U	0.561	U	0.589	UJ	0.550	UJ	0.548	U	0.551	U
Vanadium	150 or SB	1-300	6.140		4.750	J	6.580		8.000		9.520		13.6	J	6.810	J	8.330		6.900	
Zinc	20 or SB	9-50	**31.5**		**23.3**		**36.1**		17.8		14.4		**153**	J	7.420	J	13.9		10.7	

TABLE 5.3.1: NEAR-SURFACE SOILS ANALYTICAL RESULTS SUMMARY
DURKEE STREET PARKING LOT (OU2)
(Validated Data)
C.T. Male Project No. 04.9498

COMPOUND	NYSDEC TAGM 4046 RSCOs[1] (mg/kg)	EASTERN USA BACKGROUND[2] (mg/kg)	SS-17 mg/kg		SS-18 mg/kg		SS-19 mg/kg		DUPLICATE (SS-19) mg/kg		SS-20 mg/kg		SS-21 mg/kg		SS-22 mg/kg		EQUIPMENT BLANK mg/kg	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs																		
Acetone	0.2	Not Applicable	0.0036	U	0.0035	U	0.0038	U	0.0038	U	0.0037	U	0.0037	U	0.0035	UJ	0.0035	UJ
Carbon Disulfide	2.7	Not Applicable	0.00039	U	0.002	J	0.0014	U	0.0014	U	0.0014	U	0.0014	U	0.00038	UJ	0.00072	UJ
Methylene Chloride	0.1	Not Applicable	0.0043	J	0.0019	U	0.0029	U	0.0045	U	0.0053	U	0.0045	U	0.0024	UJ	0.0018	U
Chloroform	0.3	Not Applicable	0.00037	U	0.00036	U	0.0046	U	0.002	U	0.004	U	0.0066	U	0.00036	UJ	0.00061	U
Toluene	1.5	Not Applicable	0.00043	U	0.00042	U	0.0012	U	0.0012	U	1.1	U	0.0011	U	0.00042	UJ	0.00071	U
SVOCs																		
2-Chloronaphthalene	No Standard	Not Applicable	1.2	U	0.57	U	0.58	U	0.59	U	2.9	U	1.1	UJ	1.1	UJ	0.0014	U
bis(2-Ethylhexyl)phthalate	50	Not Applicable	1.3	U	0.66	U	0.68	U	0.68	U	3.3	U	1.3	U	1.3	UJ	0.0016	U
Pesticides																		
4,4-DDT	2.1	Not Applicable	0.00076	UJ	0.00075	U	0.00077	UJ	0.00077	UJ	0.00075	UJ	0.00075	UJ	0.00074	UJ	6.747E-06	U
PCBs																		
METALS																		
Aluminum	SB	33,000	3220		1920		2560	J	3370	J	3080		1930		2690	J	5.310	U
Antimony	SB	NA	0.348	UJ	0.338	U	0.352	U	0.352	U	0.345	U	0.342	U	2.480	J	3.170	U
Arsenic	7.5 or SB	3-12	2.350	U	1.130	U	1.530		1.840		1.330		0.408	U	1.450	J	3.320	U
Barium	300 or SB	150-600	11.2	J	19.9	J	27.1		26.3		23.9		12.7	J	13.8	J	0.723	U
Beryllium	0.16 or SB	0-1.75	**0.253**	J	0.107	J	**0.202**	J	**0.211**	J	**0.189**	J	0.125	J	0.225	UJ	0.090	U
Cadmium	10* or SB	0.1-1	0.035	U	0.034	U	0.035	U	0.035	U	0.035	U	0.034	U	0.593	J	0.327	U
Calcium	SB	130-35,000	7080		**36,300**		**49,800**		**50,400**		**68,700**		2140		**60,900**	J	2.480	J
Chromium	50** or SB	1.5-40	4.560		3.690		4.390		5.030		5.940		2.390		3.420	J	0.343	U
Cobalt	30 or SB	2.5-60	2.890	J	1.290	J	2.200	J	2.570	J	2.230	J	0.982	J	2.400	J	0.370	U
Copper	25 or SB	1-50	4.250		6.660		5.060		5.590		5.460		2.170	J	3.970	J	3.640	U
Iron	2,000 or SB	2,000-550,000	**7360**		**4810**		**7390**		**8390**		**7440**		**5040**		**5530**	J	27.0	U
Lead	SB	NA***	6.910		26.5		5.250		5.920		10.2		2.940		5.930	J	2.180	U
Magnesium	SB	100-5,000	1320		2950		**24,500**	J	**19,300**	J	**15,400**		1170		**5150**	J	8.300	U
Manganese	SB	50-5,000	234		150		611		547		431		197		234	J	0.106	U
Mercury	0.1	0.001-0.2	0.007	J	0.047	U	0.034	R	0.033	R	0.029	R	0.013	R	0.010	J	0.0600	J
Nickel	13 or SB	0.5-25	5.680		3.260	U	3.380	J	4.520	J	5.450		1.390	J	5.290	J	1.560	U
Potassium	SB	8,500-43,000	293	J	400	J	553	J	695	J	661		220	J	578	J	61.8	U
Selenium	2 or SB	0.1-3.9	0.362	U	0.351	U	0.365	U	0.366	U	0.359	U	0.355	U	0.353	UJ	3.040	U
Silver	SB	NA	0.084	U	0.081	U	0.085	U	0.085	U	0.083	U	0.082	U	0.082	UJ	1.640	U
Sodium	SB	6,000-8,000	242	J	26.6	U	678		680		215	J	223	J	161	J	332	U
Thallium	SB	NA	0.559	U	0.542	U	0.565	U	0.565	U	0.554	U	0.549	U	0.546	UJ	3.050	U
Vanadium	150 or SB	1-300	14.2		8.320		7.230	J	10.9	J	19.9		4.840	J	12.0	J	0.701	U
Zinc	20 or SB	9-50	18.1		**37.2**		**22.7**	**J**	**36.4**	J	**24.9**		7.520	J	13.7	J	0.611	U

Qualifiers

(1) NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 Determination of Soil Cleanup Objectives, Recommended Soil Cleanup Objectives, Dated Jan. 24, 1994.

(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) and mg/l (ppm) for the Equipment Blank

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

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

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

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

R - Indicated a re-extracted and re-analyzed sample.

* TAGM 4046 lists 1 ppm as the SCG for cadmium, however, recent DEC RODs specify 10 ppm as the SCG

** TAGM 4046 lists 10 ppm as the SCG for chromium, however, recent DEC RODS specify 50 ppm as the SCG.

*** 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 5.4-1

SUMMARY TABLE OF SUBSURFACE SOIL/FILL SAMPLE RESULTS (SB-10 to SB-20

TABLE 5.4-1: Sub-Surface Soils Analytical Results Summary
Durkee Street Parking Lot (OU2)
(Validated Data)
C.T. Male Project No. 04.9498

COMPOUND	NYSDEC TAGM 4046 RSCOs(1) (mg/kg)	Eastern USA Background(2) (mg/kg)	SB-10 (8-10') mg/kg		SB-10 (14-16') mg/kg		SB-11 (.5-2') mg/kg		SB-13 (6-8') mg/kg		SB-14 (8-10') mg/kg		SB-15 (8-10') mg/kg		SB-15 (Duplicate) mg/kg		SB-16 (10-12') mg/kg		SB-17 (14-18') mg/kg		SB-18 (10-12') mg/kg		SB-19 (4-6') mg/kg		SB-20 (8-10') mg/kg	
			Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.
VOCs																								
Acetone	0.2	Not Applicable	0.009	UJ	0.0082	UJ	0.0079	UJ	0.0039	UJ	0.004	UJ	0.0037	U	0.0037	U	0.066	J	0.0036	U	0.004	U	0.0037	U	0.0037	U
Carbon Disulfide	2.7	Not Applicable	0.00012	U	0.00011	U	0.00011	U	0.00043	UJ	0.00044	UJ	0.00041	U	0.0004	U	0.0037	J	0.00039	U	0.00044	U	0.00041	U	0.00041	U
cis-1,2-Dichloroethene	No Standard	Not Applicable	0.00042	U	0.016		0.00037	U	0.00038	UJ	0.00039	UJ	0.00036	U	0.00036	U	0.00048	UJ	0.00035	U	0.00039	U	0.00036	U	0.00036	U
trans-1,2-Dichloroethene	0.3	Not Applicable	0.00045	U	0.0042	J	0.00039	U	0.00074	UJ	0.00077	UJ	0.0007	U	0.0007	U	0.00094	UJ	0.00068	U	0.00076	U	0.0007	U	0.00071	U
Methylene Chloride	0.1	Not Applicable	0.00082	UJ	0.00075	UJ	0.00072	UJ	0.0021	UJ	0.0022	UJ	0.004	U	0.0037	U	0.0046	J	0.002	U	0.0027	J	0.0027	J	0.002	U
Tetrachloroethene	1.4	Not Applicable	0.0026	J	0.0007	U	0.00067	U	0.00085	UJ	0.00088	UJ	0.0008	U	0.0008	U	0.0011	UJ	0.00078	U	0.00087	U	0.0008	U	0.00081	U
Trichloroethene	0.7	Not Applicable	0.00039	U	0.00035	U	0.00034	U	0.00036	UJ	0.00037	UJ	0.00034	U	0.00034	U	0.00045	UJ	0.00033	U	0.0018	J	0.00034	U	0.00034	U
Toluene	1.5	Not Applicable	0.00031	U	0.00028	U	0.00027	U	0.00047	UJ	0.00049	UJ	0.00045	U	0.00045	U	0.0035	J	0.00043	U	0.00048	U	0.00045	U	0.00045	U
SVOCs																								
Naphthalene	13	Not Applicable	0.0068	U	0.0062	U	0.012	U	0.066	U	7.3		0.062	U	0.062	U	0.17	U	0.061	U	0.13	U	0.62	U	0.062	U
2-Methylnaphthalene	36.4	Not Applicable	0.009	U	0.0082	U	0.016	U	0.064	U	3.6	J	0.06	U	0.061	U	0.16	U	0.059	U	0.13	U	0.6	U	0.061	U
1,1-Biphenyl	No Standard	Not Applicable	0.00012	U	0.00011	U	0.00021	U	0.063	U	1	J	0.06	U	0.06	U	0.16	U	0.058	U	0.13	U	0.59	U	0.06	U
Acenaphthene	50	Not Applicable	0.0087	U	0.0079	U	0.015	U	0.068	U	8.2		0.064	U	0.064	U	0.17	U	0.063	U	0.14	U	0.64	U	0.065	U
Dibenzofuran	6.2	Not Applicable	0.013	U	0.012	U	0.023	U	0.063	U	**8.9**		0.06	U	0.06	U	0.16	U	0.059	U	0.13	U	0.6	U	0.06	U
Diethylphthalate	7.1	Not Applicable	0.00012	U	0.00011	U	0.00022	U	0.066	UJ	0.68	U	0.063	J	0.062	UJ	0.17	U	0.061	U	0.13	U	0.62	U	0.063	U
Fluorene	50	Not Applicable	0.011	U	0.01	U	0.02	U	0.065	UJ	13		0.061	U	0.061	U	0.16	U	0.06	U	0.16	J	0.61	U	0.062	U
Phenanthrene	50	Not Applicable	0.0088	U	0.008	U	0.016	U	0.061	U	46	R	0.058	U	0.058	U	0.15	U	0.056	U	1.4		0.58	U	0.058	U
Anthracene	50	Not Applicable	0.0094	U	0.0086	U	0.017	U	0.058	UJ	19		0.055	U	0.055	U	0.15	U	0.053	U	0.26	J	0.54	U	0.055	U
Carbazole	No Standard	Not Applicable	0.0087	U	0.0079	U	0.015	U	0.059	U	9.8		0.055	U	0.055	U	0.15	U	0.054	U	0.12	J	0.55	U	0.056	U
Di-n-butylphthalate	8.1	Not Applicable	0.0052	U	0.0048	U	0.0092	U	0.058	U	0.6	U	0.076	J	0.055	UJ	0.15	U	0.054	U	0.12	U	0.55	U	0.061	J
Fluoranthene	50	Not Applicable	0.021	U	0.019	U	0.037	U	0.057	U	43	R	0.054	U	0.054	U	0.14	U	0.053	U	1.4		0.54	U	0.054	U
Pyrene	50	Not Applicable	0.051	J	0.0063	U	0.0063	U	0.068	U	33	R	0.064	U	0.064	U	0.17	U	0.063	U	1.2		0.64	U	0.065	U
Benzo(a)anthracene	0.224 or MDL	Not Applicable	0.0085	UJ	0.0078	U	0.015	U	0.054	U	**20**		0.051	U	0.051	U	0.14	U	0.05	U	**0.49**	J	0.51	U	0.051	U
Chrysene	0.4	Not Applicable	0.012	UJ	0.011	U	0.022	U	0.069	U	**19**		0.065	U	0.065	U	0.17	U	0.064	U	**0.49**	J	0.65	U	0.066	U
bis(2-Ethylhexyl)phthala	50	Not Applicable	0.0059	UJ	0.0054	U	0.01	U	0.074	U	0.76	U	0.069	U	0.07	U	0.19	U	0.068	U	0.46	J	0.86	J	0.081	U
Benzo(b)fluoranthene	1.1	Not Applicable	0.0055	UJ	0.005	U	0.0096	U	0.042	U	**17**		0.04	U	0.04	U	0.11	U	0.039	U	0.44	J	0.4	U	0.04	U
Benzo(k)fluoranthene	1.1	Not Applicable	0.013	UJ	0.012	U	0.024	U	0.084	UJ	**8.4**	J	0.08	U	0.08	U	0.21	U	0.078	UJ	0.24	J	0.79	U	0.08	U
Benzo(a)pyrene	0.061 or MDL	Not Applicable	0.0068	UJ	0.0062	U	0.012	U	0.061	U	**14**		0.058	U	0.058	U	0.15	U	0.057	U	**0.39**	J	0.58	U	0.058	U
Indeno(1,2,3-cd)pyrene	3.2	Not Applicable	0.0095	UJ	0.0087	U	0.017	U	0.049	U	**5.5**		0.046	U	0.046	U	0.12	U	0.045	U	0.15	J	0.46	U	0.046	U
Dibenz(a,h)anthracene	0.014 or MDL	Not Applicable	0.012	UJ	0.011	U	0.02	U	0.048	U	**0.78**	J	0.045	U	0.045	U	0.12	U	0.044	U	0.098	U	0.45	U	0.046	U
Benzo(g,h,i)perylene	50	Not Applicable	0.017	UJ	0.016	U	0.03	U	0.063	U	5.6		0.06	U	0.06	U	0.16	U	0.059	U	0.18	J	0.6	U	0.06	U

TABLE 5.4-1: Sub-Surface Soils Analytical Results Summary
Durkee Street Parking Lot (OU2)
(Validated Data)
C.T. Male Project No. 04.9498

COMPOUND	NYSDEC TAGM 4046 RSCOs$^{(1)}$ (mg/kg)	Eastern USA Background$^{(2)}$ (mg/kg)	SB-10 (8-10') mg/kg		SB-10 (14-16') mg/kg		SB-11 (.5-2') mg/kg		SB-13 (6-8') mg/kg		SB-14 (8-10') mg/kg		SB-15 (8-10') mg/kg		SB-15 (Duplicate) mg/kg		SB-16 (10-12') mg/kg		SB-17 (14-18') mg/kg		SB-18 (10-12') mg/kg		SB-19 (4-6') mg/kg		SB-20 (8-10') mg/kg	
			Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.
Pesticides (None Detected Above TAGM RSCOs)																										
PCBs (None Detected Above TAGM RSCOs)																										
Metals																										
Aluminum	SB	33,000	3560		3090		4010		5210		4560		2820		2630		3380		2640		5210		3070		3570	
Antimony	SB	NA	0.679	UJ	0.616	UJ	0.586	UJ	0.382	UJ	0.390	U	0.355	U	0.356	U	0.471	U	0.345	U	0.383	U	0.358	U	0.359	U
Arsenic	7.5 or SB	3-12	0.905	J	1.3		1.05		1.860	U	6.590		3.380		2.580		1.710	U	1.420	U	3.470	U	3.240	U	3.750	
Barium	300 or SB	150-600	63.7		32.4		19.8	J	45.6	J	297		25.3		22.4		64.1		17.1	J	49.2		28.8		34.6	
Beryllium	0.16 or SB	0-1.75	0.213	U	0.203	U	0.235	U	**0.214**	J	**0.315**	J	**0.173**	J	**0.169**	J	**0.273**	J	**0.175**	J	**0.368**	J	**0.231**	J	**0.207**	J
Cadmium	10* or SB	0.1-1	0.055	U	0.147	J	0.191	J	0.038	U	0.039	U	0.036	U	0.036	U	0.047	U	0.035	U	0.039	U	0.036	U	0.036	U
Calcium	SB	130-35,000	**38,100**	J	**38,200**	J	**117,000**	J	17200		23,900		**56,500**		**66,900**		18,700		1550		21400		4010		**65,500**	
Chromium	50** or SB	1.5-40	4.97		6.48		8.25		7.700	J	38.3		6.610		5.610		6.590		3.950		10.3		5.580		8.210	
Cobalt	30 or SB	2.5-60	2.42	J	3.33	J	4.84	J	2.550	J	3.930	J	5.150	J	3.640	J	3.230	J	1.240	J	4.640	J	2.670	J	5.610	
Copper	25 or SB	1-50	10.2		7.5		8.45		6.310	J	**57.7**		11.8		7.610		9.570		2.650		20.1		5.860		10.5	
Iron	2,000 or SB	2,000-550,000	**5560**		**7420**		**8840**		**10,800**		**14,600**		**7770**		**7460**		**6430**		**6890**		**12,100**		**7100**		**10,500**	
Lead	SB	NA***	25.9		4.77		5.56		16.1		260		5.050		4.380		25.8		7.340		37.5		26.0		6.290	
Magnesium	SB	100-5,000	**6610**		**11,100**		**6340**		4040		4470		**16,400**		**23,000**		2360		1340		**5610**		1420		**16,700**	
Manganese	SB	50-5,000	176		240		242		267		314		323		343		360		209		208		253		368	
Mercury	0.1	0.001-0.2	0.1	J	0.01	UJ	0.01	J	**0.111**		**1.0**		0.017		0.017		0.054		0.026	U	**0.110**		0.067		0.012	
Nickel	13 or SB	0.5-25	4.58	J	5.95		11.1		5.400		9.820		10.2		8.460		6.470	U	2.950	U	9.800		6.080		11.3	
Potassium	SB	8,500-43,000	781	J	1390	J	2040	J	806	J	814		948		968		693	J	206	J	600		292	J	1140	
Selenium	2 or SB	0.1-3.9	0.593	J	0.749	J	0.751	J	0.438	U	0.499	U	0.864	J	0.755	J	0.860	U	0.358	U	0.564	U	0.616	U	1.050	J
Silver	SB	NA	0.127	U	0.115	U	0.109	U	0.092	U	0.094	U	0.086	U	0.086	U	0.113	U	0.083	U	0.092	U	0.086	U	0.087	U
Sodium	SB	6,000-8,000	711		279	J	470	J	506	J	781		709		665		1450		27.1	U	652		262	J	435	J
Thallium	SB	NA	0.393	U	0.361	U	0.361	U	0.614	U	0.627	U	0.571	U	0.572	U	0.756	U	0.554	U	0.615	U	0.575	U	0.577	U
Vanadium	150 or SB	1-300	7.64		10.4		7.34		13.7		14.5		10.1		9.240		12.8		7.740		16.8		11.9		13.3	
Zinc	20 or SB	9-50	**43.2**	J	19.7	J	**21.0**	J	**25.2**	J	**237**		**24.3**		**21.7**		**43.7**		13.7		**46.3**		**28.0**		**32.3**	

Notes:

(1) NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 Determination of Soil Cleanup Objectives, Recommended Soil Cleanup Objectives, Dated Jan. 24, 1994.

(2) NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 Determination of Soil Cleanup Objectives, Eastern USA or NYS Background, Dated Jan. 24, 1994.

Concentrations expressed in mg/kg or parts per million (ppm) and mg/l (ppm) for the Equipment Blank

U indicates that the compound was analyzed for but not detected

J indicates an estimated value

B indicates that the analyte was found in the sample and its associated laboratory blank

SB indicates Eastern USA Background

NS indicates no standard

NA indicates Not Applicable

* TAGM 4046 lists 1 ppm as the SCG for cadmium, however, recent DEC RODs specify 10 ppm as the SCG

** TAGM 4046 lists 10 ppm as the SCG for chromium, however, recent DEC RODS specify 50 ppm as the SCG.

*** 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 5.4-2

SUMMARY TABLE OF SUBSURFACE SOIL/FILL SAMPLE RESULTS (SB-21 to SB-26)

TABLE 5.4-2: Sub-Surface Soils Analytical Results Summary
Durkee Street Parking Lot (OU2) Supplemental Investigation
(Validated Data)
C.T. Male Project No. 04.9498

COMPOUND	NYSDEC TAGM 4046 RSCOs(1) (mg/kg)	SB-21 (6-8') mg/kg		SB-21 (18-20') mg/kg		SB-22 (4-6') mg/kg		SB-23 (14-16') mg/kg		SB-24 (4-6') mg/kg		SB-25 (14-16') mg/kg		SB-26 (16-18') mg/kg		Duplicate (SB-22) mg/kg	
		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs																	
Acetone	0.2	0.039	UJ	0.034	UJ	0.2	J	0.02	UJ	0.055	UJ	0.022	U	0.053	U	0.16	J
Carbon Disulfide	2.7	0.0023	UJ	0.002	UJ	0.011	J	0.018	J	0.002	UJ	0.0024	U	0.0027	U	0.0027	UJ
Methylene Chloride	0.1	0.024	UJ	0.01	UJ	0.031	U	0.011	UJ	0.0097	UJ	0.012	U	0.016	U	0.016	U
2-Butanone	0.3	0.018	UJ	0.015	UJ	0.07	J	0.017	UJ	0.017	J	0.018	U	0.027	U	0.073	J
cis-1,2-Dichloroethene	No Standard	0.002	UJ	0.02	J	0.0026	U	0.013	J	0.0017	UJ	0.0021	U	0.0024	U	0.0024	U
Trichloroethene	0.7	0.018	J	0.0016	UJ	0.0025	U	0.0019	UJ	0.0016	UJ	0.002	U	0.012	J	0.0022	U
Toluene	1.5	0.0025	UJ	0.0022	UJ	0.0064	J	0.0025	UJ	0.0022	UJ	0.0026	U	0.003	U	0.0062	J
Ethyl Benzene	5.5	0.0022	UJ	0.0019	UJ	0.0066	J	0.0022	UJ	0.012	J	0.0023	U	0.0026	U	0.0072	J
m/p-Xylenes	1.2	0.0054	UJ	0.0046	UJ	0.034	J	0.0053	UJ	0.13	J	0.0056	U	0.0063	U	0.047	J
o-Xylene	1.2	0.0024	UJ	0.002	UJ	0.039	J	0.0023	UJ	0.17	J	0.0025	U	0.0028	U	0.056	J
Isopropylbenzene	2.3	0.0026	UJ	0.0022	UJ	0.0092	J	0.0025	UJ	0.12	J	0.0027	U	0.003	U	0.012	J
SVOCs																	
Naphthalene	13	0.07	U	0.061	U	2.6	J	0.069	U	1.1		0.071	U	0.085	U	6.9	J
2-Methylnaphthalene	36.4	0.069	U	0.06	U	3.2	J	0.067	U	0.67		0.07	U	0.084	U	8.8	J
1,1-Biphenyl	No Standard	0.068	U	0.059	U	0.33	J	0.066	U	0.059	U	0.069	U	0.082	U	0.79	J
Acenaphthylene	50	0.14	J	0.058	U	0.71	J	0.065	U	0.058	U	0.068	U	1.1	J	1.2	J
Acenaphthene	50	0.073	U	0.064	U	0.59	J	0.071	U	0.064	U	0.074	U	0.089	U	1.2	J
Dibenzofuran	6.2	0.068	U	0.059	U	0.59	J	0.066	U	0.059	U	0.069	U	0.083	U	1.2	J
Fluorene	50	0.069	U	0.06	U	2	J	0.068	U	0.06	U	0.07	U	0.096	J	4.9	J
Phenanthrene	50	0.72		0.1	J	9.1	J	0.44		0.36		0.066	U	0.08	U	16	J
Anthracene	50	0.12	J	0.054	U	1.4	J	0.12	J	0.054	U	0.063	U	0.16	J	2.3	J
Carbazole	No Standard	0.089	J	0.055	U	0.37	J	0.064	J	0.055	U	0.064	U	0.076	U	0.9	J
Fluoranthene	50	1		0.075	J	2.4	J	0.39	J	0.44		0.13	J	1.6	J	7.5	J
Pyrene	50	0.99		0.071	J	7.6	J	0.42	J	1.6		0.17	J	3.2	J	12	J
Benzo(a)anthracene	0.224 or MDL	**0.47**		0.05	U	**2.6**	J	0.21	J	**0.3**	J	0.1	J	**1.7**	J	**4.1**	J
Chrysene	0.4	**0.49**		0.064	U	**3**	J	0.21	J	0.37		0.098	J	**1.8**	J	**4.9**	J
bis(2-Ethylhexyl)phthala	50	0.31	J	0.069	U	0.34	J	0.077	U	1.5		0.11	J	0.096	U	0.2	J
Benzo(b)fluoranthene	0.220 or MDL	**0.66**	J	0.039	U	**2.4**	J	0.21	J	**0.45**		0.1	J	**2.3**	J	**4**	J
Benzo(k)fluoranthene	0.220 or MDL	**0.23**	J	0.079	U	**1**	J	0.11	J	0.21	J	0.092	U	**0.86**	J	**1.8**	J
Benzo(a)pyrene	0.061 or MDL	**0.43**	J	0.057	U	**2.1**	J	**0.17**	J	**0.19**	J	**0.11**	J	**2.6**	J	**3.1**	J
Indeno(1,2,3-cd)pyrene	3.2	0.052	U	0.045	U	0.29	J	0.055	J	0.045	U	0.053	UJ	0.29	J	0.2	J
Dibenz(a,h)anthracene	0.014 or MDL	0.052	U	0.045	U	**0.14**	J	0.05	U	0.045	UJ	0.052	U	**0.064**	J	**0.12**	J
Benzo(g,h,i)perylene	50	0.091	J	0.059	U	0.86	J	0.066	U	0.17	J	0.069	U	0.51		0.67	J

Notes:

(1) NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 Determination of Soil Cleanup Objectives, Recommended Soil Cleanup Objectives, Dated Jan. 24, 1994.

(2) NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4046 Determination of Soil Cleanup Objectives, Eastern USA or NYS Background, Dated Jan. 24, 1994.

Concentrations expressed in mg/kg or parts per million (ppm) and mg/l (ppm) for the Equipment Blank

U indicates that the compound was analyzed for but not detected

J indicates an estimated value

B indicates that the analyte was found in the sample and its associated laboratory blank

SB indicates Eastern USA Background

NS indicates no standard

NA indicates Not Applicable

* TAGM 4046 lists 1 ppm as the SCG for cadmium, however, recent DEC RODs specify 10 ppm as the SCG

** TAGM 4046 lists 10 ppm as the SCG for chromium, however, recent DEC RODS specify 50 ppm as the SCG.

*** 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 5.5-1

SUMMARY TABLE OF GROUNDWATER SAMPLE RESULTS (MW-10 to MW-20)

TABLE 5.5-1: GROUNDWATER ANALYTICAL RESULTS SUMMARY
DURKEE STREET PARKING LOT (OU2)
(Validated Data)
C.T. Male Project No. 049498

COMPOUND	NYSDEC GROUNDWATER STANDARD OR GUIDANCE VALUE[1] (ug/l)	MW-10 ug/l		MW-11 ug/l		MW-13 ug/l		MW-14 ug/l		MW-15 ug/l		MW-16 ug/l		MW-17 ug/l		MW-18 ug/l		DUPLICATE (MW-18) ug/l		MW-19 ug/l		MW-20 ug/l		EQUIPMENT BLANK ug/l	
		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs																									
Methyl tert-butyl Ether	10 (GV)	0.36	U	1.0	J	0.28	U	0.28	U	NS	NS	0.28	U	57		0.28	U	0.28	U	0.28	U	0.28	U	0.28	U
Vinyl Chloride	2	**170**		1.5	J	0.33	U	0.33	U	NS	NS	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U
1,1-Dichloroethene	5	**6.0**		0.32	U	0.42	UJ	0.42	UJ	NS	NS	0.42	U	0.42	U	0.42	U	0.42	U	0.42	U	0.42	U	0.42	U
Acetone	50 (GV)	3.3	U	9.6	J	2.3	UJ	2.3	UJ	NS	NS	2.3	U	2.3	U	2.3	U	2.3	U	2.3	U	2.3	U	2.3	U
trans-1,2-Dichloroethene	5	**410**	E	0.51	U	0.40	U	0.40	U	NS	NS	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
cis-1,2-Dichloroethene	5	**680**	E	1.7	J	0.29	U	0.29	U	NS	NS	0.29	U	0.29	U	0.29	U	0.29	U	0.29	U	0.29	U	0.29	U
Trichloroethene	5	**99**		0.67	U	0.46	U	0.46	U	NS	NS	0.46	U	0.46	UJ	0.46	U	0.46	U	0.46	UJ	0.46	U	0.46	U
Isopropylbenzene	5	0.33	U	0.33	U	0.44	U	0.44	U	NS	NS	0.44	U	2.4	J	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U
SVOCs																									
Naphthalene	10 (GV)	0.27	U	0.27	U	1.4	U	NS	NS	NS	NS	1.5	U	1.4	U	1.4	U	1.5	U	5.5	J	1.4	U	1.5	U
Acenaphthene	20 (GV)	0.24	U	0.43	U	1.4	U	NS	NS	NS	NS	1.4	U	1.4	U	1.4	U	1.4	U	5.5	J	1.4	U	1.4	U
Fluorene	50 (GV)	0.17	U	0.17	U	1.4	U	NS	NS	NS	NS	1.5	U	1.5	U	1.5	U	1.5	U	2.7	J	1.5	U	1.5	U
Phenanthrene	50 (GV)	0.27	U	0.27	U	1.4	U	NS	NS	NS	NS	1.5	U	1.5	U	1.5	U	1.5	U	6.6	J	1.5	U	1.5	U
Anthracene	50 (GV)	0.16	U	0.16	U	1.4	U	NS	NS	NS	NS	1.5	U	1.5	U	1.5	U	1.5	U	2.2	J	1.5	U	1.5	U
Fluoranthene	50 (GV)	0.21	U	0.21	U	1.2	U	NS	NS	NS	NS	1.3	U	1.3	U	1.3	U	1.3	U	3.6	J	1.3	U	1.3	U
Pyrene	50 (GV)	0.25	U	0.25	U	1.5	U	NS	NS	NS	NS	1.5	U	1.5	U	1.5	U	1.5	U	4.2	J	1.5	U	1.5	U
bis(2-Ethylhexyl)phthalate	5	**5.3**	J	2.3	J	1.5	U	NS	NS	NS	NS	1.6	U	2.2	J	2.1	U	4.3	U	1.6	U	2.8	U	2.7	JB
PESTICIDES (None Detected Above Guidelines																									
PCBs (None Detected Above Guidelines)																									
Metals																									
Aluminum	No Standard	3200		2440		NS	NS	NS	NS	NS	NS	35.9	U	628		731	U	357	U	15,100		629	U	14.9	J
Barium	1000	699		252		NS	NS	NS	NS	NS	NS	155	J	345		203		208		461		159	J	0.72	U
Calcium	No Standard	115,000	J	265,000		NS	NS	NS	NS	NS	NS	484,000	J	227,000		212,000		219,000		622,000	D	153,000		772	J
Chromium	50	9.300	J	5.560	J	NS	NS	NS	NS	NS	NS	0.34	U	8.7	J	0.34	U	0.34	U	42.6		0.34	U	0.34	U
Cobalt	No Standard	5.360	J	2.380	U	NS	NS	NS	NS	NS	NS	0.37	U	0.37	U	0.37	U	0.37	U	10.1	J	0.37	U	0.37	U
Copper	200	10.3	J	10.2	J	NS	NS	NS	NS	NS	NS	3.6	U	5.5	J	3.6	U	3.6	U	39.8		3.6	U	3.6	U
Iron	300	**6330**		**4840**		NS	NS	NS	NS	NS	NS	30.0	UJ	**38,200**		**5090**		**4480**		**27,700**		**1380**		30.0	U
Lead	25	3.260	J	1.790	U	NS	NS	NS	NS	NS	NS	2.8	U	14.6	U	11.0	J	2.8	UJ	80.5		2.8	U	2.8	U
Magnesium	35,000 (GV)	**128,000**	J	**97,600**		NS	NS	NS	NS	NS	NS	**55,400**	J	**50,400**		**72,400**		**74,400**		**57,200**		**109,000**		212	J
Manganese	300	**309**	J	**713**		NS	NS	NS	NS	NS	NS	**897**	J	**1720**		**838**		**880**		**788**		**115**		0.11	U
Mercury	0.7	0.15	J	0.10	J	NS	NS	NS	NS	NS	NS	0.0600	U	0.0300	U	0.0300	U	0.0500	U	0.3300		0.0500	U	0.1200	J
Nickel	100	9.440	J	9.820	J	NS	NS	NS	NS	NS	NS	1.6	U	1.6	U	1.6	U	1.6	U	20.8	J	1.6	U	1.6	U
Potassium	No Standard	123,000	J	147000		NS	NS	NS	NS	NS	NS	92,500	U	35,500		110,000		114,000		81,100		15,100		61.8	U
Sodium	20,000	**224000**	J	**1,790,000**		NS	NS	NS	NS	NS	NS	332	U	**526,000**		**1,610,000**	D	**1,750,000**	D	**1,320,000**	D	**338,000**		1150	J
Vanadium	No Standard	7.860	J	5.400	J	NS	NS	NS	NS	NS	NS	0.70	U	0.70	U	0.70	U	0.70	U	15.2	J	0.70	U	0.70	U
Zinc	2,000 (GV)	37.6	J	29.9	U	NS	NS	NS	NS	NS	NS	0.61	U	58.3		17.3	J	4.1	J	139		3.2	J	0.61	U

Qualifiers

[1] TOGS 1.1.1, Ambient Water Quality Standards and Guidance Values and Groundwater Effuent Limitations, New York Department of Environmental Conservation, June 1998 and Addendum, April 2000.

Concentrations expressed in ug/L or parts per billion (ppb)

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

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

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

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

E - The compound exceeded the calibration range of the instrument for the specific analysis.

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

NR - Not analyzed

NS - Not sampled due to insufficient volume of groundwater

TABLE 5.5-2

SUMMARY TABLE OF GROUNDWATER SAMPLE RESULTS (MW-21 to MW-26)

TABLE 5.5-2: GROUNDWATER ANALYTICAL RESULTS SUMMARY
DURKEE STREET (OU2) SUPPLEMENTAL INVESTIGATION
(Validated Data)
C.T. Male Project No. 04.9498

COMPOUND	NYSDEC GROUNDWATER STANDARD OR GUIDANCE VALUE[1] (ug/l)	MW-21 ug/l		MW-22 ug/l		MW-23 ug/l		MW-24 ug/l		MW-25 ug/l		DUPLICATE (MW- 25) ug/l		MW-26 ug/l		EQUIPMENT BLANK ug/l	
		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
VOCs																	
Vinyl Chloride	2	1.7	J	0.33	U	0.33	U	0.33	U	**2.2**	J	**2.1**	J	**13**		0.33	U
trans-1,2-Dichloroethene	5	0.40	U	0.40	U	0.97	J	0.40	U	1.6	J	1.6	J	0.56	J	0.40	U
cis-1,2-Dichloroethene	5	4.1	J	0.29	U	**32**		0.29	U	**24**		**24**		**6.0**		0.29	U
Trichloroethene	5	0.46	U	0.46	U	0.46	U	0.46	U	3.8	J	3.6	J	0.46	U	0.46	U
SVOCs																	
Fluorene	50 (GV)	1.9	J	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Phenanthrene	50 (GV)	2.8	J	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Carbazole	No Standard	2.9	J	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U

Qualifiers

[1] TOGS 1.1.1, Ambient Water Quality Standards and Guidance Values and Groundwater Effuent Limitations, New York Department of Environmental Conservation, June 1998 and Addendum, April 2000.

Concentrations expressed in ug/L or parts per billion (ppb)

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

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

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

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

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

NR - Not analyzed

TABLE 5.5-3

SUMMARY TABLE OF GROUNDWATER SAMPLE RESULTS (December 2006 Groundwater Monitoring)

TABLE 5.5-3: GROUNDWATER ANALYTICAL RESULTS SUMMARY
DURKEE STREET (OU2) DECEMBER 2006 GROUNDWATER SAMPLING
(Validated Data)
C.T. Male Project No. 04.9498

COMPOUND	NYSDEC GROUNDWATER STANDARD OR GUIDANCE VALUE[1]	MW-10 ug/l		MW-23 ug/l		DUPLICATE (MW-23) ug/l		MW-25 ug/l		MW-26 ug/l		EB-01 ug/l		TRIP BLANK ug/l	
		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Vinyl Chloride	2	0.33	U	**17**		**21**		0.33	U	**11**		0.33	U	0.33	U
trans-1,2-Dichloroethene	5	0.40	U	**8.0**		**8.2**		1.5	J	1.0	J	0.40	U	0.40	U
cis-1,2-Dichloroethene	5	**8.2**		**52**		**59**		3.4	J	**7.3**		0.29	U	0.29	U
Trichloroethene	5	**11**		4.6	J	4.6	J	0.46	U	1.2	J	0.46	U	0.46	U

Qualifiers

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

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

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

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

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

NR - Not analyzed

TABLE 5.6

SUMMARY TABLE OF SOIL GAS SAMPLE RESULTS

TABLE 5.6: Soil Gas Analytical Results Summary
Durkee Street Parking Lot (OU2)
(Unvalidated Data)
C.T. Male Project No. 04.9498

COMPOUND	NYSDOH Air Guidance Values (ug/m^3) (1)	EPA BASE Data Background Levels (ug/m3) (2)	SG-4 ug/m^3		SG-5 ug/m^3		Duplicate (SG-5) ug/m^3		SG-6 ug/m^3		SG-7 ug/m^3		SG-8 ug/m^3		SG-9 ug/m^3		Ambient ug/m^3	
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Dichlorodifluoromethane	NA	NA	2.5		2.6		2.7		2.5	U	2.6		2.6		2.6		2.5	
Chloromethane	NA	2.0 - 3.0	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1.1	
1,3-Butadiene	NA	NA	1.1	U	3.3		3.3		1.1	U	3.8		1.1	U	1.1	U	1.1	U
Trichlorofluoromethane	NA	NA	1.1	U	2.2		2.2		1.1	U	1.3		1.2		1.3		1.2	
Acetone	NA	32 - 60	13		26		26		22		19		12	U	21		12	U
n-Hexane	NA	1.6 - 6.4	6		4.6		4.9		**120**		**7.8**		6		2.6		1.8	U
Methyl Ethyl Ketone	NA	NA	1.5	U	4.1		4.1		1.5	U	2.2		1.5	U	1.5		1.5	U
Chloroform	NA	<0.4	**2.4**		0.98	U	0.98	U	0.98	U	0.98	U	**11**		0.98	U	0.98	U
Cyclohexane	NA	NA	1.8		1.6		1.6		38		1.5		1.8		0.69	U	0.69	U
2,2,4-Trimethylpentane	NA	NA	14		0.93	U	0.93	U	79		1.1		1.3		0.93	U	0.93	U
Benzene	NA	1.2 - 3.7	**12**		**6.1**		**6.4**		**11**		**8**		**5.4**		**4.5**		0.64	U
n-Heptane	NA	NA	5.7		4.5		4.5		45		3.9		5.3		2.3		0.82	U
Trichloroethene	5	<1.5	1.1	U	4.7		4.7		1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
Toluene	NA	5.9 - 16	**38**		**34**		**35**		**41**		**20**		**53**		**21**		1.4	
Ethylbenzene	NA	<1.4 - 1.6	**4.8**		**38**		**38**		**5.6**		**2.5**		**6.9**		**4.2**		0.87	U
Xylene (m,p)	NA	<3.6 - 7.3	**15**		**120**		**120**		**19**		6.5		**22**		**12**		2.2	U
Xylene (o)	NA	<1.4 - 2.6	**4.1**		**43**		**43**		**5.6**		2.2		**6.5**		**3.7**		0.87	U
Xylene (total)	NA	NA	20		170		170		25		9.1		29		16		0.87	U
Styrene	NA	<1.6	1.4		**2.5**		**2.5**		0.85	U	**2.8**		0.94		**5.1**		0.85	U
4-Ethyltoluene	NA	NA	2.3		2.8		2.9		3.1		1.5		3		2.4		0.98	U
1,3,5-Trimethylbenzene	NA	<1.4	0.98	U	0.98	U	0.98	U	1.1		0.98	U	0.98	U	0.98	U	0.98	U
1,2,4-Trimethylbenzene	NA	<1.6 - 3.1	2.3		2.7		2.7		**3.2**		1.6		2.9		2.5		0.98	U

Notes:

All values reported in ug/m3

[1] Air guideline values derived by the NYSDOH

[2] Building Assessment and Survey Evaluation (BASE '94-'98). Unpublished. Indoor Environments Division, United States Environmental Protection Agency, Washington, DC.

< = Less than the associated laboratory reporting limit.

NA = Not Available

APPENDIX A

METES AND BOUNDS DESCRIPTION

DESCRIPTION
PORTION OF LANDS OF CITY OF PLATTSBURGH TO BE KNOWN AS OPERABLE UNIT NO. 2
CITY OF PLATTSBURGH, COUNTY OF CLINTON, STATE OF NEW YORK
AREA = 3.07± ACRES

All that certain tract, piece or parcel of land situate in the City of Plattsburgh, County of Clinton, State of New York, lying East of Durkee Street, Southwest of Bridge Street and North of Broad Street, and being more particularly bounded and described as follows:

BEGINNING at the point of intersection of the assumed Southwesterly street boundary of Bridge Street with the assumed Easterly street boundary of Durkee Street as described in a conveyance to the City of Plattsburgh in Instrument No. 152840 (2003) and runs thence from said point of beginning along said assumed Southwesterly street boundary of Bridge Street, South 64 deg. 52 min. 17 sec. East 141.10 feet to its point of intersection with the division line between the said lands of the City of Plattsburgh on the West and lands now or formerly of Hy-way, Inc. as described in Instrument No. 99250 (1998) on the East; thence along said division line South 20 deg. 19 min. 43 sec. West 100.00 feet to its intersection with the division between the said lands of the City of Plattsburgh on the Southwest and said lands of Hy-way, Inc. on the Northeast; thence along said division line South 64 deg. 52 min. 17 sec. East 120.80 feet to its point of intersection with the high water mark of the Westerly shore of the Saranac River as located October 2004; thence along said high water mark the following seven (7) courses: 1) South 14 deg. 49 min. 18 sec. West 114.88 feet to a point; 2) South 12 deg. 34 min. 14 sec. West 57.43 feet to a point; 3) South 08 deg. 48 min. 36 sec. West 56.86 feet to a point; 4) South 13 deg. 08 min. 36 sec. West 42.88 feet to a point; 5) South 19 deg. 37 min. 41 sec. West 45.72 feet to a point; 6) South 14 deg. 01 min. 40 sec. West 54.91 feet to a point; and 7) South 04 deg. 11 min. 34 sec. West 38.48 feet to a point; thence through the said lands of the City of Plattsburgh, North 78 deg. 46 min. 16 sec. West 265.07 feet to its intersection with the above mentioned assumed Easterly street boundary of Durkee Street; thence along said assumed Easterly street boundary the following two (2) courses: 1) North 10 deg. 07 min. 08 sec. East 321.07 feet to a point; and 2) North 21 deg. 25 min. 40 sec. East 254.66 feet to the point or place of beginning and containing 3.07± acres of land.

Subject to any easements, restrictions or covenants of records.

C.T. MALE ASSOCIATES, P.C.
James F. Cook
James F. Cook, PLS
No. 049260

May 25, 2006
JFC/amb
C.T. Male Project No. 04.9498

Note: The above described parcel is shown in its entirety on a map entitled "Boundary Survey Portion Of Lands Of The City Of Plattsburgh Durkee Street Parking Lot," City of Plattsburgh, Clinton County, New York, prepared by C.T. Male Associates, P.C., dated October 5, 2004, last revised November 30, 2004, and bearing Drawing No. 04-670.

APPENDIX B

SUBSURFACE EXPLORATION LOGS

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB10
ELEV.: 118.6 ft. (grade) DATUM: Assumed (100.00')
START DATE: 8/10/04 FINISH DATE: 8/10/04
SHEET 1 OF 1

PROJECT: Durkee Street Parking Lot (OU1)
CTM PROJECT NO.: 04.9498
LOCATION: Plattsburgh, NY
CTM OBSERVER: Steve Bieber

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	--	5	6	6	11	0.8	FILL: Brown fine SAND, little silt &	Augered to 6" through
									fine gravel (Moist)	asphalt & subbase.
		2	7	9	10	10	19	0.1		
5		3	3	3	6	7	9	1.0	- becomes fine to coarse SAND, Some	
									Brick, little fine gravel, coal, ash & silt	
		4	7	8	8	4	16	0.5	- becomes fine SAND, Some Gray	
									Cobble Fragments, little gravel & silt,	
		5	2	5	8	16	13	1.2	trace organics	
10									(Moist-Loose to Firm) +/- 10'	
		6	2	5	7	14	12	2.0	Grayish Brown fine SAND & SILT, little	
									embedded coarse sand & fine	
		7	15	19	23	29	42	1.7	gravel	
									- becomes SILT, Some fine SAND	
15		8	19	24	21	100/.2	50	1.7		
		9	84	100/.2				0.7	-becomes Gray fine to medium SAND, Some Cobble	
									Fragments & fine Gravel, little silt	
		10	14	88	100/.4			0.4	(Moist-Firm to Very Compact)	
20									End of Boring @ 19.4'	
									(Sampling Refusal)	
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services Inc. DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: 4 1/4" ID Hollow Stem Augers

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION TIME

SAMPLE CLASSIFICATION BY:
J. Folts

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-11
ELEV.: 119.9 ft. (grade) DATUM:Assumed (100.00')
START DATE: 8/11/04 FINISH DATE: 8/11/04
SHEET 1 OF 1

PROJECT: Durkee Street Parking Lot (OU1)
CTM PROJECT NO.: 04.9498
LOCATION: Plattsburgh, NY
CTM OBSERVER: Steve Bieber

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	--	7	15	11	22	0.8	FILL: Fine Brown SAND & GRAVEL,	Augered to 6" through
									trace silt (Moist)	asphalt & subbase.
		2	7	8				1.0	- becomes little silt & fine gravel, trace	
									clay, red brick	
5		3	100/.3					0.2	(Moist-Firm) +/- 3.1'	
									FILL: Concrete Foundation (3.1' to 7')	
									POSSIBLE FILL: Brown fine to medium SAND,	
		4	7	5	7	10	12	0.2	Some Silt & Gravel	
									(Moist-Firm) +/- 9'	
10		5	8	9	10	10	19	1.6	Brown SILT, Some embedded fine	
									to coarse Sand & fine Gravel, trace clay	
		6	30	43	26	18	69	1.8	- becomes and fine to coarse sand	
									(Moist-Firm to Very Compact)	
									End of Boring @ 13'	
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: CME 75
METHOD OF INVESTIGATION: 4 1/4" 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:
J. Folts

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-13
ELEV.: 121.49 ft. (grade) DATUM: Assumed (100.00')
START DATE: 8/2/05 FINISH DATE: 8/2/05
SHEET 1 OF 1

PROJECT: Durkee Street Parking Lot (OU2)
CTM PROJECT NO.: 04.9498
LOCATION: Plattsburgh, NY
CTM OBSERVER: Nathan Freeman

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	--	1	6	8	7	0.4	Brown fine to coarse SAND and GRAVEL	Augered to 6" through asphalt & subbase.
		2	7	7	6	3	13	1.4	Dark brown fine to coarse SAND and SILT, trace brick, glass,gravel, cinder and ash	(moist)
5		3	3	4	3	3	7	0.2		
		4	10	9	3	8	12	1.2	Brown fine SAND and SILT, trace brick and gravel	(moist)
10		5	2	2	2	3	4	0.6	Brown fine to coarse SAND and SILT, Some Gravel	(wet)
		6	2	9	9	9	18	1.3	Gray fine SAND and SILT with embeded Gravel	(moist)
		7	9	15	14	22	29	1.5	Glacial Till: Gray fine SAND and SILT with embeded Gravel, trace weathered rock	(moist)
15		8	20	13	13	21	26	1.2		(moist)
									End of Boring @ 16.0'	
20										
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc. DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: 4 1/4" ID Hollow Stem Augers

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
N. Freeman

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-14
ELEV.: 121.82 ft. (grade) DATUM: Assumed (100.00')
START DATE: 8/2/05 FINISH DATE: 8/3/05
SHEET 1 OF 1

PROJECT: Durkee Street Parking Lot (OU2)
CTM PROJECT NO.: 04.9498
LOCATION: Plattsburgh, NY
CTM OBSERVER: Nathan Freeman

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
	/	1	–	2	5	16	7	0.4	Brown fine to coarse SAND and GRAVEL, trace brick	Augered to 6" through asphalt & subbase.
	/	2	11	9	8	9	17	0.7		
5	/	3	5	3	5	4	8	0.9	Dark Brown fine SAND and SILT, Some Ash, Cinder and Brick	(moist)
	/	4	5	2	1	1	3	NR		
10	/	5	1	1	1	1	2	0.8		(moist to wet)
	/	6	1	1	1	1	2	0.8	becomes little glass	(wet)
	/	7	1	8	1	1	9	0.8	Brown SILT, Some fine Sand, trace gravel	(wet)
15	/	8	1	2	1	2	3	1.4	becomes trace wood	
	/	9	2	2	4	3	6	0.8	Glacial Till: Gray fine SAND and SILT, Some embeded Gravel	(moist)
20									End of Boring @ 18.0'	
25										
30										

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

DRILLING CONTRACTOR: SJB Services, Inc. DRILL RIG TYPE: CME 75

METHOD OF INVESTIGATION: 4 1/4" ID Hollow Stem Augers

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION

SAMPLE CLASSIFICATION BY: N. Freeman

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-15
ELEV.: 121.65 ft. (grade) **DATUM:** Assumed (100.00')
START DATE: 8/1/05 **FINISH DATE:** 8/1/05
SHEET 1 **OF** 1

PROJECT: Durkee Street Parking Lot (OU2)
CTM PROJECT NO.: 04.9498
LOCATION: Plattsburgh, NY
CTM OBSERVER: Nathan Freeman

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	–	7	7	5	14	0.8	Brown fine to medium SAND and GRAVEL, trace blacktop	Augered to 6" through asphalt & subbase.
		2	5	7	6	3	13	1.1	Brown fine SAND and SILT, Some embeded Gravel	
5		3	2	3	5	9	8	0.5	becomes Some coarse Gravel	
		4	4	2	4	4	6	0.4		
10		5	2	3	5	4	8	1.5	Brown and Gray fine SAND and SILT, Some embeded Gravel	
		6	3	5	11	21	16	0.5	becomes trace coarse gravel	
		7	27	30	15	20	45	1.4		
15		8	12	16	19	12	35	1.2		
		9	16	31	100/.4		100+	1.3		
20		10	100/.4						White rock in sample shoe End of Boring @ 18.4'	
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc.
DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: 4 1/4" ID Hollow Stem Augers

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY:
N. Freeman

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-16
ELEV.: 119.12 ft. (grade) DATUM: Assumed (100.00')
START DATE: 7/28/05 FINISH DATE: 7/28/05
SHEET 1 OF 1

PROJECT: Durkee Street Parking Lot (OU2)
CTM PROJECT NO.: 04.9498
LOCATION: Plattsburgh, NY
CTM OBSERVER: Nathan Freeman

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	–	2	6	7	8	0.6	Brown fine to coarse SAND and GRAVEL	Augered to 6" through
									(coarse gravel in sample shoe)	asphalt & subbase.
		2	7	5	3	5	8	1.1	Dark brown SILT and fine SAND, Some Cinder, Ash,	(moist)
									Brick and Gravel	
5		3	6	6	6	5	12	1.2	Brown fine to medium SAND, Some Silt and Gravel	(moist)
		4	2	2	1	3	3	1.2	becomes, Some Cinder, Ash and Red Brick	(moist)
		5	4	2	2	4	4	1.0	Gray fine to coarse SAND, Some Silt, Gravel and Wood	(moist)
10										
		6	3	4	4	3	8	1.5	Gray fine to medium SAND, trace silt	Wet at ± 12' bgs
		7	1	2	3	3	5	2.0	becomes, trace wood and rootlets (organics)	(wet)
15		8	4	18	18	15	36	1.6	Glacial Till: Gray fine SAND and embeded GRAVEL,	(moist)
									Some Silt	
		9	20	17	12	58	29	0.7	Glacial Till and Weathered ROCK	(wet)
		10	5	7	20	24	27	0.9		(wet)
20										
									End of Boring @ 20.0'	
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc.
DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: 4 1/4" ID Hollow Stem Augers

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION

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SAMPLE CLASSIFICATION BY:
N. Freeman

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-17
ELEV.: 117.85 ft. (grade) **DATUM: Assumed (100.00')**
START DATE: 8/3/05 **FINISH DATE: 8/3/05**
SHEET 1 OF 1

PROJECT: Durkee Street Parking Lot (OU2) CTM PROJECT NO.: 04.9498

LOCATION: Plattsburgh, NY CTM OBSERVER: Nathan Freeman

DEPTH (FT.)	SAMPLE TYPE	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
		1	–	2	4	5	6	0.8	Brown fine to coarse SAND and GRAVEL, Some Silt	Augered to 6" through asphalt & subbase.
		2	4	3	6	10	9	0.4		(moist)
5		3	2	5	5	4	10	0.8		(moist)
		4	3	2	2	2	4	1.0		(moist)
10		5	1	2	2	3	4	0.5		(moist)
		6	3	3	3	4	6	0.7		(moist)
		7	4	3	2	1	5	0.5		(moist)
15		8	3	3	3	7	6	0.6	becomes trace silt	(moist)
		9	4	4	7	9	11	0.8		(moist)
20		10	2	4	3	100/.4	7	0.8	Brown fine to coarse SAND and GRAVEL Grades to Weathered BEDROCK	(wet)
									End of Boring @ 20.0'	
25										
30										

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

DRILLING CONTRACTOR: SJB Services, Inc. DRILL RIG TYPE: CME 75

METHOD OF INVESTIGATION: 4 1/4" ID Hollow Stem Augers

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS.

SAMPLE CLASSIFICATION BY: N. Freeman

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-18
ELEV.: 117.68 ft. (grade) DATUM: Assumed (100.00')
START DATE: 7/27/05 FINISH DATE: 7/27/05
SHEET 1 OF 1

PROJECT: Durkee Street Parking Lot (OU2)
CTM PROJECT NO.: 04.9498
LOCATION: Plattsburgh, NY
CTM OBSERVER: Nathan Freeman

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
	/	1	–	16	15	8	31	1.4	Brown fine to coarse SAND and GRAVEL	Augered to 6" through asphalt & subbase.
	/	2	5	3	2	3	5	NR		
5	/	3	5	2	1	1	3	NR		
	/	4	1	4	1	1	5	NR		
10	/	5	2	2	2	5	4	1.0	Dark brown fine to coarse SAND and GRAVEL, Some Silt, trace wood, ash and brick	(moist)
	/	6	2	2	3	4	5	1.2	Brown fine to coarse SAND and GRAVEL, Some Silt, trace red brick	Wet at ± 12 bgs
	/	7	2	2	3	5	5	1.1	Grades to gray SILT and fine to coarse SAND and GRAVEL (soft)	(wet)
15	/	8	5	17	21	62	38	1.2	Gray fine SAND ,White ROCK and Embeded GRAVEL, trace silt	
	/	9	66	93	100/.3		100+	1.3	Glacial Till: Gray fine SAND and Embeded GRAVEL, Coarse white Rock, trace silt	(tight)
20									End of Boring @ 17.3'	
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc.
DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: 4 1/4" ID Hollow Stem Augers

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION

SAMPLE CLASSIFICATION BY:
N. Freeman

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-19
ELEV.: 115.98 ft. (grade) DATUM: Assumed (100.00')
START DATE: 7/27/05 FINISH DATE: 7/28/05
SHEET 1 OF 1

PROJECT: Durkee Street Parking Lot (OU2) CTM PROJECT NO.: 04.9498
LOCATION: Plattsburgh, NY CTM OBSERVER: Nathan Freeman

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	–	3	11	9	14	0.8	Brown fine to coarse SAND & GRAVEL,	Augered to 6" through
									trace red brick	asphalt & subbase.
		2	5	4	2	1	6	NR		
5		3	5	1	1	1	2	1.0	trace wood	(moist)
		4	1	2	93	83	95	0.6	Gray fine to coarse SAND & GRAVEL, Some Silt	(moist)
									concrete in sample shoe	
		5	88	100/.2			100+	NR	Rock in sample shoe	
10										
		6	2	2	3	5	5	0.7	Brown fine to medium SAND, Some Silt and Gravel	(moist)
									trace wood & rootlets (organics)	
		7	2	2	2	3	4	0.3		(moist)
15		8	4	6	7	7	13	NR		
		9	2	2	1	1	3	0.5	Brown fine SAND, Some Silt (Loose)	(wet)
		10	18	41	21	73	62	1.4	GLACIAL TILL: Gray fine SAND, SILT and Embeded	(wet to moist)
20									GRAVEL Some, Weathered Rock	
									End of Boring @ 19.5'	
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc. DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: 4 1/4" ID Hollow Stem Augers

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION

THE SUBSURFACE INFORMATION SHOWN HEREON WAS OBTAINED FOR C.T. MALE DESIGN PURPOSES. IT IS MADE AVAILABLE TO AUTHORIZED USERS ONLY THAT THEY MAY HAVE ACCESS TO THE SAME INFORMATION AVAILABLE TO C.T.MALE. IT IS PRESENTED IN GOOD FAITH, BUT IS NOT INTENDED AS A SUBSTITUTE FOR INVESTIGATIONS, INTERPRETATION OR JUDGMENT OF SUCH AUTHORIZED USERS

SAMPLE CLASSIFICATION BY:
N. Freeman

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-20
ELEV.: 121.79 ft. (grade) DATUM: Assumed (100.00')
START DATE: 7/29/05 FINISH DATE: 7/29/05
SHEET 1 OF 1

PROJECT: Durkee Street Parking Lot (OU2)
CTM PROJECT NO.: 04.9498
LOCATION: Plattsburgh, NY
CTM OBSERVER: Nathan Freeman

DEPTH (FT.)	SAMPLE TYPE	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
	/	1	–	9	29	23	38	1.2	Gray CONCRETE and Red BRICK	Augered to 6" through asphalt & subbase.
	/	2	7	7	9	7	16	0.6	becomes Brown fine to medium SAND, little gravel	(moist)
5	/	3	15	11	6	9	17	1.0	Brown fine to medium SAND, Some Silt and embeded Gravel	(moist)
	/	4	16	11	13	12	24	1.9		(moist)
10	/	5	6	19	10	4	29	1.0	Gray fine SAND, Some Silt and embeded Gravel	(moist to wet)
	/	6	2	3	6	10	9	0.9	Glacial Till: Gray fine SAND, Some Silt and embeded Gravel	(moist)
	/	7	5	11	9	11	20	0.4		
15	/	8	2	4	9	12	13	0.7	(Rock in sample shoe)	(wet)
	/	9	7	10	11	22	21	2.0		(wet to moist)
20									End of Boring @ 18.0'	
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc. DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: 4 1/4" ID Hollow Stem Augers

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION

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SAMPLE CLASSIFICATION BY:
N. Freeman

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-21
ELEV.: 119.13 ft. (grade) **DATUM: Assumed (100.00')**
START DATE: 3/7/06 **FINISH DATE: 3/7/06**
SHEET 1 OF 1

PROJECT: Durkee Street Parking Lot (OU2)
CTM PROJECT NO.: 04.9498
LOCATION: Plattsburgh, NY
CTM OBSERVER: Marcia Wolosz

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
	/	1	–	12	17	15	29	1.2	Brown fine to coarse SAND, trace gravel	Augered to 6" through asphalt
	/	2	7	11	12	18	23	1.0	Tan fine to coarse SAND	(moist)
									Brown fine to coarse SAND, trace gravel and red brick	
5	/	3	13	9	5	9	14	1.0	Gray fine to coarse SAND, Some Red Brick, little gravel,	(moist)
									trace organics (wood)	
	/	4	11	7	6	10	13	1.0	Gray fine to coarse SAND, little gravel, red brick, cinders	(moist)
									and ash	
	/	5	6	3	1	1	4	0.7	Gray fine to coarse SAND and GRAVEL, trace red brick	(wet)
10										Depth interval within a void space
	/	6	1	1	1	1	2	0.4	Gray fine to coarse SAND and GRAVEL, little red brick,	(wet)
									trace organics (wood)	Depth interval within a void space
	/	7	3	100/.2				0.6	Gray fine to coarse SAND and GRAVEL, little red brick,	(little wet)
									trace organics (wood)	Concrete in sampler shoe
15	/	8	15	16	20	35	36	0.8	Gray fine SAND and SILT, trace coarse sand, gravel and	(little wet)
									red brick	
	/	9	47	29	33	53	62	1.5		(wet)
	/	10	23	47	34	30	81	1.3	Gray fine SAND and SILT, trace coarse sand and gravel	(little wet to wet)
20										
	/	11	14	33	100/.4			1.3		(wet)
	/	12	100/.3					0.2	Brown fine to medium SAND, trace gravel and red brick	(wet) Shale fragments in shoe
									Boring Terminated ± 23' bgs	
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc. DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: 4 1/4" ID Hollow Stem Augers

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION

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SAMPLE CLASSIFICATION BY:
M. Wolosz

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-22
ELEV.: 119.06 ft. (grade) **DATUM: Assumed (100.00')**
START DATE: 3/2/06 **FINISH DATE: 3/2/06**
SHEET 1 OF 1

PROJECT: Durkee Street Parking Lot (OU2) CTM PROJECT NO.: 04.9498
LOCATION: Plattsburgh, NY CTM OBSERVER: Marcia Wolosz

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	--	20	100/.4			0.6	Brown fine to coarse SAND, trace gravel	Augered to 6" through asphalt (damp)
		2	13	6	4	12	10	1.3	Gray-Tan fine to coarse SAND, trace gravel, concrete and red brick	(damp)
5		3	6	2	1	2	3	1.7		(damp)
		4	8	6	18	12	24	0.8	Gray-Brown fine to coarse SAND, trace gravel	(damp to moist) iron staining noted
10		5	1	2	12	12	14	1.2		(damp to moist) iron staining noted
		6	30	10	15	12	25	1.8	Gray fine SAND and SILT, trace gravel	(moist to wet)
		7	7	16	11	19	27	1.7		(moist to wet) Concrete in sampler shoe
15		8	14	10	16	30	26	1.1		(moist)
		9	18	32	100/.2			0.7		(moist)
									Boring Terminated ± 17' bgs	
20										
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc. DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: 4 1/4" ID Hollow Stem Augers

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION

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SAMPLE CLASSIFICATION BY:
M. Wolosz

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-23
ELEV.: 117.39 ft. (grade) **DATUM: Assumed (100.00')**
START DATE: 3/1/06 **FINISH DATE: 3/2/06**
SHEET 1 OF 1

PROJECT: Durkee Street Parking Lot (OU2)
CTM PROJECT NO.: 04.9498
LOCATION: Plattsburgh, NY
CTM OBSERVER: Marcia Wolosz

DEPTH (FT.)	SAMPLE TYPE	SAMPLE NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	18/24	N	RECOVERY	SAMPLE CLASSIFICATION	NOTES
		1		100/.5				0.5	Brown fine to coarse SAND, trace gravel	Augered to 6" through asphalt
										(damp)
		2	23	16	11	14	27	1.0	Tan-Gray fine to coarse SAND and GRAVEL	(damp)
5		3	9	5	6	7	11	1.3	Tan fine to coarse SAND, trace red brick and wood	(damp)
		4	15	9	19	6	28	0.8	Tan fine to coarse SAND, trace gravel, red brick and concrete	(damp)
		5	100/.4					0.4	Tan-Gray fine to coarse SAND, trace gravel, red brick and concrete	(damp)
10										
		6	4	18	7	5	25	0.8	Tan fine to coarse SAND, trace gravel and red brick	(damp)
		7	4	3	4	19	7	0.8	Tan fine to coarse SAND, trace gravel and concrete	(damp)
15		8	7	2	2	2	9	0.6		(moist)
									Gray fine SAND and SILT, trace gravel	(moist)
		9	2	4	6	14	10	0.9	Gray fine SAND and SILT, trace concrete	(wet)
		10	100/.2					0.2	Gray-Brown fine SAND and SILT, trace gravel	(wet) rock in shoe
20									Boring Terminated ± 19' bgs	
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc. DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: 4 1/4" ID Hollow Stem Augers

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION

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SAMPLE CLASSIFICATION BY:
M. Wolosz

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-24
ELEV.: 117.56 ft. (grade) **DATUM: Assumed (100.00')**
START DATE: 2/27/06 **FINISH DATE: 3/1/06**
SHEET 1 OF 1

PROJECT: Durkee Street Parking Lot (OU2)
CTM PROJECT NO.: 04.9498
LOCATION: Plattsburgh, NY
CTM OBSERVER: Marcia Wolosz

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	–	34	40	16	74	1.0	Tan fine to medium SAND	Augered to 6" through asphalt
										(damp)
		2	11	16	19	23	35	2.0	Tan-Gray fine to coarse SAND, trace gravel	(damp)
5		3	7	15	3	6	18	1.3	Brown fine to coarse SAND, trace gravel	(damp)
		4						0.3		(damp)
		5	100/.3					0.3		(moist to a little wet)
10										
		6	10	7	6	4	13	0.5		(moist)
		7	11	9	8	3	17	1.0		(moist)
									Gray fine SAND and SILT, trace gravel	(moist)
15		8	4	6	16	29	22	0.8		(moist)
		9	100/.3					0.3		(moist)
		10	35	100/.3				0.6		(moist)
20										
		11	100/.4					0.3		(little wet)
									Boring Terminated ± 22' bgs	
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc. DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: 4 1/4" ID Hollow Stem Augers

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION

SAMPLE CLASSIFICATION BY:
M. Wolosz

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-25
ELEV.: 116.87 ft. (grade) **DATUM: Assumed (100.00')**
START DATE: 3/3/06 **FINISH DATE: 3/6/06**
SHEET 1 OF 1

PROJECT: Durkee Street Parking Lot (OU2)

CTM PROJECT NO.: 04.9498

LOCATION: Plattsburgh, NY

CTM OBSERVER: Marcia Wolosz

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	–	20	70	45	90	1.1	Brown fine to coarse SAND, GRAVEL and CONCRETE	Augered to 6" through asphalt
										(damp)
		2	22	30	24	17	54	1.0	Brown fine to coarse SAND and GRAVEL	(damp)
5		3	22	12	12	11	24	1.0	Brown fine to coarse SAND and GRAVEL, trace red brick	(damp)
		4	18	12	13	11	25	2.0	Brtown fine to coarse SAND, GRAVEL and RED BRICK,	(damp)
									trace wood	wood is iron stained
		5	10	4	4	4	8	0.5	Brown fine to coarse SAND and GRAVEL	(damp)
10										cobble in sampler shoe
		6	6	4	4	4	8	1.6	Fine to medium SAND and SILT, little concrete and	(damp)
									red brick	
		7	8	3	4	5	7	2.0	Fine to coarse SAND and SILT, Some Red Brick,	(damp)
									little concrete	
15		8	9	4	3	5	7	1.3	Fine to coarse SAND and GRAVEL	(damp to moist)
									Fine to medium SAND and SILT, little concrete, trace brick	
		9	1	3	3	3	6	1.2	Fine to medium SAND and SILT, trace gravel	(wet)
		10	3	15	27	53	42	1.2	Fine to coarse SAND and SILT, trace gravel	(wet)
20										rock fragments in shoe
									Boring Terminated ± 20' bgs	
25										
30										

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

DRILLING CONTRACTOR: SJB Services, Inc.

DRILL RIG TYPE: CME 75

METHOD OF INVESTIGATION: 4 1/4" ID Hollow Stem Augers

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION

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SAMPLE CLASSIFICATION BY:
M. Wolosz

C.T. MALE ASSOCIATES, P.C.

SUBSURFACE EXPLORATION LOG

BORING NO.: SB-26
ELEV.: 116.78 ft. (grade) **DATUM: Assumed (100.00')**
START DATE: 3/6/06 **FINISH DATE: 3/6/06**
SHEET 1 OF 1

PROJECT: Durkee Street Parking Lot (OU2)
CTM PROJECT NO.: 04.9498
LOCATION: Plattsburgh, NY
CTM OBSERVER: Marcia Wolosz

DEPTH (FT.)	SAMPLE		BLOWS ON SAMPLER					RECOVERY	SAMPLE CLASSIFICATION	NOTES
	TYPE	NO.	0/6	6/12	12/18	18/24	N			
		1	–	11	61	100/.1	72	0.8	Brown fine to coarse SAND and GRAVEL, trace	Augered to 6" through asphalt
									concrete	(damp)
		2	25	65	31	14	96	1.4	Tan fine to coarse SAND, trace gravel	(damp)
									Brown fine to coarse SAND, trace gravel and red brick	
5		3	23	11	4	2	15	1.1		(damp)
		4	2	2	2	6	4	1.4	Brown fine to medium SAND, Some Red Brick, Ash and	(damp)
									Cinders, trace gravel and coarse sand	
		5	1	1	3	5	4	0.1	Brown fine to medium SAND, trace coarse sand	(moist)
10										red brick in sampler shoe
		6	1	2	3	3	5	1.0	Brown fine to medium SAND, Some Red Brick, Ash and	(moist)
									Cinders, trace coarse sand	
		7	2	3	2	2	5	1.0		(moist)
15		8	5	5	3	4	8	0.9	Brown fine to medium SAND, Some Red Brick and Ash,	(moist to a little wet)
									trace coarse sand	
		9	2	4	4	4	8	1.7	Brown fine SAND and SILT, trace coarse sand and	(little wet)
									red brick	
		10	3	2	18	100/.4	20	1.0	Brown fine SAND and Silt, trace gravel	(moist)
20										rock fragments in shoe
									Boring Terminated ± 20' bgs	
25										
30										

N = NO. OF BLOWS TO DRIVE 2" SAMPLER 12" WITH A 140 LB. WT. FALLING 30" PER BLOW
DRILLING CONTRACTOR: SJB Services, Inc.
DRILL RIG TYPE: CME 75
METHOD OF INVESTIGATION: 4 1/4" ID Hollow Stem Augers

GROUNDWATER LEVEL READINGS

DATE	LEVEL	CASING	STABILIZATION

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SAMPLE CLASSIFICATION BY:
M. Wolosz

APPENDIX C

ORGANIC VAPOR HEADSPACE ANALYSIS LOGS

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: South Durkee Parking Lot		**PROJECT #:** 4.9498		**PAGE 1 OF 1**
CLIENT: Plattsburgh Office of Community Development				**DATE COLLECTED:** 8/10/04
LOCATION: Plattsburgh , NY				
INSTRUMENT USED: Mini Rae 2000	**LAMP**	**eV**		**DATE ANALYZED:** 8/10/04
DATE INSTRUMENT CALIBRATED: 8/10/2004		**BY:** S. Bieber		
TEMPERATURE OF SOIL:				**ANALYST:** S. Bieber

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-10	1	0.5- 2'	Soil	1.1	0	No odor
SB-10	2	2- 4'	Soil	0.8	0	No odor
SB-10	3	4- 6'	Soil	2.4	0	No odor
SB-10	4	6- 8'	Soil	3.8	0	No odor
SB-10	5	8- 10'	Soil	118	0	Slight odor
SB-10	6	10- 12'	Soil	13.9	0	Slight odor
SB-10	7	12- 14'	Soil	180	0	Oil odor
SB-10	8	14- 15.7'	Soil	116	0	Oil odor
SB-10	9	16- 16.7'	Soil	27.2	0	No odor
SB-10	10	18-19.4'	Soil	25	0	No odor

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

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

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

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: South Durkee Parking Lot	**PROJECT #:** 4.9498		**PAGE 1 OF 1**
CLIENT: Plattsburgh Office of Community Development			**DATE COLLECTED: 8/11/04**
LOCATION: Plattsburgh , NY			
INSTRUMENT USED: Mini Rae 2000	**LAMP**	**eV**	**DATE ANALYZED: 8/11/04**
DATE INSTRUMENT CALIBRATED: 8/10/2004	**BY:** S. Bieber		
TEMPERATURE OF SOIL:			**ANALYST: S. Bieber**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-11	1	0.5- 2'	Soil	19.1	0	No odor
SB-11	2	2- 3.1'	Soil	15.7	0	No odor
SB-11	3	3.1- 7'	Concrete Pad/	---------------------	---No Recovery---	---------------------------
SB-11	4	7- 9'	Soil	209	0	Oil odor
SB-11	5	9- 11'	Soil	1.5	0	No odor
SB-11	6	11-13'	Soil	0.3	0	No odor

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

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

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

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: Durkee Street OU #2	**PROJECT #:** 04.9498		**PAGE 1 OF 1**
CLIENT: Plattsburgh Office of Community Development			**DATE COLLECTED:** 7/27/05
LOCATION: Plattsburgh , NY			
INSTRUMENT USED: Mini Rae 2000	**LAMP** 10.6 **eV**		**DATE ANALYZED:** 7/27/05
DATE INSTRUMENT CALIBRATED: 7/27/2005		**BY:** N. Freeman	
TEMPERATURE OF SOIL: Ambient			**ANALYST: N. Freeman**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-18	1	0-2'	Soil	0.5	0.3	no odor or staining
SB-18	2	8-10'	Soil	0.4	0.3	no odor or staining
SB-18	3	10-12'	Soil	0.6	0.1	no odor or staining
SB-18	4	12-14'	Soil	0.5	0.2	no odor or staining
SB-18	5	14-16'	Soil	0.5	0.3	no odor or staining
SB-18	6	16-18'	Soil	0.6	0.2	no odor or staining
SB-19	7	0-2'	Soil	0.3	0.2	no odor or staining
SB-19	8	4-6'	Soil	0.3	0.3	no odor or staining
SB-19	9	6-8'	Soil	0.3	0.2	no odor or staining
SB-19	10	10-12'	Soil	0.4	0.3	no odor or staining
SB-19	11	12-14'	Soil	0.4	0.3	no odor or staining
SB-19	12	16-18'	Soil	0.9	0.3	no odor or staining
SB-19	13	18-20'	Soil	0.7	0.3	no odor or staining

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

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

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

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	Durkee Street OU #2	**PROJECT #:**	04.9498	**PAGE 1 OF 1**
CLIENT:	Plattsburgh Office of Community Development			**DATE**
LOCATION:	Plattsburgh , NY			**COLLECTED: 7/28/05**
INSTRUMENT USED:	Mini Rae 2000	**LAMP**	10.6 **eV**	**DATE**
DATE INSTRUMENT CALIBRATED:	7/28/2005	**BY:**	N. Freeman	**ANALYZED: 7/28/05**
TEMPERATURE OF SOIL:	Ambient			**ANALYST: N. Freeman**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-16	1	0-2'	Soil	0.2	0.0	no odor or staining
SB-16	2	2- 4'	Soil	0.3	0.0	no odor or staining
SB-16	3	4- 6'	Soil	0.3	0.0	no odor or staining
SB-16	4	6- 8'	Soil	0.2	0.0	no odor or staining
SB-16	5	8- 10'	Soil	0.3	0.0	no odor or staining
SB-16	6	10-12'	Soil	0.4	0.0	no odor or staining
SB-16	7	12-14'	Soil	0.3	0.0	no odor or staining
SB-16	8	14-16'	Soil	0.3	0.1	no odor or staining
SB-16	9	16-18'	Soil	0.3	0.0	no odor or staining
SB-16	10	18-20'	Soil	0.2	0.0	no odor or staining

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

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

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

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	Durkee Street OU #2	**PROJECT #:**	04.9498	**PAGE 1 OF 1**
CLIENT:	Plattsburgh Office of Community Development			**DATE COLLECTED: 7/29/05**
LOCATION:	Plattsburgh , NY			
INSTRUMENT USED:	Mini Rae 2000	**LAMP**	10.6 **eV**	**DATE ANALYZED: 7/29/05**
DATE INSTRUMENT CALIBRATED:	7/29/2005	**BY:**	N. Freeman	
TEMPERATURE OF SOIL:	Ambient			**ANALYST: N. Freeman**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-20	1	0-2'	Soil	0.4	0.2	no odor or staining
SB-20	2	2-4'	Soil	0.3	0.2	no odor or staining
SB-20	3	4-6'	Soil	0.4	0.2	no odor or staining
SB-20	4	6-8'	Soil	0.3	0.0	no odor or staining
SB-20	5	8-10'	Soil	0.4	0.1	no odor or staining
SB-20	6	10-12'	Soil	0.3	0.1	no odor or staining
SB-20	7	12-14'	Soil	0.2	0.1	no odor or staining
SB-20	8	14-16'	Soil	0.5	0.3	no odor or staining
SB-20	9	16-18'	Soil	0.5	0.2	no odor or staining

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

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

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

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: Durkee Street OU #2
PROJECT #: 04.9498
PAGE 1 OF 1
CLIENT: Plattsburgh Office of Community Development
DATE COLLECTED: 8/1/05
LOCATION: Plattsburgh , NY
INSTRUMENT USED: Mini Rae 2000
LAMP 10.6 **eV**
DATE ANALYZED: 8/1/05
DATE INSTRUMENT CALIBRATED: 8/1/2005
BY: N. Freeman
TEMPERATURE OF SOIL: Ambient
ANALYST: N. Freeman

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-15	1	0-2'	Soil	1.9	0.2	no odor or staining
SB-15	2	2- 4'	Soil	0.8	0.2	no odor or staining
SB-15	3	4- 6'	Soil	0.7	0.2	no odor or staining
SB-15	4	6- 8'	Soil	0.4	0.2	no odor or staining
SB-15	5	8- 10'	Soil	0.6	0.1	no odor or staining
SB-15	6	10-12'	Soil	0.5	0.2	no odor or staining
SB-15	7	12-14'	Soil	0.4	0.3	no odor or staining
SB-15	8	14-16'	Soil	0.5	0.3	no odor or staining
SB-15	9	16-18'	Soil	0.6	0.3	no odor or staining

*Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.
**PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.
***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	Durkee Street OU #2	**PROJECT #:**	04.9498	**PAGE 1 OF 1**
CLIENT:	Plattsburgh Office of Community Development			**DATE**
LOCATION:	Plattsburgh , NY			**COLLECTED: 8/2/05**
INSTRUMENT USED:	Mini Rae 2000	**LAMP**	10.6 **eV**	**DATE**
DATE INSTRUMENT CALIBRATED:	8/2/2005	**BY:**	N. Freeman	**ANALYZED: 8/2/05**
TEMPERATURE OF SOIL:	Ambient			**ANALYST: N. Freeman**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-13	1	0-2'	Soil	0.3	0.2	no odor or staining
SB-13	2	2- 4'	Soil	0.3	0.2	no odor or staining
SB-13	3	4- 6'	Soil	0.4	0.2	no odor or staining
SB-13	4	6- 8'	Soil	0.3	0.2	no odor or staining
SB-13	5	8- 10'	Soil	0.4	0.2	no odor or staining
SB-13	6	10-12'	Soil	0.4	0.2	no odor or staining
SB-13	7	12-14'	Soil	0.5	0.2	no odor or staining
SB-13	8	14-16'	Soil	0.3	0.2	no odor or staining
SB-14	9	0-2'	Soil	1.3	0.1	no odor or staining
SB-14	10	2-4'	Soil	2.8	0.1	no odor or staining
SB-14	11	4-6'	Soil	1.0	0.1	no odor or staining
SB-14	12	8-10'	Soil	1.2	0.1	no odor or staining
SB-14	13	10-12'	Soil	0.6	0.1	no odor or staining
SB-14	14	12-14'	Soil	0.5	0.1	no odor or staining
SB-14	15	14-16'	Soil	0.5	0.1	no odor or staining
SB-14	16	16-18'	Soil	0.8	0.1	no odor or staining

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

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

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

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: Durkee Street OU #2	**PROJECT #:** 04.9498		**PAGE 1 OF 1**
CLIENT: Plattsburgh Office of Community Development			**DATE COLLECTED: 8/3/05**
LOCATION: Plattsburgh , NY			
INSTRUMENT USED: Mini Rae 2000	**LAMP** 10.6 **eV**		**DATE ANALYZED: 8/3/05**
DATE INSTRUMENT CALIBRATED: 8/3/2005	**BY:** N. Freeman		
TEMPERATURE OF SOIL: Ambient			**ANALYST: N. Freeman**

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-17	1	0-2'	Soil	0.5	0.1	no odor or staining
SB-17	2	2- 4'	Soil	0.8	0.1	no odor or staining
SB-17	3	4- 6'	Soil	0.9	0.1	no odor or staining
SB-17	4	6- 8'	Soil	1.0	0.1	no odor or staining
SB-17	5	8- 10'	Soil	0.8	0.1	no odor or staining
SB-17	6	10-12'	Soil	0.9	0.2	no odor or staining
SB-17	7	12-14'	Soil	0.7	0.1	no odor or staining
SB-17	8	14-16'	Soil	0.8	0.2	no odor or staining
SB-17	9	16-18'	Soil	0.7	0.1	no odor or staining
SB-17	10	18-20'	Soil	262	0.1	Petro odor and stained

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

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

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

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	Durkee Street Parking Lot (OU2)	**PROJECT #:**	04.9498	**PAGE 1 OF 1**
CLIENT:	Plattsburgh Office of Community Development			**DATE COLLECTED:** 2/27/06
LOCATION:	Plattsburgh , NY			
INSTRUMENT USED:	Mini Rae 2000	**LAMP**	10.6 **eV**	**DATE ANALYZED:** 2/27/06
DATE INSTRUMENT CALIBRATED:	2/27/2006	**BY:**	M. Wolosz	
TEMPERATURE OF SOIL:	Ambient			**ANALYST:** M. Wolosz

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-24	1	0.5-2	Soil-Grab	0.2	0.0	No Odor/No Staining
SB-24	2	2-4	Soil-Grab	0.4	0.0	No Odor/No Staining
SB-24	3	4-6	Soil-Grab	104.0	0.0	Paint Thinner Odor
SB-24	4	6-8	Soil-Grab	9.3	0.0	No Odor/Limited Recovery
SB-24	5	8-10	Soil-Grab	2.2	0.0	No Odor/No Staining
SB-24	6	10-12	Soil-Grab	2.4	0.2	No Odor/No Staining
SB-24	7	12-14	Soil-Grab	1.4	0.2	No Odor/No Staining
SB-24	8	14-16	Soil-Grab	1.8	0.2	No Odor/No Staining
SB-24	9	16-18	Soil-Grab	1.5	0.2	No Odor/No Staining
SB-24	10	18-20	Soil-Grab	4.0	0.3	No Odor/No Staining
SB-24	11	20-22	Soil-Grab	2.7	0.3	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.

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

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT: Durkee Street Parking Lot (OU2) **PROJECT #:** 04.9498 **PAGE 1 OF 1**
CLIENT: Plattsburgh Office of Community Development
DATE COLLECTED: 3/1/06
LOCATION: Plattsburgh , NY
INSTRUMENT USED: Mini Rae 2000 **LAMP** 10.6 **eV**
DATE ANALYZED: 3/1/06
DATE INSTRUMENT CALIBRATED: 3/1/2006 **BY:** M. Wolosz
TEMPERATURE OF SOIL: Ambient
ANALYST: M. Wolosz

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-24	12	22-22.3	Soil-Grab	1.4	0.1	No Odor/No Staining
SB-23	1	0.5-2	Soil-Grab	0.8	0.0	No Odor/No Staining
SB-23	2	2-4	Soil-Grab	1.0	0.0	No Odor/No Staining
SB-23	3	4-6	Soil-Grab	3.2	0.0	No Odor/No Staining
SB-23	4	6-8	Soil-Grab	1.2	0.0	No Odor/No Staining
SB-23	5	8-10	Soil-Grab	11.0	0.0	No Odor/No Staining
SB-23	6	10-12	Soil-Grab	1.1	0.0	No Odor/No Staining
SB-23	7	12-14	Soil-Grab	0.7	0.0	No Odor/No Staining
SB-23	8	14-16	Soil-Grab	4.0	0.1	No Odor/No Staining
SB-23	9	16-18	Soil-Grab	1.3	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.
***Due to poor sample recovery the sample is not sufficient enough to specify which portion of the recovered sample interval was collected .

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	Durkee Street Parking Lot (OU2)	**PROJECT #:**	04.9498	**PAGE 1 OF 1**
CLIENT:	Plattsburgh Office of Community Development			**DATE COLLECTED:** 3/2/06
LOCATION:	Plattsburgh , NY			
INSTRUMENT USED:	Mini Rae 2000	**LAMP**	10.6 **eV**	**DATE ANALYZED:** 3/2/06
DATE INSTRUMENT CALIBRATED:	3/2/2006	**BY:**	M. Wolosz	
TEMPERATURE OF SOIL:	Ambient			**ANALYST:** M. Wolosz

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-23	10	18-18.3	Soil-Grab	1.8	0.2	No Odor/No Staining
SB-22	1	0.5-2	Soil-Grab	1.7	0.0	No Odor/No Staining
SB-22	2	2-4	Soil-Grab	3.5	0.0	No Odor/No Staining
SB-22	3	4-6	Soil-Grab	6.6	0.0	Old Paint Odor/No Staining
SB-22	4	6-8	Soil-Grab	3.6	0.0	Musty Odor/No Staining
SB-22	5	8-10	Soil-Grab	4.0	0.0	No Odor/No Staining
SB-22	6	10-12	Soil-Grab	4.0	0.0	No Odor/No Staining
SB-22	7	12-14	Soil-Grab	1.8	0.1	No Odor/No Staining
SB-22	8	14-16	Soil-Grab	3.3	0.2	No Odor/No Staining
SB-22	9	16-18	Soil-Grab	2.7	0.2	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.

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

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	Durkee Street Parking Lot (OU2)	**PROJECT #:**	04.9498	**PAGE 1 OF 1**
CLIENT:	Plattsburgh Office of Community Development			**DATE COLLECTED:** 3/3/06
LOCATION:	Plattsburgh , NY			
INSTRUMENT USED:	Mini Rae 2000	**LAMP**	10.6 **eV**	**DATE ANALYZED:** 3/3/06
DATE INSTRUMENT CALIBRATED:	3/3/2006	**BY:**	M. Wolosz	
TEMPERATURE OF SOIL:	Ambient			**ANALYST:** M. Wolosz

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-25	1	0.5-2	Soil-Grab	0.9	0.1	No Odor/No Staining
SB-25	2	2-4	Soil-Grab	1.3	0.1	No Odor/No Staining
SB-25	3	4-6	Soil-Grab	0.7	0.1	No Odor/No Staining
SB-25	4	6-8	Soil-Grab	0.6	0.1	No Odor/No Staining
SB-25	5	8-10	Soil-Grab	1.1	0.2	No Odor/No Staining
SB-25	6	10-12	Soil-Grab	1.1	0.3	No Odor/No Staining
SB-25	7	12-14	Soil-Grab	0.8	0.3	No Odor/No Staining
SB-25	8	14-16	Soil-Grab	1.4	0.4	No Odor/No Staining
SB-25	9	16-18	Soil-Grab	1.7	0.4	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.

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

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	Durkee Street Parking Lot (OU2)	**PROJECT #:**	04.9498	**PAGE 1 OF 1**
CLIENT:	Plattsburgh Office of Community Development			**DATE COLLECTED:** 3/6/06
LOCATION:	Plattsburgh , NY			
INSTRUMENT USED:	Mini Rae 2000	**LAMP**	10.6 **eV**	**DATE ANALYZED:** 3/6/06
DATE INSTRUMENT CALIBRATED:	3/6/2006	**BY:**	M. Wolosz	
TEMPERATURE OF SOIL:	Ambient			**ANALYST:** M. Wolosz

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-25	10	18-20	Soil-Grab	1.1	0	No Odor/No Staining
SB-26	1	0.5-2	Soil-Grab	1.2	0.0	No Odor/No Staining
SB-26	2	2-4	Soil-Grab	1.7	0.0	No Odor/No Staining
SB-26	3	4-6	Soil-Grab	1.6	0.0	No Odor/No Staining
SB-26	4	6-8	Soil-Grab	1.9	0.0	No Odor/No Staining
SB-26	5	8-10	Soil-Grab	3.4	0.1	No Odor/No Staining
SB-26	6	10-12	Soil-Grab	1.8	0.0	No Odor/No Staining
SB-26	7	12-14	Soil-Grab	1.8	0.1	No Odor/No Staining
SB-26	8	14-16	Soil-Grab	2.1	0.2	No Odor/No Staining
SB-26	9	16-18	Soil-Grab	4.0	0.1	Slight Fuel Odor/No Staining
SB-26	10	18-20	Soil-Grab	2.4	0.2	Slight Fuel Odor/No Staining
SB-26	11	20-20.3	Soil-Grab	2.7	0.2	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.

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

ORGANIC VAPOR HEADSPACE ANALYSIS LOG

PROJECT:	Durkee Street Parking Lot (OU2)	**PROJECT #:**	04.9498	**PAGE 1 OF 1**
CLIENT:	Plattsburgh Office of Community Development			**DATE COLLECTED:** 3/7/06
LOCATION:	Plattsburgh , NY			
INSTRUMENT USED:	Mini Rae 2000	**LAMP**	10.6 **eV**	**DATE ANALYZED:** 3/7/06
DATE INSTRUMENT CALIBRATED:	3/7/2006	**BY:**	M. Wolosz	
TEMPERATURE OF SOIL:	Ambient			**ANALYST:** M. Wolosz

EXPLORATION NUMBER	SAMPLE NUMBER	DEPTH (FT.)***	SAMPLE TYPE	SAMPLE READING (PPM)**	BACKGROUND READING (PPM)**	REMARKS
SB-21	1	0-2	Soil-Grab	2.4	0.1	No Odor/No Staining
SB-21	2	2-4	Soil-Grab	2.2	0.2	No Odor/No Staining
SB-21	3	4-6	Soil-Grab	4.2	0.4	No Odor/No Staining
SB-21	4	6-8	Soil-Grab	8.0	0.5	Slight Fuel Odor/No Staining
SB-21	5	8-10	Soil-Grab	3.5	0.5	No Odor/No Staining
SB-21	6	10-12	Soil-Grab	5.6	0.5	Slight Fuel Odor/No Staining
SB-21	7	12-14	Soil-Grab	4.3	1.0	No Odor/No Staining
SB-21	8	14-16	Soil-Grab	8.5	0.9	Burnt Cigar Odor/No staining
SB-21	9	16-18	Soil-Grab	7.9	1.0	Burnt Cigar Odor/No staining
SB-21	10	18-20	Soil-Grab	9.2	1.1	Musty Odor/No Staining
SB-21	11	20-22	Soil-Grab	6.9	1.4	Musty Odor/No Staining
SB-21	12	22-23	Soil-Grab	8.2	0.4	Burnt Cigar 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.

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

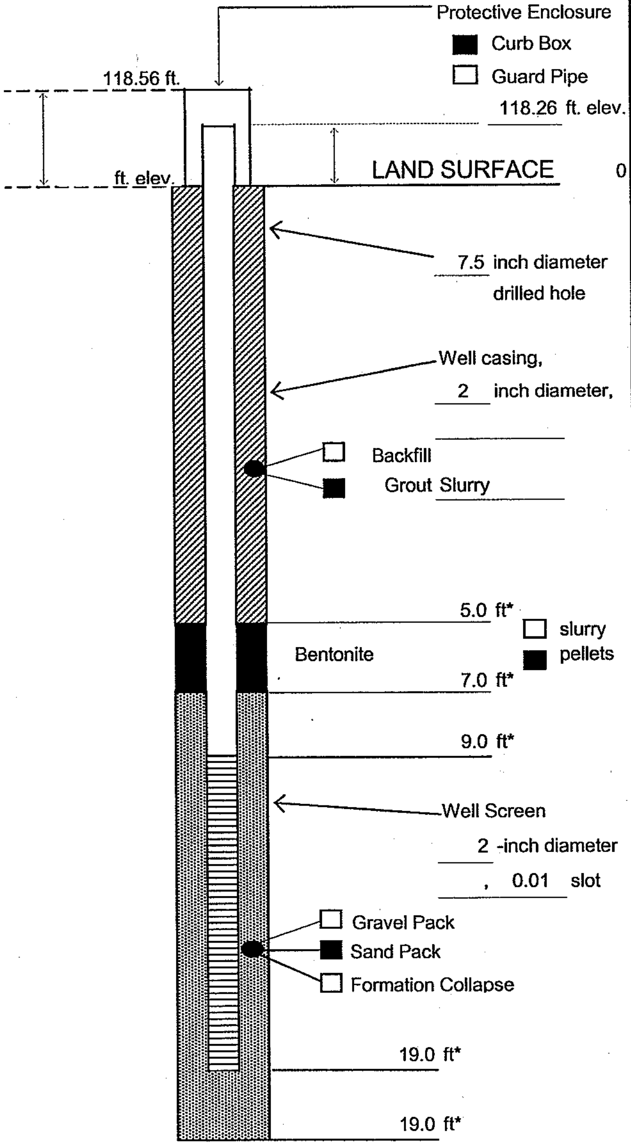
APPENDIX D

MONITORING WELL CONSTRUCTION LOGS

Well No. MW 10

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



Protective Enclosure
☒ Curb Box
☐ Guard Pipe

118.56 ft.

118.26 ft. elev.

ft. elev.

LAND SURFACE 0

7.5 inch diameter drilled hole

Well casing, 2 inch diameter,

☐ Backfill
☒ Grout Slurry

5.0 ft*

Bentonite ☐ slurry ☒ pellets

7.0 ft*

9.0 ft*

Well Screen
2 -inch diameter
, 0.01 slot

☐ Gravel Pack
☒ Sand Pack
☐ Formation Collapse

19.0 ft*

19.0 ft*

* Depth below land surface.

Project Number 04.9498

Project Name Durkee Street Parking Lot

Well No. MW-10 Boring No. SB-10

Town/City Plattsburgh

County Clinton State NY

Installation Date(s) 8/11/2004

Drilling Contractor SJB Services, Inc.

Drilling Method 4 1/4" I.D. HSA and 2" I.D. sampling spoons

Water Depth From Top of Riser ____ ft ____ Date

C.T. Male Observer S. Bieber

Notes:

Well No. MW-11

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.

Project Number 04.9498

Project Name Durkee Street Parking Lot

Well No. MW-11 Boring No. SB-11

Town/City Plattsburgh

County Clinton State NY

Installation Date(s) 8/12/2004

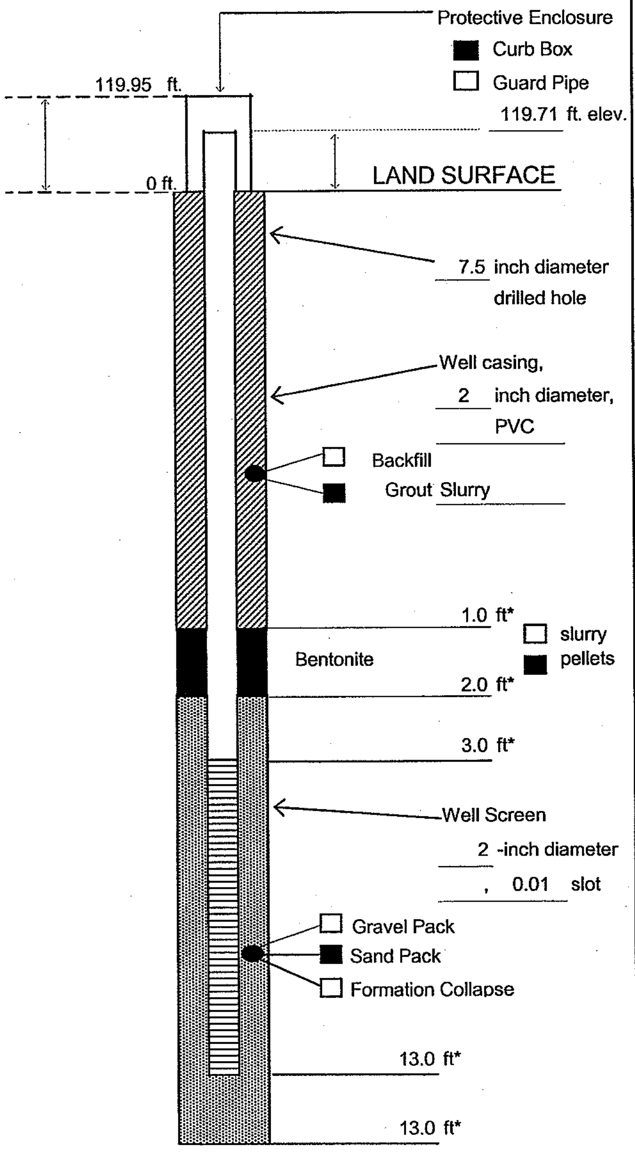
Drilling Contractor SJB

Drilling Method 4 1/4" I.D. HSA and 2" I.D. sampling spoons

Water Depth From Top of Riser ____ ft ____ Date

C.T. Male Observer S. Bieber

Notes:



Protective Enclosure
☒ Curb Box
☐ Guard Pipe

119.95 ft.
119.71 ft. elev.
0 ft.
LAND SURFACE

7.5 inch diameter drilled hole

Well casing, 2 inch diameter, PVC

☐ Backfill
☒ Grout Slurry

1.0 ft*
Bentonite ☐ slurry ☒ pellets
2.0 ft*
3.0 ft*

Well Screen
2 -inch diameter
, 0.01 slot

☐ Gravel Pack
☒ Sand Pack
☐ Formation Collapse

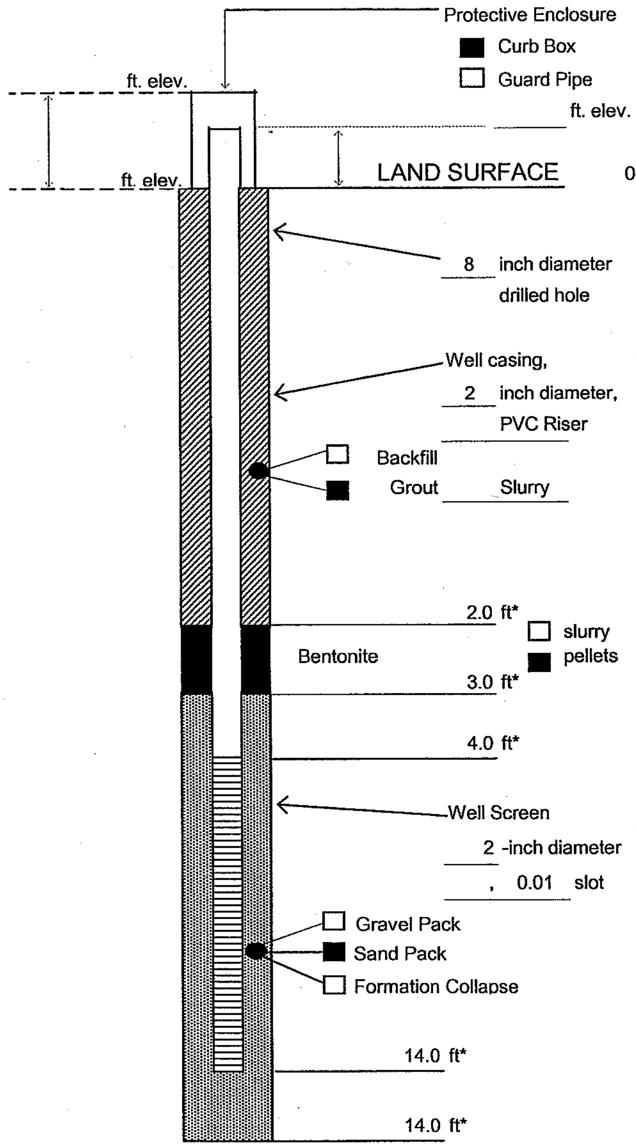
13.0 ft*
13.0 ft*

* Depth below land surface.

Well No. MW13

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



Protective Enclosure
☒ Curb Box
☐ Guard Pipe

LAND SURFACE

8 inch diameter drilled hole

Well casing, 2 inch diameter, PVC Riser

☐ Backfill
☒ Grout Slurry

2.0 ft*
Bentonite ☐ slurry ☒ pellets
3.0 ft*

4.0 ft*

Well Screen 2 -inch diameter , 0.01 slot

☐ Gravel Pack
☒ Sand Pack
☐ Formation Collapse

14.0 ft*

14.0 ft*

Bentonite seal from 16- 14'

* Depth below land surface.

Project Number 04.9498

Project Name Durkee Street Parking Lot (OU2)

Well No. MW13 Boring No. SB13

Town/City City of Plattsburgh

County Clinton State NY

Installation Date(s) 8/2/2005

Drilling Contractor SJB Services, Inc.

Drilling Method 4 1/4" I.D. HSA and 2" I.D. sampling spoons

Water Depth From Top of Riser ___ ft ___ Date

C.T. Male Observer N. Freeman

Notes:

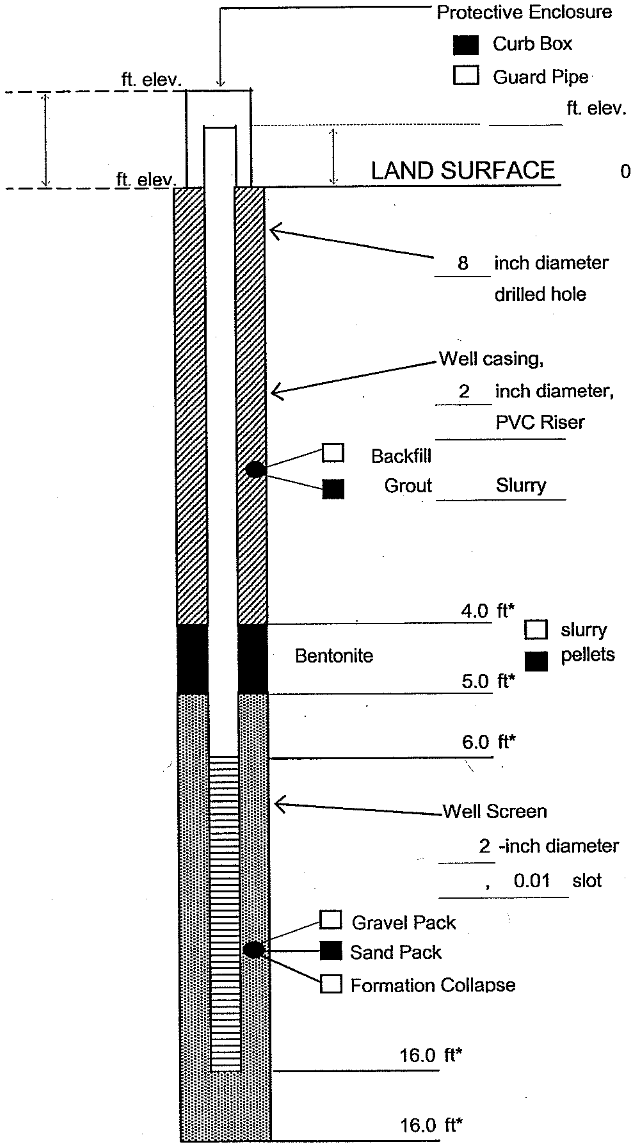
Well No. MW14

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.

Project Number	04.9498
Project Name	Durkee Street Parking Lot (OU2)
Well No.	MW14
Boring No.	SB14
Town/City	City of Plattsburgh
County	Clinton
State	NY
Installation Date(s)	8/3/2005
Drilling Contractor	SJB Services, Inc.
Drilling Method	4 1/4" I.D. HSA and 2" I.D. sampling spoons
Water Depth From Top of Riser	ft
Date	
C.T. Male Observer	N. Freeman

Notes:



Protective Enclosure
■ Curb Box
☐ Guard Pipe

ft. elev.
ft. elev.
ft. elev.

LAND SURFACE 0

8 inch diameter drilled hole

Well casing, 2 inch diameter, PVC Riser

☐ Backfill
■ Grout Slurry

4.0 ft*
Bentonite
☐ slurry
■ pellets
5.0 ft*

6.0 ft*

Well Screen
2 -inch diameter
, 0.01 slot

☐ Gravel Pack
■ Sand Pack
☐ Formation Collapse

16.0 ft*

16.0 ft*

* Depth below land surface.

Well No. MW15

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.

Project Number 04.9498

Project Name Durkee Street Parking Lot (OU2)

Well No. MW15 Boring No. SB15

Town/City City of Plattsburgh

County Clinton State NY

Installation Date(s) 8/1/2005 and 8/2/2005

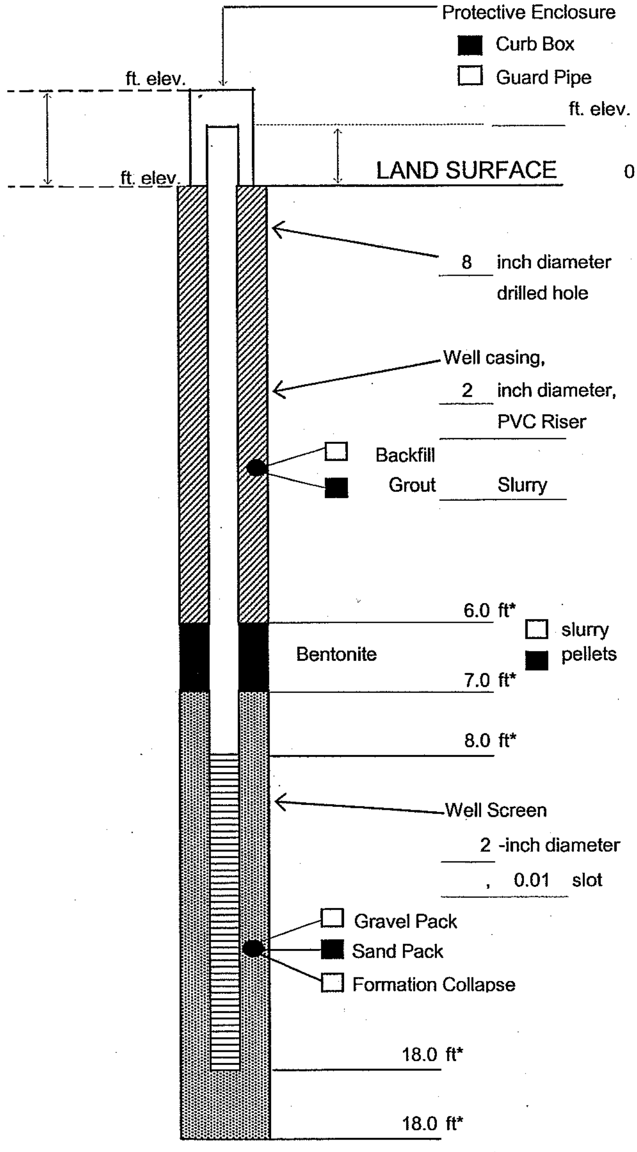
Drilling Contractor SJB Services, Inc.

Drilling Method 4 1/4" I.D. HSA and 2" I.D. sampling spoons

Water Depth From Top of Riser ____ ft ____ Date

C.T. Male Observer N. Freeman

Notes:



Protective Enclosure

☒ Curb Box

☐ Guard Pipe

ft. elev.

ft. elev.

ft. elev.

LAND SURFACE 0

8 inch diameter drilled hole

Well casing, 2 inch diameter, PVC Riser

☐ Backfill

☒ Grout Slurry

6.0 ft*

Bentonite ☐ slurry ☒ pellets

7.0 ft*

8.0 ft*

Well Screen 2 -inch diameter , 0.01 slot

☐ Gravel Pack

☒ Sand Pack

☐ Formation Collapse

18.0 ft*

18.0 ft*

* Depth below land surface.

Well No. MW16

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.

Project Number 04.9498

Project Name Durkee Street Parking Lot (OU2)

Well No. MW16 Boring No. SB16

Town/City City of Plattsburgh

County Clinton State NY

Installation Date(s) 7/28/2005

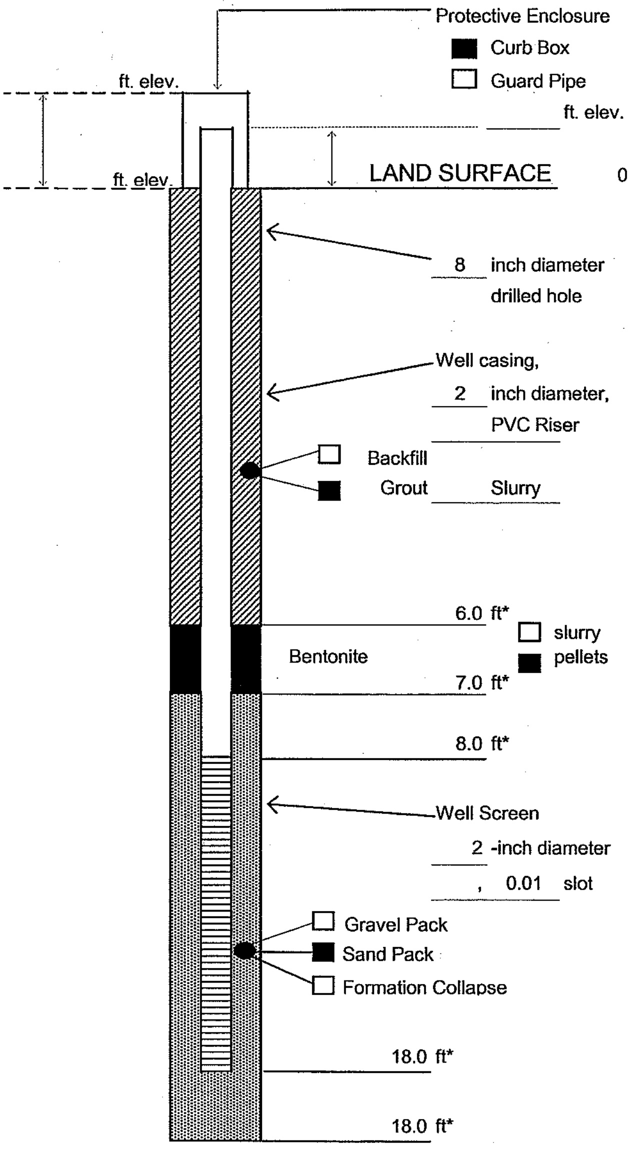
Drilling Contractor SJB Services, Inc.

Drilling Method 4 1/4" I.D. HSA and 2" I.D. sampling spoons

Water Depth From Top of Riser ____ ft ____ Date

C.T. Male Observer N. Freeman

Notes:



Protective Enclosure
■ Curb Box
☐ Guard Pipe

ft. elev.

ft. elev.

ft. elev.

LAND SURFACE 0

8 inch diameter drilled hole

Well casing, 2 inch diameter, PVC Riser

☐ Backfill
■ Grout Slurry

6.0 ft*

Bentonite ☐ slurry ■ pellets

7.0 ft*

8.0 ft*

Well Screen
2 -inch diameter
, 0.01 slot

☐ Gravel Pack
■ Sand Pack
☐ Formation Collapse

18.0 ft*

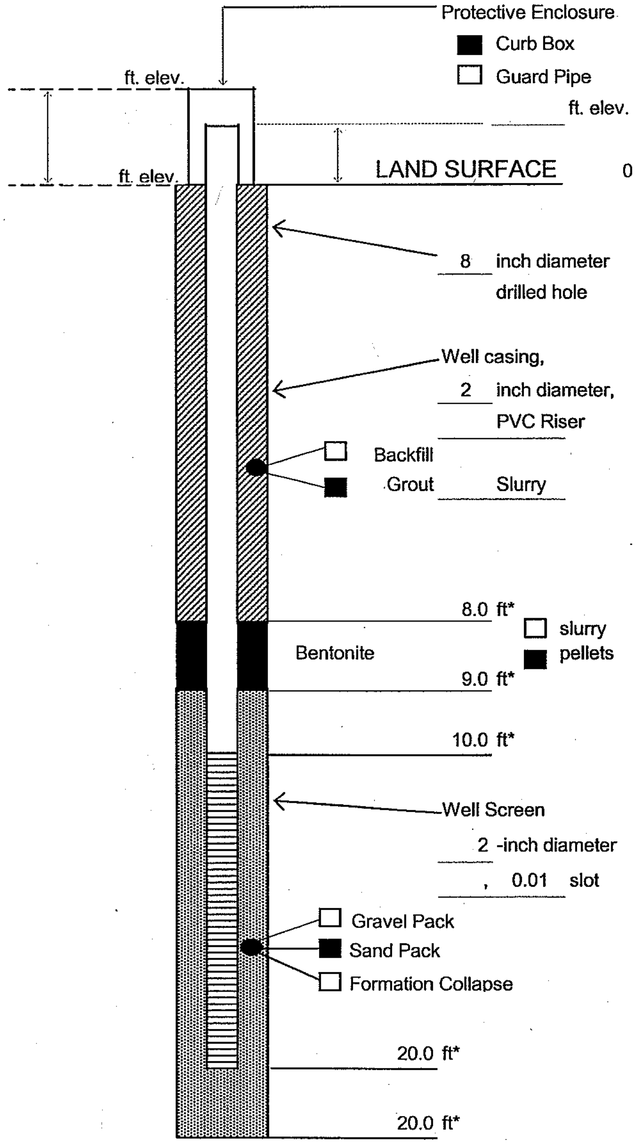
18.0 ft*

* Depth below land surface.

Well No. MW17

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



Protective Enclosure
■ Curb Box
☐ Guard Pipe

8 inch diameter drilled hole

Well casing, 2 inch diameter, PVC Riser

☐ Backfill
■ Grout Slurry

8.0 ft*
Bentonite ☐ slurry ■ pellets
9.0 ft*

10.0 ft*

Well Screen
2 -inch diameter
, 0.01 slot

☐ Gravel Pack
■ Sand Pack
☐ Formation Collapse

20.0 ft*

20.0 ft*

* Depth below land surface.

Project Number 04.9498

Project Name Durkee Street Parking Lot (OU2)

Well No. MW17 Boring No. SB17

Town/City City of Plattsburgh

County Clinton State NY

Installation Date(s) 8/3/2005

Drilling Contractor SJB Services, Inc.

Drilling Method 4 1/4" I.D. HSA and 2" I.D. sampling spoons

Water Depth From Top of Riser ____ ft ____ Date

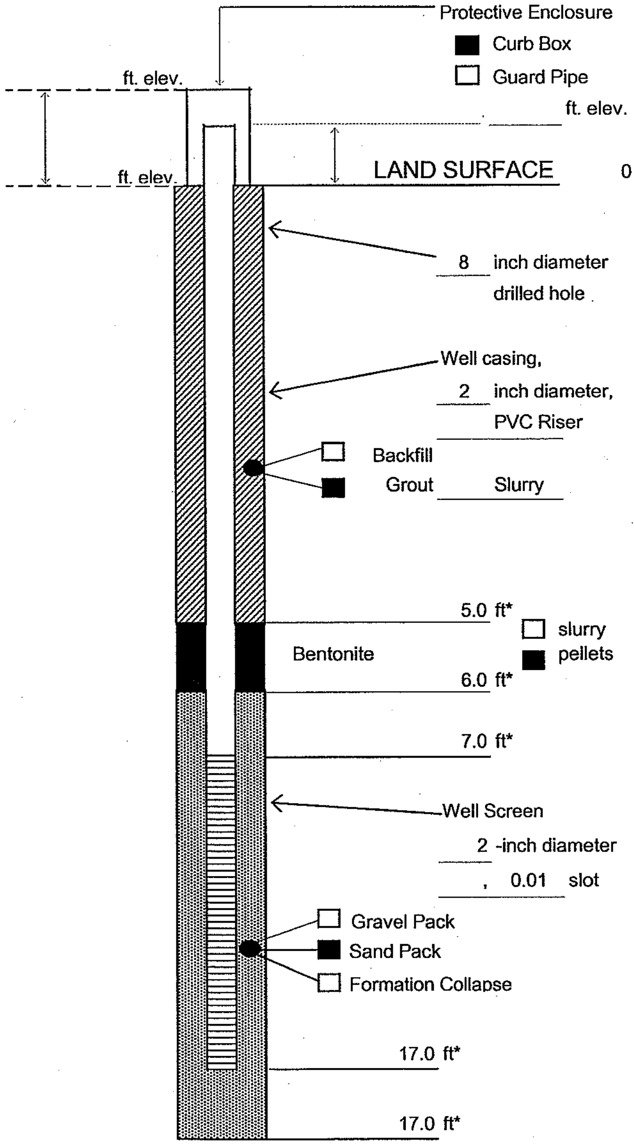
C.T. Male Observer N. Freeman

Notes:

Well No. MW18

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



Protective Enclosure
■ Curb Box
☐ Guard Pipe

8 inch diameter drilled hole

Well casing, 2 inch diameter, PVC Riser

☐ Backfill
■ Grout Slurry

5.0 ft*
Bentonite ☐ slurry ■ pellets
6.0 ft*

7.0 ft*

Well Screen
2 -inch diameter
, 0.01 slot

☐ Gravel Pack
■ Sand Pack
☐ Formation Collapse

17.0 ft*

17.0 ft*

* Depth below land surface.

Project Number 04.9498

Project Name Durkee Street Parking Lot (OU2)

Well No. MW18 Boring No. SB18

Town/City City of Plattsburgh

County Clinton State NY

Installation Date(s) 7/27/2005

Drilling Contractor SJB Services, Inc.

Drilling Method 4 1/4" I.D. HSA and 2" I.D. sampling spoons

Water Depth From Top of Riser ft Date

C.T. Male Observer N. Freeman

Notes:

Well No. MW19

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.

Project Number 04.9498

Project Name Durkee Street Parking Lot (OU2)

Well No. MW19 Boring No. SB19

Town/City City of Plattsburgh

County Clinton State NY

Installation Date(s) 7/28/2005

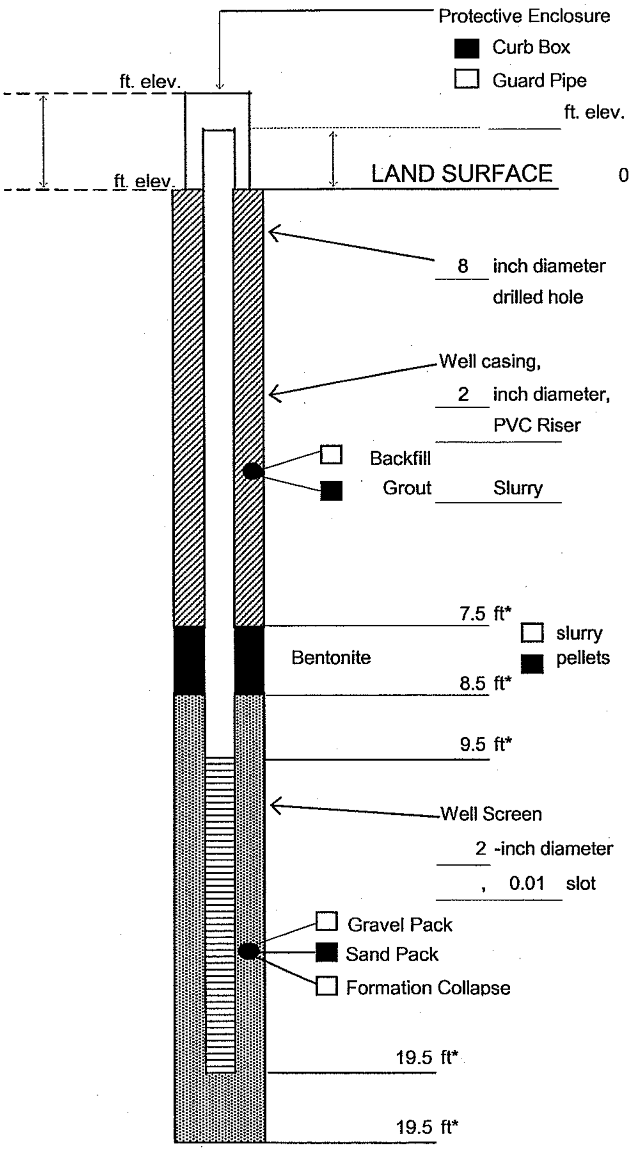
Drilling Contractor SJB Services, Inc.

Drilling Method 4 1/4" I.D. HSA and 2" I.D. sampling spoons

Water Depth From Top of Riser ft Date

C.T. Male Observer N. Freeman

Notes:



Protective Enclosure

■ Curb Box

☐ Guard Pipe

ft. elev.

ft. elev.

ft. elev.

LAND SURFACE 0

8 inch diameter drilled hole

Well casing, 2 inch diameter, PVC Riser

☐ Backfill

■ Grout Slurry

7.5 ft*

Bentonite ☐ slurry ■ pellets

8.5 ft*

9.5 ft*

Well Screen 2 -inch diameter , 0.01 slot

☐ Gravel Pack

■ Sand Pack

☐ Formation Collapse

19.5 ft*

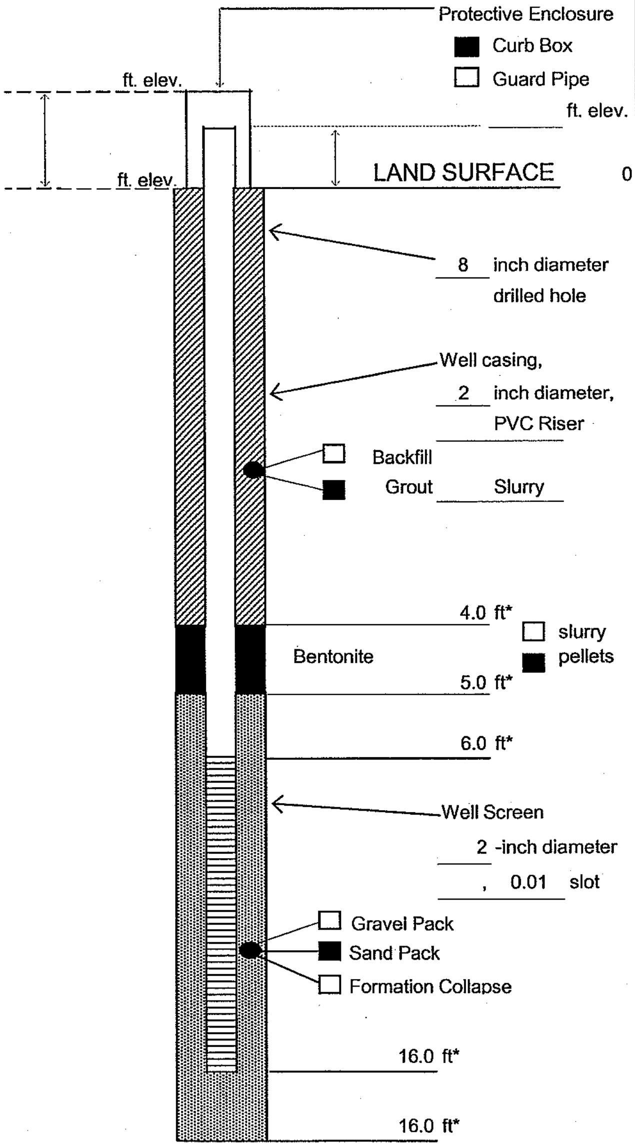
19.5 ft*

* Depth below land surface.

Well No. MW20

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



Protective Enclosure

■ Curb Box

☐ Guard Pipe

ft. elev.

ft. elev.

ft. elev.

LAND SURFACE 0

8 inch diameter drilled hole

Well casing, 2 inch diameter, PVC Riser

☐ Backfill

■ Grout Slurry

4.0 ft*

Bentonite ☐ slurry ■ pellets

5.0 ft*

6.0 ft*

Well Screen 2 -inch diameter , 0.01 slot

☐ Gravel Pack

■ Sand Pack

☐ Formation Collapse

16.0 ft*

16.0 ft*

* Depth below land surface.

Project Number 04.9498

Project Name Durkee Street Parking Lot (OU2)

Well No. MW20 Boring No. SB20

Town/City City of Plattsburgh

County Clinton State NY

Installation Date(s) 7/29/2005

Drilling Contractor SJB Services, Inc.

Drilling Method 4 1/4" I.D. HSA and 2" I.D. sampling spoons

Water Depth From Top of Riser ft

Date

C.T. Male Observer N. Freeman

Notes:

Well No. MW-21

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.

Project Number 04.9498

Project Name Durkee Street Parking Lot (OU2)

Well No. MW-21 Boring No. SB-21

Town/City Plattsburgh

County Clinton State NY

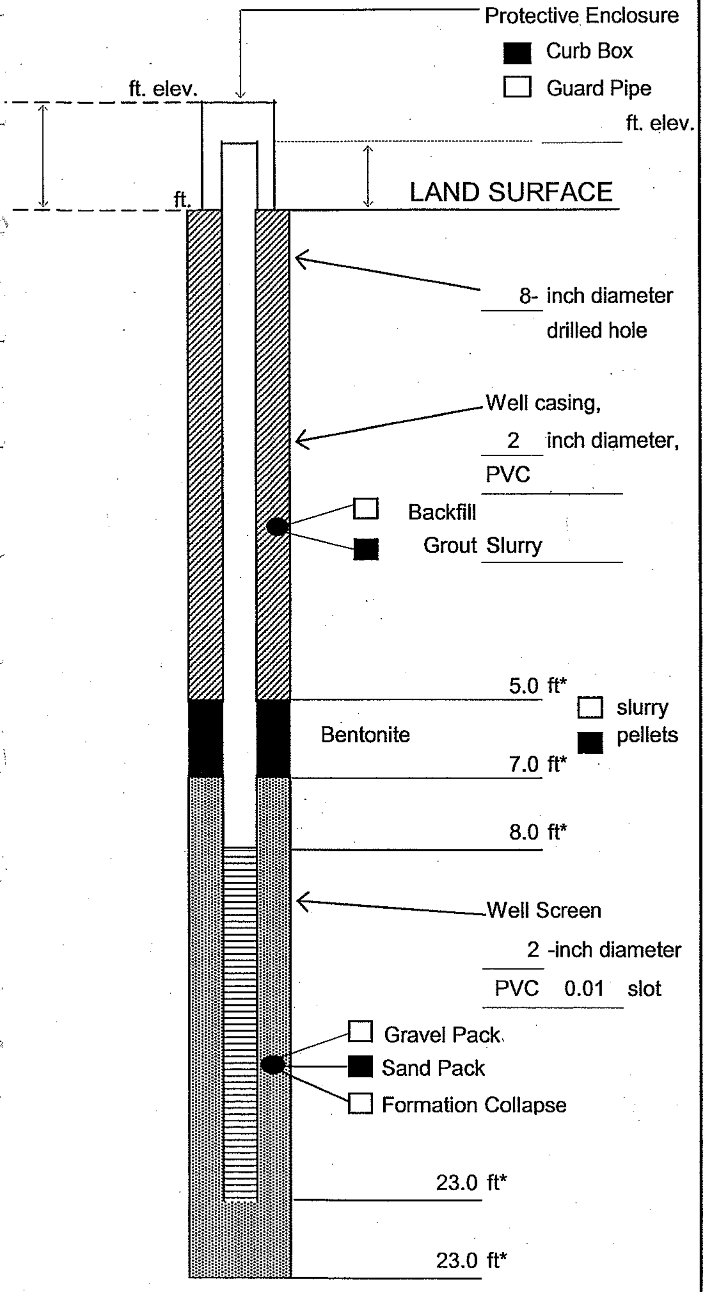
Installation Date(s) 3/7/2006

Drilling Contractor SJB Services, Inc.

Drilling Method 4 1/4" HSA and 2" ID sampling spoons

Water Depth From Top of Riser ft Date

C.T. Male Observer M. Wolosz



Protective Enclosure
■ Curb Box
☐ Guard Pipe

8- inch diameter drilled hole

Well casing, 2 inch diameter, PVC

☐ Backfill
■ Grout Slurry

5.0 ft*

Bentonite ☐ slurry ■ pellets

7.0 ft*

8.0 ft*

Well Screen 2 -inch diameter PVC 0.01 slot

☐ Gravel Pack
■ Sand Pack
☐ Formation Collapse

23.0 ft*

23.0 ft*

* Depth below land surface.

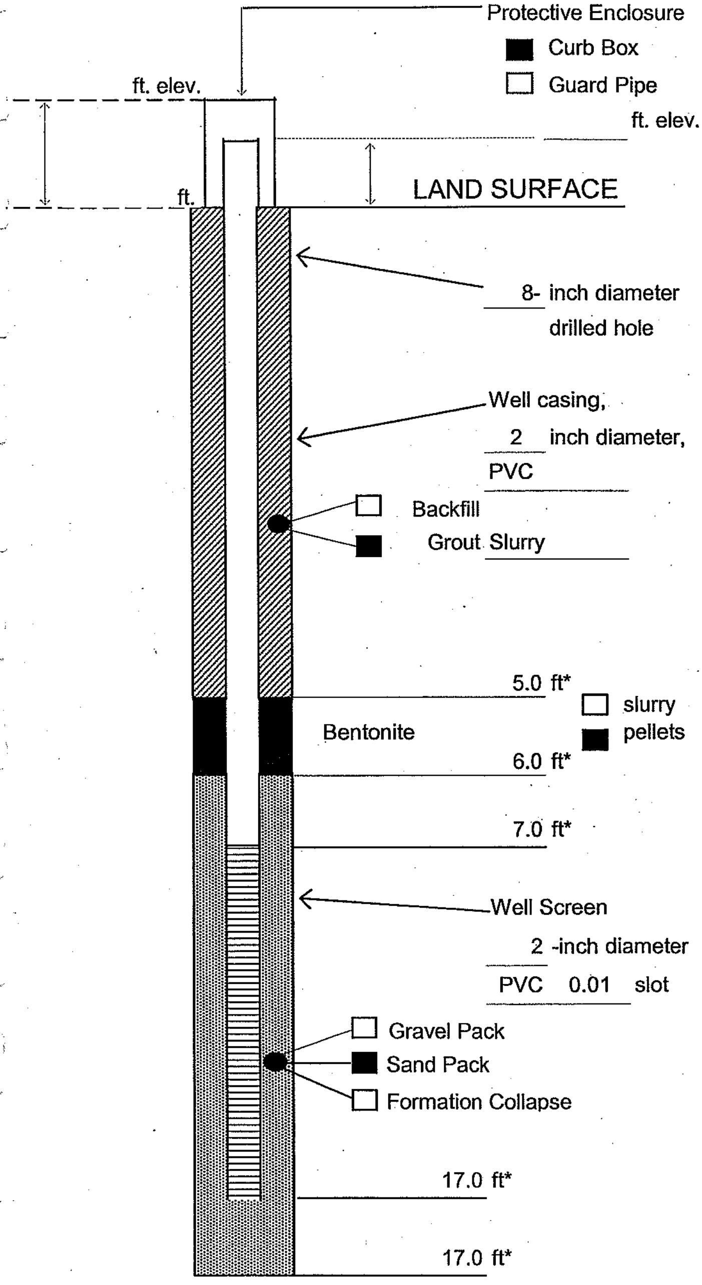
Notes:

15 feet of screen was installed to straddle a wet zone that was encountered at 8 to 12 feet bgs.

Well No. MW-22

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.



Protective Enclosure
■ Curb Box
☐ Guard Pipe

8- inch diameter drilled hole

Well casing, 2 inch diameter, PVC

☐ Backfill
■ Grout Slurry

5.0 ft*
Bentonite
☐ slurry
■ pellets
6.0 ft*

7.0 ft*

Well Screen
2 -inch diameter
PVC 0.01 slot

☐ Gravel Pack
■ Sand Pack
☐ Formation Collapse

17.0 ft*

17.0 ft*

* Depth below land surface.

Project Number 04.9498

Project Name Durkee Street Parking Lot (OU2)

Well No. MW-22 Boring No. SB-22

Town/City Plattsburgh

County Clinton State NY

Installation Date(s) 3/2/2006

Drilling Contractor SJB Services, Inc.

Drilling Method 4 1/4" HSA and 2" ID sampling spoons

Water Depth From Top of Riser ft Date

C.T. Male Observer M. Wolosz

Notes:

Well No. MW-23

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.

Project Number 04.9498

Project Name Durkee Street Parking Lot (OU2)

Well No. MW-23 Boring No. SB-23

Town/City Plattsburgh

County Clinton State NY

Installation Date(s) 3/2/2006

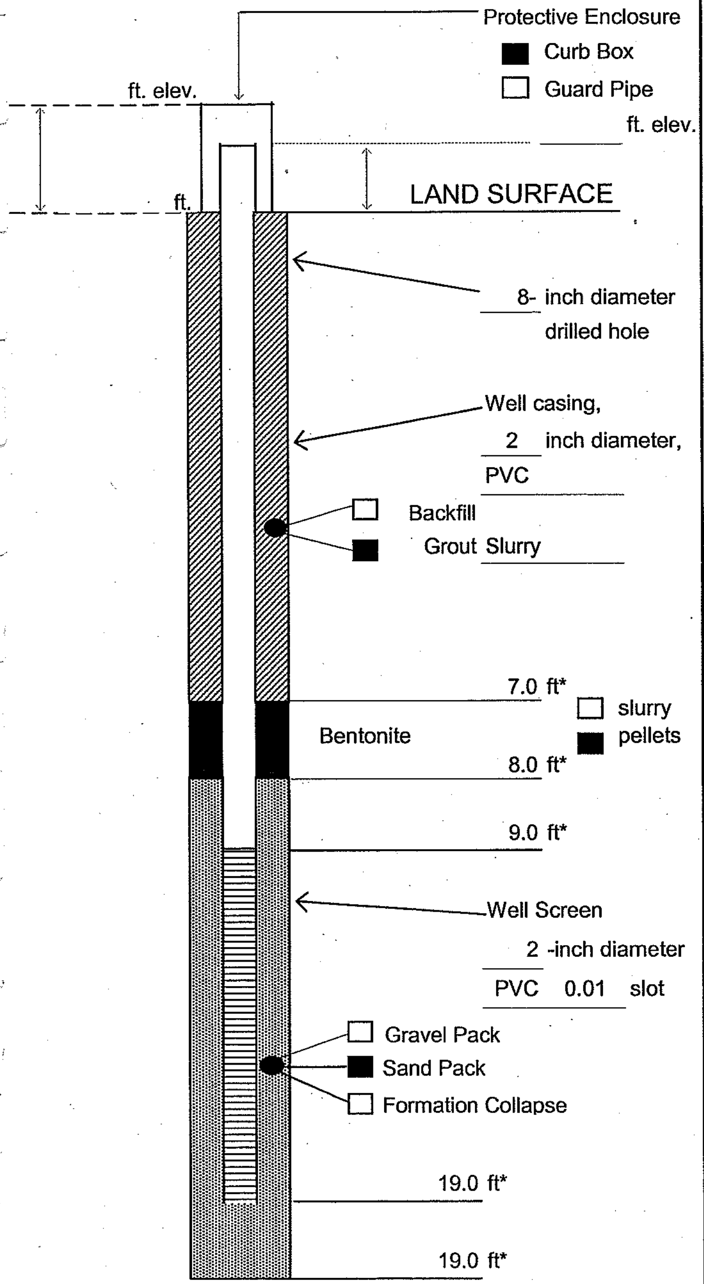
Drilling Contractor SJB Services, Inc.

Drilling Method 4 1/4" HSA and 2" ID sampling spoons

Water Depth From Top of Riser ft Date

C.T. Male Observer M. Wolosz

Notes:



Protective Enclosure
■ Curb Box
☐ Guard Pipe

ft. elev.

ft. elev.

ft.

LAND SURFACE

8- inch diameter drilled hole

Well casing, 2 inch diameter, PVC

☐ Backfill
■ Grout Slurry

7.0 ft*

Bentonite ☐ slurry ■ pellets

8.0 ft*

9.0 ft*

Well Screen 2 -inch diameter PVC 0.01 slot

☐ Gravel Pack
■ Sand Pack
☐ Formation Collapse

19.0 ft*

19.0 ft*

* Depth below land surface.

Well No. MW-24

C.T. MALE ASSOCIATES, P.C.

MONITORING WELL CONSTRUCTION LOG

Project Number 04.9498

Project Name Durkee Street Parking Lot (OU2)

Well No. MW-24 Boring No. SB-24

Town/City Plattsburgh

County Clinton State NY

Installation Date(s) 3/1/2006

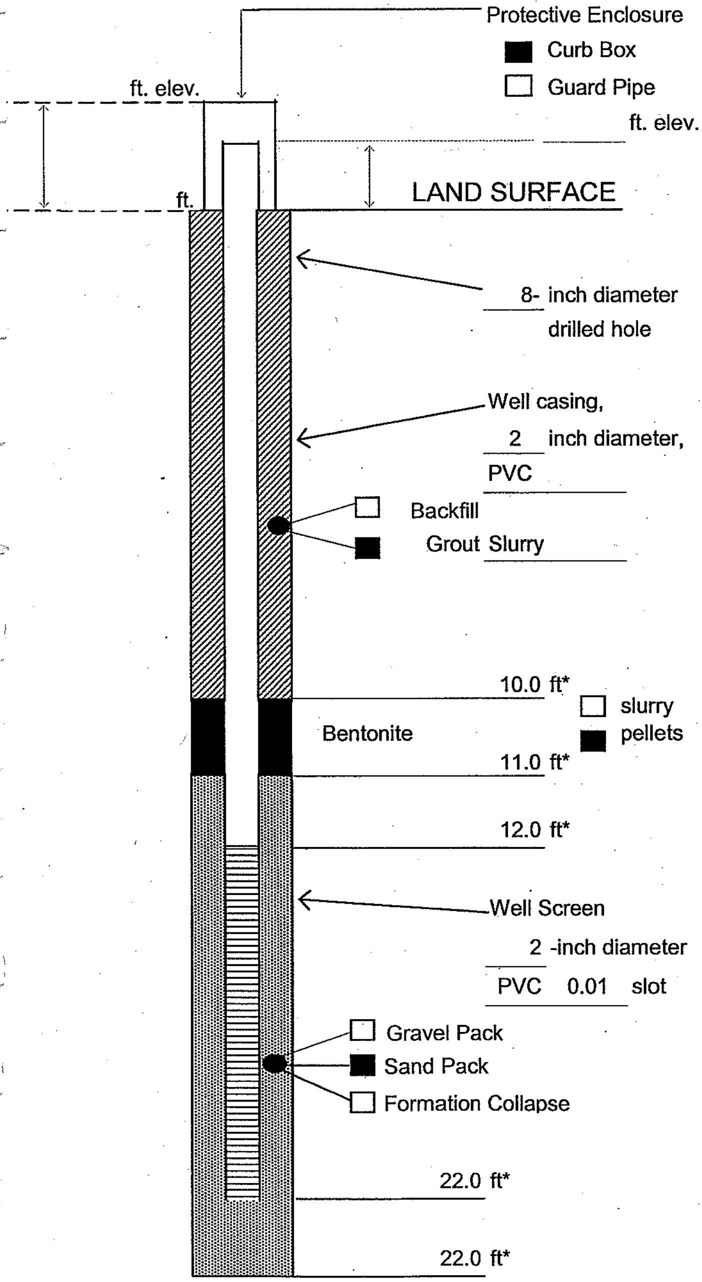
Drilling Contractor SJB Services, Inc.

Drilling Method 4 1/4" HSA and 2" ID sampling spoons

Water Depth From Top of Riser ft Date

C.T. Male Observer M. Wolosz

Notes:



Protective Enclosure
☒ Curb Box
☐ Guard Pipe

ft. elev.
ft. elev.
ft.
LAND SURFACE

8- inch diameter drilled hole

Well casing, 2 inch diameter, PVC

☐ Backfill
☒ Grout Slurry

10.0 ft*
Bentonite ☐ slurry ☒ pellets
11.0 ft*

12.0 ft*

Well Screen 2 -inch diameter PVC 0.01 slot

☐ Gravel Pack
☒ Sand Pack
☐ Formation Collapse

22.0 ft*

22.0 ft*

* Depth below land surface.

Well No. MW-25

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.

Project Number 04.9498

Project Name Durkee Street Parking Lot (OU2)

Well No. MW-25 Boring No. SB-25

Town/City Plattsburgh

County Clinton State NY

Installation Date(s) 3/6/2006

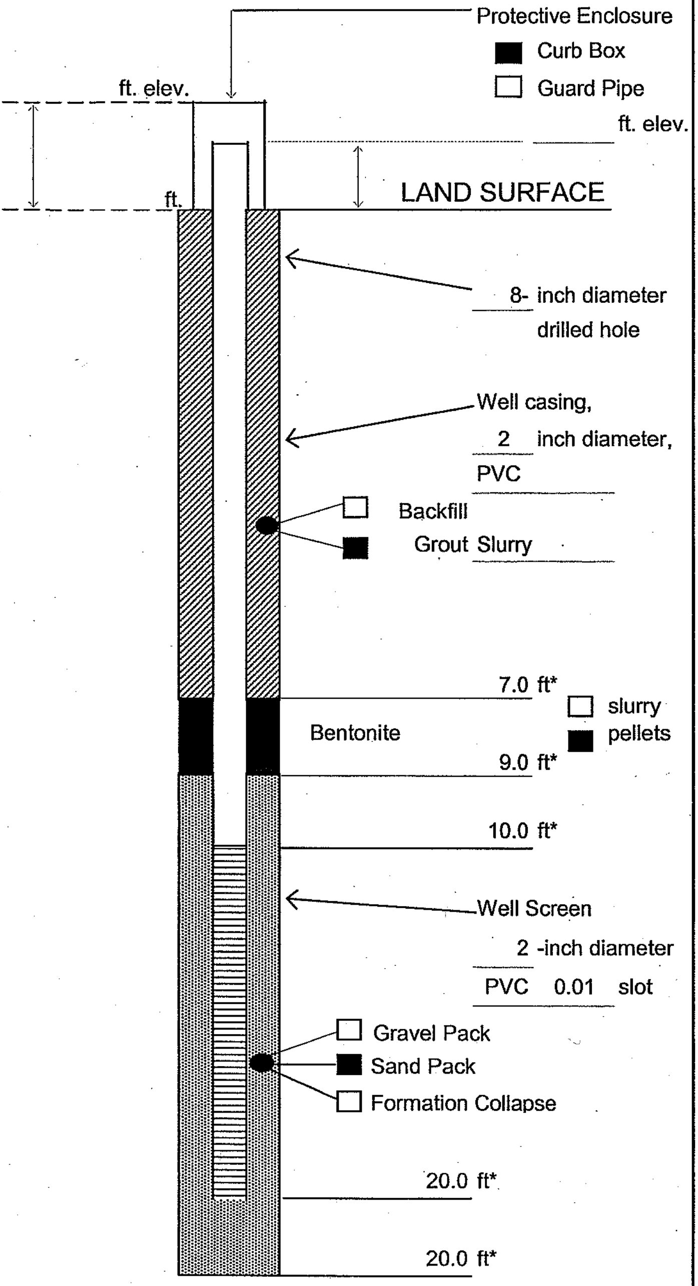
Drilling Contractor SJB Services, Inc.

Drilling Method 4 1/4" HSA and 2" ID sampling spoons

Water Depth From Top of Riser ______ ft ______ Date

C.T. Male Observer M. Wolosz

Notes:



Protective Enclosure
■ Curb Box
☐ Guard Pipe

ft. elev.
ft. elev.
ft.
LAND SURFACE

8- inch diameter drilled hole

Well casing, 2 inch diameter, PVC

☐ Backfill
■ Grout Slurry

7.0 ft*
Bentonite ☐ slurry ■ pellets
9.0 ft*

10.0 ft*

Well Screen 2 -inch diameter PVC 0.01 slot

☐ Gravel Pack
■ Sand Pack
☐ Formation Collapse

20.0 ft*

20.0 ft*

* Depth below land surface.

Well No. MW-26

MONITORING WELL CONSTRUCTION LOG

C.T. MALE ASSOCIATES, P.C.

Project Number 04.9498

Project Name Durkee Street Parking Lot (OU2)

Well No. MW-26 Boring No. SB-26

Town/City Plattsburgh

County Clinton State NY

Installation Date(s) 3/7/2006

Drilling Contractor SJB Services, Inc.

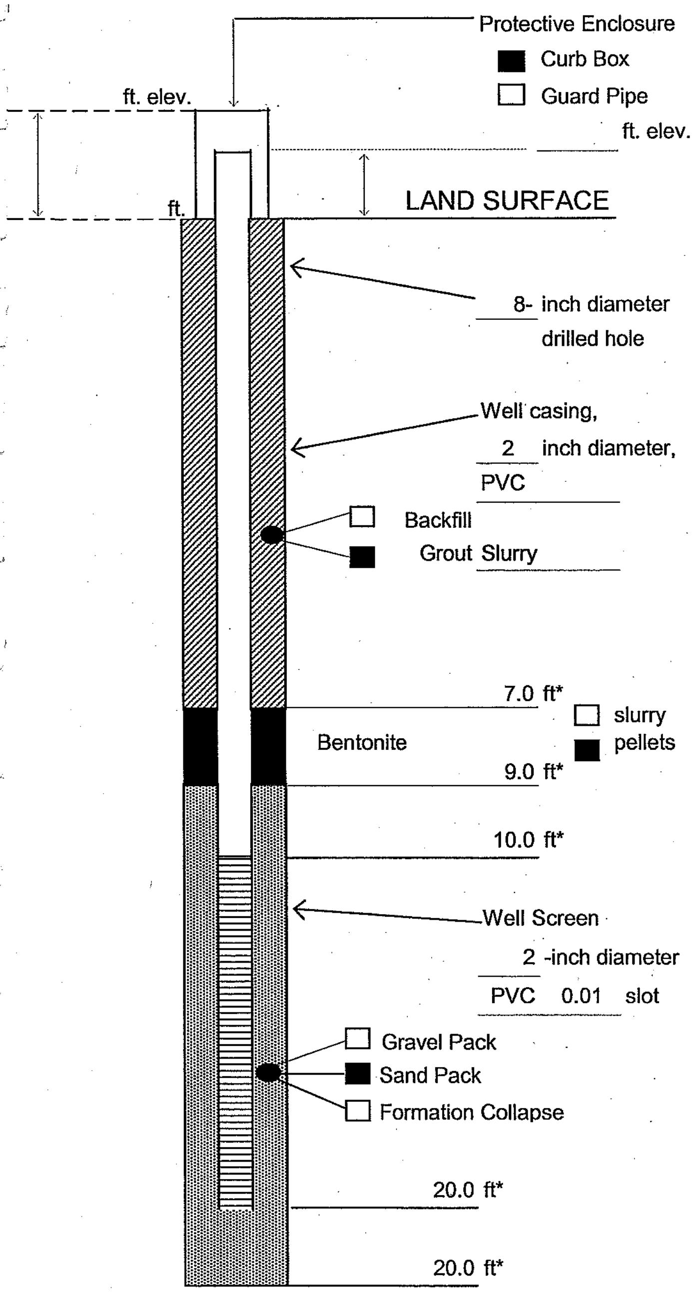
Drilling Method 4 1/4" HSA and 2" ID sampling spoons

Water Depth From Top of Riser ft

Date

C.T. Male Observer M. Wolosz

Notes:



Protective Enclosure

☒ Curb Box

☐ Guard Pipe

ft. elev.

ft. elev.

ft.

LAND SURFACE

8- inch diameter drilled hole

Well casing, 2 inch diameter, PVC

☐ Backfill

☒ Grout Slurry

7.0 ft*

Bentonite ☐ slurry ☒ pellets

9.0 ft*

10.0 ft*

Well Screen 2 -inch diameter PVC 0.01 slot

☐ Gravel Pack

☒ Sand Pack

☐ Formation Collapse

20.0 ft*

20.0 ft*

* Depth below land surface.

EXHIBIT 1

DATA USABILITY SUMMARY REPORT

C.T. MALE ASSOCIATES, P.C.

SUBJECT: Data Usability Summary Report (DUSR)
Durkee St. OU#2
Chemtech SDG No.: T3884
C.T. Male Project No.: 04.9498

DATE: November 17, 2005

On July 19, 2005, C.T. Male Associates P.C. (C. T. Male) collected four (4) soil samples from the Durkee St. Site. The samples were submitted to CHEMTECH in Mountainside, NJ along with an equipment blank and a trip blank, for the following analyses:

Parameter	**Sample Date**	**VOC, SW-846 8260B**	**SVOC, SW-846 8270C**	**Pesticides, SW-846 8081**	**PCB's, SW-846 8082**	**Metals and Hg, SW-846 6010B/7470A**
Sample Ids						
SS-19	7/19/2005	1	1	1	1	1
SS-20	7/19/2005	1	1	1	1	1
SS-21	7/19/2005	1	1	1	1	1
DUPLICATE[1]	7/19/2005	1	1	1	1	1
Equipment Blank	7/19/2005	1	1	1	1	1
Trip Blank	-	1	0	0	0	0
Total Samples		**6**	**5**	**5**	**5**	**5**

VOC – Volatile organic compounds
SVOC – Semi-volatile organic compounds
PCB – Polychlorinated biphenyls
Hg – Mercury

C. T. Male evaluated the data reported by the laboratory to determine usability per Appendix B of the *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NY DEC, December 2002). The following criteria were reviewed:

- Completeness of data package as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables;
- Holding time compliance for chemical analysis;
- Protocol required limits and specification compliance for quality control (QC) data (e.g., instrument tuning, calibration standards, blank results, spike results, duplicate results, etc);
- Contract compliance for analytical protocols;
- Omissions and Transcription errors; and
- Data qualification

All required documentation required by the project was included in the data package. On August 12, 2005 the laboratory become aware of a discrepancy within the data package. The discrepancy was corrected and edited pages were received by C. T. Male on August 15, 2005 (Attachment A). The laboratory Case Narrative (Attachment B) identified all deviations from laboratory analytical specifications. C. T. Male reviewed these QC results to determine if sample results should be qualified based on the criteria provided in Appendix B of the *Technical Guidance for Site Investigation and Remediation*. QC exceedances and data qualification recommendations are presented in the Data

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[1] Field duplicate of SS-19.

Evaluation Checklist (Attachment C). Qualified sample results are presented in the laboratory summary forms, which are located in Attachment D. Overall, data quality objectives for the Durkee St. project were met, as there were not any data deficiencies that would indicate the need for re-sampling.

Data Completeness

All required documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms for the validated samples. The laboratory Case Narrative identified all deviations from laboratory analytical specifications, and is attached along with the qualified sample results for the two validated samples. QC exceedences and data qualification recommendations are presented below.

Sample Condition upon Receipt and Holding Times

Chemtech received all the samples listed on the COC records intact and in good condition on July 22, 2005. The temperature of samples was within laboratory specification limits of 2 to 6°C upon receipt.

All samples were prepared and analyzed within EPA-established holding times.

Volatile Organic Analyses (VOA) by SW-846 8260B

All samples were analyzed within 12 hours of the performance check standard, BFB. Percent relative abundance of all ions met the criteria specified in Table 4 of the EPA SW-846 Method 8260B. Laboratory specifications were met during the initial calibrations on June 27, 2005 and July 19, 2005 and the continuing calibrations on July 27 and 28, 2005. In addition the average relative response factor (RRF) was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The percent relative standard deviation (%RSD) between relative response factors RRF was less than or equal to 30% during the initial calibration, and the percent difference (%D) between the initial calibration average RRF and continuing calibration RRF was less than or equal to 25% for all target analytes, except acetone (32.9%RSD), carbon disulfide (32.5%RSD), and bromoform (36.1%RSD) for the initial and continuing calibrations of June 27 and July 28, respectively. These calibrations were associated with the analysis of the trip and equipment blanks, therefore the associated results in these samples have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards. Chloroethane (31.9%RSD), dichlorodifluoromethane (28.4%D), methylene chloride (69.1%D), and 1,2,4-trichlorobenzene (30.3%D) exceeded 30%RSD and 25%D for the initial and continuing calibrations of July 19 and 27, respectively, associated with samples SS-19, SS-20, SS-21, and DUPLICATE. The associated results in these samples have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples.

The percent recovery results for blank spike analysis were within laboratory specifications for 1,1-dichloroethene, benzene, trichloroethene, toluene, and chlorobenzene.

A method blank was reported for each analytical batch and equipment and trip blanks were also submitted to the laboratory for VOA. Target analytes were not detected during the VOA of the trip blank. However, methylene chloride (a common laboratory contaminant), was detected during the VOA of the method and equipment blanks at concentrations of 15 μg/Kg and 1.1 μg/L, respectively. Chloroform was also detected in the method blank at a concentration of 3.5 µg/Kg. Action levels were developed by multiplying the highest concentration observed among the associated blank by a factor of 10 for common laboratory contaminants and a factor of 5 for all other contaminants, and adjusted for dry weight comparison to soil results. Samples with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Criteria for accuracy and precision were met during the matrix spike (MS)/MS duplicate (MSD) analysis of sample SS-21 for all target analytes.

A field duplicate evaluation was performed on samples DUPLICATE and SS-19. Criteria for precision was achieved, as target analytes were not detected in the associated samples.

Semivolatile Organic Analysis (SVOA) by SW-846 8270C

All samples were analyzed within 12 hours of the performance check standard, DFTPP. Percent relative abundance of all ions met the criteria specified in Table 3 of the EPA SW-846 Method 8270C. Laboratory specifications were met during the initial calibrations on July 18, 2005 and August 1, 2005 and the continuing calibrations of July 30 and 31, 2005 and August 2, 2005. In addition the average RRF was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The %RSD between RRF was less than or equal to 30% during the initial calibrations, and the %D between the initial calibration average RRF and continuing calibration RRF was less than or equal to 25% for all target analytes, except hexachlorocyclopentadiene (38%RSD and 58.7%D), bis(2-chloroethyl)ether (42.2%D), 2,2-oxybis(1-chloropropane) (38.2%D), n-nitroso-di-n-propylamine (25.8%D), isophrone (27.7%D), hexachlorobutadiene (27.8%D), caprolactam (31.8%D), hexachlorocyclopentadiene (58.7%D), 2-nitroaniline (26.9%D), 2,4-dinitrophenol (121.1%D), 4-nitrophenol, pentachlorophenol (74.7%D) , and dibenzo(a,h)anthracene (27.2%D) for the initial and continuing calibrations of July 18 and 30, respectively. These calibrations were associated with the analysis of the equipment blank, therefore the associated results in this sample has been qualified as estimated (J/UJ) due to poor correlation in the calibration standards. Hexachlorocyclopentadiene (33%RSD and 58.7%D), 2,4-dinitrophenol (50.1%RSDand 121.1%D), 4,6-dinitro-2-methylphenol (31.5%RSD), bis(2-chloroethyl)ether (42.2%D), 2,2-oxybis(1-chloropropane) (38.2%D), n-nitroso-di-n-propylamine (25.8%D), isophrone (27.7%D), hexachlorobutadiene (27.8%D), caprolactam (31.8%D), 2-nitroaniline (26.9%D), 4-nitrophenol (35%D), pentachlorophenol (74.7%D) , and dibenzo(a,h)anthracene (27.2%D) exceeded 30%RSD and 25%D for the initial and continuing calibrations of July 13 and 30, respectively, associated with samples SS-20, SS-21, and DUPLICATE. The associated results in these samples have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards. Hexachlorocyclopentadiene (49.9%RSD and 54.2%D), n-nitroso-di-n-propylamine (33%D), and 4,6-dinitro-2-methylphenol (31.2%D) exceeded 30%RSD and 25%D for the initial and continuing calibrations of August 1 and 2, respectively, associated with sample SS-19. The associated results in this sample has been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples except the surrogate recovery for 2-fluorobiphenyl (0.75 and 0.9%R) during the analysis of samples SS-20 and SS-21. No action is warranted as all other base/neutral surrogates are within laboratory specifications.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes except caprolactam, hexachlorocyclopentadiene, 2,4-dinitrophenol, and 4,6-dinitro-2-methylphenol, during the analysis of blank spike PB06517BS, associated with the analysis of the equipment blank. Associated results in the equipment blank have been qualified as estimated (J/UJ) for these analytes. The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes except 2,2-oxybis(1-chloropropane), isophrone, bis(2-chlorethoxy)methane, 4-chloro-3-methylphenol, hexachlorocyclopentadiene, and 2,4-dinitrophenol, during the analysis of blank spike PB06525BS, associated with the analysis of all soil samples. Associated results in the soil samples have been qualified as estimated (J/UJ) for these analytes.

A method blank was reported for each analytical batch. An equipment blank was also submitted to the laboratory for SVOA. Target compounds were not detected during the analysis of the method or equipment blanks. Tentatively identified compounds (TIC) 2-Butyl-3,4,5,6-tetrahydropyridine and 2H-Pyran-2-one,5,6-dihydro-6-pe were detected in the associated method blanks. An action level was developed by multiplying the highest concentration observed among the associated blank by a factor of 5. Samples with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Criteria for accuracy and precision were met during the matrix spike MS/MSD analysis of sample SS-21 for all target analytes except 2-nitrophenol, bis(2-chlorethoxy)methane, 4-chloro-3-methylphenol, hexachlorocyclopentadiene, 2,4,6-trichlorophenol, 2,4,5-trichlorophenol, 2-chloronaphthalene, acenaphthylene, 2,6-dinitrotoluene, acenaphthene, 2,4-dinitrophenol, dibenzofuran, 4-nitrophenol, 2,4-dinitrotoluene, 4,6-dinitro-2-methylphenol, 4-bromophenyl-phenylether, hexachlorobenzene, pentachlorophenol, anthracene, fluoranthene, chrysene, indeno(1,2,3-cd)pyrene, and benzo(a)pyrene. The MS and MSD were below laboratory specifications for the above analytes, therefore all associated results for the specified analytes in SS-21 are considered estimated (UJ) due to the analytical inaccuracy. In addition the %RSD between the %R for the MS and MSD was less than 50%RSD for all target analytes except 4-chloroaniline, dimethylphalate, dibenzofuran, 4-bromophenyl-phenylether, fluoranthene, and dibenz(a,h)anthracene. All associated results for the specified analytes in SS-21 are considered estimated (UJ) due to analytical imprecision.

A field duplicate evaluation was performed on samples DUPLICATE and SS-19. 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 calibration on July 29, 2005 and continuing calibrations on August 2 and 5, 2005. The %RSD between calibration factors was less than or equal to 30% during the initial calibration except for 4,4'-DDT (57%R) on the secondary column, and the %D between the initial and continuing calibration factors was less than or equal to 25% for all target analytes. Qualification of the data is not warranted, as the results were obtained from the primary column.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples except the surrogate recovery for decachlorobiphenyl in samples SS-19 (63%R), SS-20 (53%R), SS-21 (59%R), and DUPLICATE (63%R). All associated results have been qualified as estimated (J/UJ) due to analytical inaccuracy.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes during the analysis of blank spikes PB06520BS and PB06528BS.

A method blank was reported for each analytical batch. An equipment blank was also submitted to the laboratory for pesticide analysis. Target compounds were not detected during the analysis of the method or equipment blanks.

Criteria for accuracy and precision were met during the MS/MSD pesticide analysis of sample SS-21 for all target analytes except dieldrin (51 and 64%R). No action is warranted as the MSD was within laboratory specifications for dieldrin.

A field duplicate evaluation was performed on samples DUPLICATE and SS-19. Criteria for precision was achieved, as target analytes were not detected in the associated samples.

Polychlorinated Biphenyl (PCB) Analysis by SW-846 8082

Laboratory specifications were met during the initial calibration on July 29, 2005 and continuing calibrations on August 1 and 2, 2005. The %RSD between calibration factors was less than or equal to 30% during the initial calibration, and the %D between the initial and continuing calibration factors was less than or equal to 25% for all target analytes.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples.

The percent recovery results for blank spike analysis were within laboratory specifications for aroclor 1016 and 1260 during the analysis of blank spikes PB06521BS and PB06525BS.

A method blank was reported for each analytical batch. An equipment blank was also submitted to the laboratory for PCB analysis. Target compounds were not detected during the analysis of the method or equipment blanks.

A field duplicate evaluation was performed on samples DUPLICATE and SS-19. Criteria for precision was achieved, as target analytes were not detected in the associated samples.

Metals and Mercury Analysis by SW-846 6010B and 7470A/7471A

The inductively coupled plasma (ICP) instrument was calibrated according to the SW-846 Methods 6010B and 7470A/7471A. All samples were bracketed by initial and continuing calibration verification standards (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 fell within 80-120% of the true standard concentration for all target analytes.

Laboratory specifications (80-120%R) were met during the analysis of the Laboratory Control Sample for metals.

The recovery of the CRDL standard fell within 75-125% of the true value for all target metals. The recovery of the CRDL standard exceeded laboratory specifications of 0-200%R during the analysis of

CRI01 for mercury. All detected mercury results are considered unusable (R) due to analytical inaccuracy.

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. Refer to Attachment A of the Data Evaluation Checklist for an 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 ND (U) and the DL has been elevated to the amount detected in the sample.

A field duplicate evaluation was performed on samples DUPLICATE and SS-19. Refer to Attachment B of the Data Evaluation Checklist for the field duplicate evaluation.

Megan Drosky
Environmental Scientist

C.T. MALE ASSOCIATES, P.C.

SUBJECT: Data Usability Summary Report (DUSR)
Durkee St. OU#2
Chemtech SDG No.: T3994
C.T. Male Project No.: 04.9498

DATE: November 7, 2005

On July 27 and 28, 2005, C.T. Male Associates P.C. (C. T. Male) collected four (4) soil samples from the Durkee St. Site. The samples were submitted to CHEMTECH in Mountainside, NJ along with a trip blank, for the following analyses:

Parameter	Sample Date	VOC, SW-846 8260B	SVOC, SW-846 8270C	Pesticides, SW-846 8081	PCB's, SW-846 8082	Metals and Hg, SW-846 6010B/7471A
Sample Ids						
SB-18(10-12)	7/27/2005	1	1	1	1	1
SB-16(10-12)	7/28/2005	1	1	1	1	1
SB-19(4-6)	7/27/2005	1	1	1	1	1
SS-17	7/28/2005	1	1	1	1	1
Trip Blank	7/27/2005	1	0	0	0	0
Total Samples		**5**	**4**	**4**	**4**	**4**

VOC – Volatile organic compounds
SVOC – Semi-volatile organic compounds
PCB – Polychlorinated biphenyls
Hg - Mercury

C. T. Male evaluated the data reported by the laboratory to determine usability per Appendix B of the *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NY DEC, December 2002). The following criteria were reviewed:

- Completeness of data package as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables;
- Holding time compliance for chemical analysis;
- Protocol required limits and specification compliance for quality control (QC) data (e.g., instrument tuning, calibration standards, blank results, spike results, duplicate results, etc);
- Contract compliance for analytical protocols;
- Omissions and Transcription errors; and
- Data qualification

All required documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms. The laboratory Case Narrative (Attachment A) identified all deviations from laboratory analytical specifications. C. T. Male reviewed these QC results to determine if sample results should be qualified based on the criteria provided in Appendix B of the *Technical Guidance for Site Investigation and Remediation.* QC exceedances and data qualification recommendations are presented in the Data Evaluation Checklist (Attachment B). Qualified sample results are presented in the laboratory summary forms, which are located in Attachment C. Overall, data quality objectives for the Durkee St. project were met, as there were not any data deficiencies that would indicate the need for re-sampling.

Data Completeness

All required documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms for the validated samples. The laboratory Case Narrative identified all deviations from laboratory analytical specifications, and is attached along with the qualified sample results for the two validated samples. QC exceedances and data qualification recommendations are presented below.

Sample Condition upon Receipt and Holding Times

Chemtech received all the samples listed on the COC records intact and in good condition on August 1, 2005. The temperature of samples was within laboratory specification limits of 2 to 6°C upon receipt.

All samples were prepared and analyzed within EPA-established holding times.

Volatile Organic Analyses (VOA) by SW-846 8260B

All samples were analyzed within 12 hours of the performance check standard, BFB. Percent relative abundance of all ions met the criteria specified in Table 4 of the EPA SW-846 Method 8260B. Laboratory specifications were met during the initial calibrations on July 29, 2005 and August 1, 2005 and the continuing calibrations on August 2 and 3, 2005. In addition the average relative response factor (RRF) was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The percent relative standard deviation (%RSD) between relative response factors RRF was less than or equal to 30% during the initial calibration, and the percent difference (%D) between the initial calibration average RRF was less than or equal to 25% for all target analytes, except carbon disulfide (39.1%RSD and 26.1%D) and bromoform (36.6%RSD) for the initial and continuing calibrations of July 29 and August 2, respectively, as well as chloroethane (28.6%D) for the continuing calibration of August 2. The trip blank was associated with the calibrations of July 29 and August 2, and the reanalysis of sample SB-16(10-12) was associated with the continuing calibration of August 3. The associated results are qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples except the surrogate recovery for 1,2-DCA-d4 (67%R) and 4-BFB (62%R) in sample SB-16(10-12) and 4-BFB (74%R) for the reanalysis of sample SB-16(10-12). The internal standard 1,4-DCA-d4 was below lab specifications for sample SB-16(10-12). All results for sample SB-16(10-12) have been qualified as estimated (J/UJ) due to analytical imprecision.

The percent recovery results for blank spike analysis were within laboratory specifications for 1,1-dichloroethene, benzene, trichloroethene, toluene, and chlorobenzene.

A method blank was reported for each analytical batch and a trip blank was also submitted to the laboratory for VOA. Target analytes were not detected during the VOA of the method and trip blanks.

Semivolatile Organic Analysis (SVOA) by SW-846 8270C

All samples were analyzed within 12 hours of the performance check standard, DFTPP. Percent relative abundance of all ions met the criteria specified in Table 3 of the EPA SW-846 Method 8270C. Laboratory specifications were met during the initial and continuing calibrations on August 1 and 4, 2005, respectively. In addition the average RRF was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The %RSD between RRF was less than or equal to 30% during the initial calibration, and the percent difference %D between the initial calibration average RRF was less than or equal to 25% for all target analytes except benzaldehyde (29.5%D), hexachlorocyclopentadiene (49.9%RSD and 95.2%D), and 2,4-dinitrophenol (58.8%D). The associated results are qualified as estimated (J/UJ) due to poor correlation.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes except caprolactam (9%R) and di-n-octyl phthalate (64%R) were below laboratory specifications of 20-150%R and 66-124%R, respectively, during the analysis of blank spike PB07047BS. Associated results are qualified as estimated (J/UJ) for caprolactam and di-n-octyl phthalate.

A method blank was reported for each analytical batch. Target compounds were not detected during the analysis of the method blank. A tentatively identified compound (TIC) tert-butyldichlorophenyl-silane was detected in the associated method blank at 93 µg/Kg. Action levels were developed by multiplying the highest concentration observed among the associated blank by a factor of 5. Samples with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Pesticide Analysis by SW-846 8081

Laboratory specifications were met during the initial and continuing calibrations on August 2 and 3, 2005, respectively. The %RSD between calibration factors was less than or equal to 30% during the initial calibration, and the %D between the initial and continuing calibration factors was less than or equal to 25% for all target analytes.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples except the surrogate recovery for decachlorobiphenyl in samples SB-16(10-12) (68%R), SB-19(4-6) (57%R), and SS-17 (65%R). All associated results have been qualified as estimated (J/UJ) due to analytical imprecision.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes during the analysis of blank spike PB06672BS.

A method blank was reported for each analytical batch. Target compounds were not detected during the analysis of the method blank.

Polychlorinated Biphenyl (PCB) Analysis by SW-846 8082

Laboratory specifications were met during the initial and continuing calibrations on July 30, 2005 and August 2, 2005, respectively. The %RSD between calibration factors was less than or equal to 30% during the initial calibration, and the %D between the initial and continuing calibration factors was less than or equal to 25% for all target analytes.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples except the surrogate recoveries for decachlorobiphenyl (142%R) in sample SB-18(10-12). Qualification was not warranted as PCB's were not detected in the associated sample.

The percent recovery results for blank spike analysis were within laboratory specifications for aroclor 1016 and 1260 during the analysis of blank spike PB06673BS.

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 not met during the MS/MSD analysis of sample SB-18(10-12). The %R for Aroclor 1016 and 1260 exceeded laboratory specifications of 55-128%R and 58-140%R, respectively. No action was warranted as these analytes were not detected in the sample, however the %RPD exceeded laboratory specifications of 20%RPD for Aroclor 1016 (29%RPD). The associated result has been qualified as estimated (UJ) due to analytical imprecision.

Metals and Mercury Analysis by SW-846 6010B and 7471A

The inductively coupled plasma (ICP) instrument was calibrated according to the SW-846 Methods 6010B and 7470A. All samples were bracketed by initial and continuing calibration verification standards (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 fell within 80-120% of the true standard concentration for all target analytes.

Laboratory specifications (80-120%R) were met during the analysis of the Laboratory Control Sample for metals.

The recovery of the CRDL standard fell within 75-125% of the true value for all 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 A of the Data Evaluation Checklist for an 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 ND (U) and the DL has been elevated to the amount detected in the sample.

Criteria for accuracy and precision were met during the MS/MSD metals analysis of sample SS-17 for all target analytes except aluminum, antimony, barium, calcium, iron, magnesium, manganese, and silver. The MSD was below laboratory specifications for antimony (73.5%R) and the MS was above specifications for silver (123.7%R). No action was warranted for antimony or silver as the MS and MSD, respectively, were within specifications. The %R exceeded laboratory specifications for barium (170.2 and 168.8%R). Barium results have been qualified as estimated due to the analytical inaccuracy. Aluminum, calcium, iron, magnesium, and manganese also exceed laboratory specifications. No action is warranted for these analytes, due to the native concentration being greater than 4x's the spike added. The %RPD exceeded laboratory specifications of 20%RPD for antimony. Antimony results have been qualified as estimated (UJ) due to analytical imprecision.

Significant chemical and matrix interference was observed during the serial dilution analysis of sample SS-17. The percent difference between initial and serially diluted results was greater than 10% for vanadium (28.7%D) and zinc (23.1%D). Associated results for vanadium and zinc are considered estimated (J) due to matrix interference.

A laboratory duplicate evaluation was performed on sample SS-17. Refer to Attachment B of the Data Evaluation Checklist for the laboratory duplicate evaluation.

Megan Drosky
Environmental Scientist

C.T. MALE ASSOCIATES, P.C.

SUBJECT: Data Usability Summary Report (DUSR)
Durkee St. OU#2
Chemtech SDG No.: T4029
C.T. Male Project No.: 04.9498

DATE: November 4, 2005

On July 29, 2005 and August 1, 2005, C.T. Male Associates P.C. (C. T. Male) collected six (6) soil samples from the Durkee St. Site. The samples were submitted to CHEMTECH in Mountainside, NJ along with an equipment blank and a trip blank, for the following analyses:

Parameter	Sample Date	VOC, SW-846 8260B	SVOC, SW-846 8270C	Pesticides, SW-846 8081	PCB's, SW-846 8082	Metals and Hg, SW-846 6010B/7470A
Sample Ids						
SB-20 (8-10')	7/29/2005	1	1	1	1	1
SS-11	7/29/2005	1	1	1	1	1
SS-12	7/29/2005	1	1	1	1	1
SB-15 (8-10')	8/1/2005	1	1	1	1	1
DUP #2[1]	8/1/2005	1	1	1	1	1
SS-15	8/1/2005	1	1	1	1	1
Equipment Blank	8/1/2005	1	1	1	1	1
Trip Blank	-	1	0	0	0	0
Total Samples		**8**	**7**	**7**	**7**	**7**

VOC – Volatile organic compounds
SVOC – Semi-volatile organic compounds
PCB – Polychlorinated biphenyls
Hg - Mercury

C. T. Male evaluated the data reported by the laboratory to determine usability per Appendix B of the *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NY DEC, December 2002). The following criteria were reviewed:

- Completeness of data package as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables;
- Holding time compliance for chemical analysis;
- Protocol required limits and specification compliance for quality control (QC) data (e.g., instrument tuning, calibration standards, blank results, spike results, duplicate results, etc);
- Contract compliance for analytical protocols;
- Omissions and Transcription errors; and
- Data qualification

All required documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms. The laboratory Case Narrative (Attachment A) identified all deviations from laboratory analytical specifications. C. T. Male reviewed these QC results to determine if sample results should be qualified based on the criteria provided in

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[1] Field Duplicate of SB-15 (8-10')

Appendix B of the *Technical Guidance for Site Investigation and Remediation*. QC exceedances and data qualification recommendations are presented in the Data Evaluation Checklist (Attachment B). Qualified sample results are presented in the laboratory summary forms, which are located in Attachment C. Overall, data quality objectives for the Durkee St. project were met, as there were not any data deficiencies that would indicate the need for re-sampling.

Data Completeness

All required documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms for the validated samples. The laboratory Case Narrative identified all deviations from laboratory analytical specifications, and is attached along with the qualified sample results for the two validated samples. QC exceedences and data qualification recommendations are presented below.

Sample Condition upon Receipt and Holding Times

Chemtech received all the samples listed on the COC records intact and in good condition on August 3, 2005. The temperature of samples was within laboratory specification limits of 2 to 6°C upon receipt.

All samples were prepared and analyzed within EPA-established holding times.

Volatile Organic Analyses (VOA) by SW-846 8260B

All samples were analyzed within 12 hours of the performance check standard, BFB. Percent relative abundance of all ions met the criteria specified in Table 4 of the EPA SW-846 Method 8260B. Laboratory specifications were met during the initial calibrations on July 29, 2005 and August 1, 2005 and the continuing calibrations on August 4 and 5, 2005. In addition the average relative response factor (RRF) was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The percent relative standard deviation (%RSD) between relative response factors RRF was less than or equal to 30% during the initial calibration, and the percent difference (%D) between the initial calibration average RRF and continuing calibration RRF was less than or equal to 25% for all target analytes, except carbon disulfide (39.1%RSD and 31.9%D), bromoform (36.6%RSD), and bromomethane (31.7%D) for the initial and continuing calibrations of July 29 and August 4, respectively. These calibrations were associated with the analysis of the trip and equipment blanks, therefore the associated results in these samples have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards. Bromomethane (25.9%D) and methyl acetate (27.8%D) exceeded 25%D for the continuing calibration of August 4 associated with samples SS-11, SS-12, SB-15 (8-10'), and DUP #2. The associated results in these samples have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards. Dichlorodifluoromethane (26.7%D), chloromethane (34.8%D), vinyl chloride (39.3%D), and chloroethane (34.1%D) exceeded 25%D for the continuing calibration of August 5, associated with samples SB-20 (8-10') and SS-15. The associated results in these samples have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples.

The percent recovery results for blank spike analysis were within laboratory specifications for 1,1-dichloroethene, benzene, trichloroethene, toluene, and chlorobenzene.

A method blank was reported for each analytical batch and equipment and trip blanks were also submitted to the laboratory for VOA. Target analytes were not detected during the VOA of the trip blank. However, methylene chloride and acetone, both common laboratory contaminants, were detected during the VOA of the method and equipment blanks at concentrations of 2.8 µg/Kg and 11 µg/L, respectively. Action levels were developed by multiplying the highest concentration observed among the associated blank by a factor of 10 and adjusted for dry weight comparison to soil results. Samples with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

A field duplicate evaluation was performed on samples DUP #2 and SB-15 (8-10'). Criteria for precision was achieved, as target analytes were not detected in the associated samples.

Semivolatile Organic Analysis (SVOA) by SW-846 8270C

All samples were analyzed within 12 hours of the performance check standard, DFTPP. Percent relative abundance of all ions met the criteria specified in Table 3 of the EPA SW-846 Method 8270C. Laboratory specifications were met during the initial calibrations on July 18, 2005 and August 4, 2005 and the continuing calibrations of August 4 and 5, 2005. In addition the average RRF was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The %RSD between RRF was less than or equal to 30% during the initial calibrations except hexachlorocyclopentadiene (38 and 49.9%RSD). Hexachlorocyclopentadiene has been qualified as estimated (J/UJ) in all samples due to poor correlation of calibration standards. The percent difference %D between the initial calibration average RRF and continuing calibration RRF was less than or equal to 25% for all target analytes except hexachloroethane (35.7%D), 1,1-biphenyl (26.2%D), 2,4-dinitrophenol (27.4%D), 4-nitrophenol (39.2%D), 4-chlorophenyl-phenylether (39.6%D), fluorene (29.5%D), bis(2-ethylhexyl)phthalate (32.2%D), benzo(b)fluoranthene (45.5%D), benzo(k)fluoranthene (31.5%D), and benzo(g,h,i)perylene (54.4%D) for the continuing calibration associated with the equipment blank analysis. The associated results in the equipment blank have been qualified as estimated (J/UJ) due to poor correlation in the calibration standards. Hexachlorocyclopentadiene (31.3%D) and 4,6-dinitro-2-methylphenol (35.4%D) exceeded 25%D for the continuing calibration of August 5, associated with all soil samples. The results are qualified as estimated (J/UJ) for these analytes due to poor correlation.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples except the surrogate recovery for 2-fluorophenol (0%R), phenol-d5 (1%R), nitrobenzene-d5 (4%R) and 2-fluorobiphenyl (28%R) during the equipment blank analysis. All semivolatile results for the equipment blank have been qualified as estimated (J/UJ) due to analytical imprecision.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes except caprolactam (13.2%R) was below laboratory specifications of 20-150%R, during the analysis of blank spike PB06730BS, associated with the analysis of the equipment blank. Associated results in the equipment blank have been qualified as estimated (J/UJ) for caprolactam.

A method blank was reported for each analytical batch. An equipment blank was also submitted to the laboratory for SVOA. Target compounds and tentatively identified compound (TIC) were not detected during the analysis of the method blank. Bis(2-ethylhexyl)phthalate was detected during the analysis of the equipment blank at a concentration of 2.2 µg/L. An action level was developed by multiplying the highest concentration observed among the associated blank by a factor of 5. Samples with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

A field duplicate evaluation was performed on samples DUP #2 and SB-15 (8-10'). Criteria for precision was not achieved, as diethylphthalate and di-n-butylphthalate were detected in SB-15 (8-10'), but were not detected in the duplicate. Diethylphthalate and di-n-butylphthalate have been qualified as estimated (J/UJ) in the associated samples due to analytical imprecision.

Pesticide Analysis by SW-846 8081

Laboratory specifications were met during the initial calibration on July 29, 2005 and continuing calibrations on August 4, 2005. The %RSD between calibration factors was less than or equal to 30% during the initial calibration except for 4,4'-DDT (57%R) on the secondary column, and the %D between the initial and continuing calibration factors was less than or equal to 25% for all target analytes. Qualification of the data is not warranted, as the results were obtained from the primary column.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples except the surrogate recovery for decachlorobiphenyl in samples SS-11 (63%R), SS-12 (65%R), and SS-15 (57%R). All associated results have been qualified as estimated (J/UJ) due to analytical imprecision.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes during the analysis of blank spikes PB06728BS and PB06729BS.

A method blank was reported for each analytical batch. An equipment blank was also submitted to the laboratory for pesticide analysis. Target compounds were not detected during the analysis of the method or equipment blank.

Criteria for accuracy and precision were met during the MS/MSD pesticide analysis of sample DUP #2 for all target analytes except gamma-BHC (51 and 51%R), heptachlor (53 and 54%R), dieldrin (47 and 49%R), and endrin (49 and 52%R). The MS and MSD were below laboratory specifications for these analytes, therefore the associated results in sample DUP #2 have been qualified as estimated (UJ) due to analytical imprecision.

A field duplicate evaluation was performed on samples DUP #2 and SB-15 (8-10'). Criteria for precision was achieved, as target analytes were not detected in the associated samples.

Polychlorinated Biphenyl (PCB) Analysis by SW-846 8082

Laboratory specifications were met during the initial and continuing calibrations on July 30, 2005 and August 2, 2005, respectively. The %RSD between calibration factors was less than or equal to 30% during the initial calibration, and the %D between the initial and continuing calibration factors was less than or equal to 25% for all target analytes.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples.

The percent recovery results for blank spike analysis were within laboratory specifications for aroclor 1016 and 1260 during the analysis of blank spike PB06725BS.

A method blank was reported for each analytical batch. An equipment blank was also submitted to the laboratory for PCB analysis. Target compounds were not detected during the analysis of the method or equipment blanks.

A field duplicate evaluation was performed on samples DUP #2 and SB-15 (8-10'). Criteria for precision was achieved, as target analytes were not detected in the associated samples.

Metals and Mercury Analysis by SW-846 6010B and 7470A/7471A

The inductively coupled plasma (ICP) instrument was calibrated according to the SW-846 Methods 6010B and 7470A/7471A. All samples were bracketed by initial and continuing calibration verification standards (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 fell within 80-120% of the true standard concentration for all target analytes.

Laboratory specifications (80-120%R) were met during the analysis of the Laboratory Control Sample for metals.

The recovery of the CRDL standard fell within 75-125% of the true value for all 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. Refer to Attachment A of the Data Evaluation Checklist for an 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 ND (U) and the DL has been elevated to the amount detected in the sample.

A field duplicate evaluation was performed on samples DUP #2 and SB-15 (8-10'). Refer to Attachment B of the Data Evaluation Checklist for the field duplicate evaluation.

Megan Drosky
Environmental Scientist

C.T. MALE ASSOCIATES, P.C.

SUBJECT: Data Usability Summary Report (DUSR)
Durkee St. OU#2
Chemtech SDG No.: T4078
C.T. Male Project No.: 04.9498

DATE: November 9, 2005

On August 2 and 3, 2005, C.T. Male Associates P.C. (C. T. Male) collected five (5) soil samples from the Durkee St. Site. The samples were submitted to CHEMTECH in Mountainside, NJ along with a trip blank, for the following analyses:

Parameter	Sample Date	VOC, SW-846 8260B	SVOC, SW-846 8270C	Pesticides, SW-846 8081	PCB's, SW-846 8082	Metals and Hg, SW-846 6010B/7471A
Sample Ids						
SB-13 (6-8)	8/2/2005	1	1	1	1	1
SS-16	8/2/2005	1	1	1	1	1
SB-14 (8-10)	8/2/2005	1	1	1	1	1
SS-18	8/3/2005	1	1	1	1	1
SB-17 (14-18)	8/3/2005	1	1	1	1	1
Trip Blank	8/2/2005	1	0	0	0	0
Total Samples		**6**	**5**	**5**	**5**	**5**

VOC – Volatile organic compounds
SVOC – Semi-volatile organic compounds
PCB – Polychlorinated biphenyls
Hg - Mercury

C. T. Male evaluated the data reported by the laboratory to determine usability per Appendix B of the *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NY DEC, December 2002). The following criteria were reviewed:

- Completeness of data package as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables;
- Holding time compliance for chemical analysis;
- Protocol required limits and specification compliance for quality control (QC) data (e.g., instrument tuning, calibration standards, blank results, spike results, duplicate results, etc);
- Contract compliance for analytical protocols;
- Omissions and Transcription errors; and
- Data qualification

All required documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms. The laboratory Case Narrative (Attachment A) identified all deviations from laboratory analytical specifications. C. T. Male reviewed these QC results to determine if sample results should be qualified based on the criteria provided in Appendix B of the *Technical Guidance for Site Investigation and Remediation.* QC exceedances and data qualification recommendations are presented in the Data Evaluation Checklist (Attachment B). Qualified sample results are presented in the laboratory summary forms, which are located in Attachment C.

Overall, data quality objectives for the Durkee St. project were met, as there were not any data deficiencies that would indicate the need for re-sampling.

Data Completeness

All required documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms for the validated samples. The laboratory Case Narrative identified all deviations from laboratory analytical specifications, and is attached along with the qualified sample results for the two validated samples. QC exceedances and data qualification recommendations are presented below.

Sample Condition upon Receipt and Holding Times

Chemtech received all the samples listed on the COC records intact and in good condition on August 5, 2005. The temperature of samples was within laboratory specification limits of 2 to 6°C upon receipt.

All samples were prepared and analyzed within EPA-established holding times.

Volatile Organic Analyses (VOA) by SW-846 8260B

All samples were analyzed within 12 hours of the performance check standard, BFB. Percent relative abundance of all ions met the criteria specified in Table 4 of the EPA SW-846 Method 8260B. Laboratory specifications were met during the initial calibrations on July 29, 2005 and August 1, 2005 and the continuing calibrations on August 8 and 9, 2005. In addition the average relative response factor (RRF) was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The percent relative standard deviation (%RSD) between relative response factors RRF was less than or equal to 30% during the initial calibration, and the percent difference (%D) between the initial calibration average RRF and continuing calibration RRF was less than or equal to 25% for all target analytes, except carbon disulfide (39.1%RSD), bromoform (36.6%RSD), methyl acetate (27.2%D), tetrachloroethene (26.5%D), 1,2-dibromo-3-chloropropane (25.9%D), and 1,2,4-trichlorobenzene (33.6%D) for the initial and continuing calibrations of July 29 and August 9, respectively, associated with the analysis of the trip blank. Laboratory specifications were not met during the continuing calibration associated with the analysis of all soils except the reanalysis of SB-13 (6-8) and SB-18 (8-10) for 1,2-dichloroethane (30.1%D) and bromoform (26.3%D), as well as the continuing calibration associated with the reanalysis of SB-13 (6-8) and the analysis of SB-18 (8-10) for vinyl chloride (33.3%D) and carbon disulfide (31.3%D). The associated results are qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples except the surrogate recovery for 4-BFB (72%R) in sample SB-13(6-8). The internal standard pentafluorobenzene, 1,4-DFB, and 1,4-DCB-d4 were below lab specifications during the initial and reanalysis of sample SB-14(8-10), as well as chlorobenzene-d5 and 1,4-DCB-d4 during the reanalysis of sample SB-13(6-8). All results for sample SB-13(6-8) and SB-14(8-10) have been qualified as estimated (J/UJ) due to analytical imprecision.

The percent recovery results for blank spike analysis were within laboratory specifications for 1,1-dichloroethene, benzene, trichloroethene, toluene, and chlorobenzene.

A method blank was reported for each analytical batch and a trip blank was also submitted to the laboratory for VOA. Target analytes were not detected during the VOA of the trip blank. Methylene chloride (a common laboratory contaminant) was detected in both method blanks associated with the soil analysis at concentrations of 2.1 and 2.7 µg/Kg. Action levels were developed by multiplying the highest concentration observed among the associated blank by a factor of 10. Samples with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Criteria for accuracy and precision were met during the matrix spike (MS)/MS duplicate (MSD) analysis of sample SB-13 (6-8) for all target analytes.

Semivolatile Organic Analysis (SVOA) by SW-846 8270C

All samples were analyzed within 12 hours of the performance check standard, DFTPP. Percent relative abundance of all ions met the criteria specified in Table 3 of the EPA SW-846 Method 8270C. Laboratory specifications were met during the initial calibration on August 1, 2005 and continuing calibrations on August 10 and 11, 2005. In addition the average RRF was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The %RSD between RRF was less than or equal to 30% during the initial calibration except hexachlorocyclopentadiene (49.9%RSD). The percent difference %D between the initial calibration average RRF and the continuing calibration RRF was less than or equal to 25% for all target analytes except 2,2-oxybis(1-Chloropropane) (26%D), hexachlorocyclopentadiene (55.4%D), 2,4-dinitrophenol (55.9%D), 4,6-dinitro-2-methylphenol (56.3%D), and benzo(k)fluoranthene (30.2%D) for the continuing calibration associated with the analysis for all soil samples except the diluted analysis of SB-14(8-10), as well as 2,4-dinitrophenol (55.9%D), 4,6-dinitro-2-methylphenol (55.2%D), 3,3-dichlorobenzidine (29.3%D), and 2,4,6-tribromophenol (32.8%D) for the continuing calibration associated with the diluted analysis of SB-14(8-10). The associated results are qualified as estimated (J/UJ) due to poor correlation.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples except 2-fluorobiphenyl during the initial and diluted analysis of SB-14(8-10) (121 and 119%R, respectively). Qualification was not required as the remaining base/neutral surrogates were within specifications.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes except 4,6-dinitro-2-methylphenol (118%R) exceeded laboratory specifications of 40-105%R during the analysis of blank spike PB06805BS. Associated detected results are qualified as estimated (J) for 4,6-dinitro-2-methylphenol.

A method blank was reported for each analytical batch. Target compounds and tentatively identified compounds (TIC) were not detected during the analysis of the method blank.

Criteria for accuracy and precision were met during the MS/MSD analysis of sample SB-13 (6-8) for all target analytes except hexachlorocyclopentadiene, acenaphthalene, dimethylphthalate, 3-nitroaniline, fluorine, diethylphthalate, anthracene, benzo(a)anthracene, indeno(1,2,3-cd)pyrene, and benzo(k)fluoranthene. The laboratory specifications were exceeded during the MS/MSD analysis for anthracene and benzo(k)fluoranthene, however no action is warranted as these analytes were not detected in the associated sample. The MS did not meet laboratory specifications for dimethylphthalate, fluorene, and benzo(a)anthracene, however no action is warranted as the MSD was within laboratory specifications.

The MSD did not meet laboratory specifications for acenaphthalene and indeno(1,2,3-cd)pyrene, however no action is warranted as the MS was within laboratory specifications. Both the MS and MSD did not meet laboratory specifications for hexachlorocyclopentadiene, 3-nitroanaline, and diethylphthalate. These results have been qualified as estimated (UJ) due to analytical inaccuracy. The %RPD exceeded laboratory specifications of 50%RPD for dimethylphthalate (150%RSD), 3-nitroanaline (175%RSD), fluorene (161%RSD), and diethylphthalate (125%RSD). The results for these analytes have been qualified as estimated (UJ) due to analytical imprecision.

Pesticide Analysis by SW-846 8081

Laboratory specifications were met during the initial calibration on July 29, 2005 and continuing calibrations on August 9 and 10, 2005. The %RSD between calibration factors was less than or equal to 30% during the initial calibration except 4,4'-DDT (57%RSD) on the secondary column. No action is warranted as the results were obtained from the primary column. The %D between the initial and continuing calibration factors was less than or equal to 25% for all target analytes except heptachlor (42%D), 4,4'-DDT (32%D), and methoxychlor (52%D) on the primary column. No action is warranted as ND results were confirmed by the secondary column analysis.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes during the analysis of blank spike PB06809BS.

A method blank was reported for each analytical batch. Target compounds were not detected during the analysis of the method blank.

Criteria for accuracy and precision were met during the MS/MSD analysis of sample SB-13(6-8).

Polychlorinated Biphenyl (PCB) Analysis by SW-846 8082

Laboratory specifications were met during the initial calibration on July 30, 2005 and continuing calibrations on August 9 and 10, 2005. The %RSD between calibration factors was less than or equal to 30% during the initial calibration, and the %D between the initial and continuing calibration factors was less than or equal to 25% for all target analytes.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples except the surrogate recoveries for decachlorobiphenyl (136%R) in sample SB-13(8-10). Qualification was not warranted as PCB's were not detected in the associated sample.

The percent recovery results for blank spike analysis were within laboratory specifications for aroclor 1016 and 1260 during the analysis of blank spike PB06808BS.

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 not met during the MS/MSD analysis of sample SB-13(6-8). The %R for Aroclor 1016 and 1260 exceeded laboratory specifications of 55-128%R and 58-140%R, respectively. No action was warranted as these analytes were not detected in the sample. The associated result has been qualified as estimated (UJ) due to analytical imprecision.

Metals and Mercury Analysis by SW-846 6010B and 7471A

The inductively coupled plasma (ICP) instrument was calibrated according to the SW-846 Methods 6010B and 7470A. All samples were bracketed by initial and continuing calibration verification standards (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 fell within 80-120% of the true standard concentration for all target analytes.

Laboratory specifications (80-120%R) were met during the analysis of the Laboratory Control Sample for metals.

The recovery of the CRDL standard fell within 75-125% of the true value for all 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 A of the Data Evaluation Checklist for an 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 ND (U) and the DL has been elevated to the amount detected in the sample.

Criteria for accuracy and precision were met during the MS/MSD metals analysis of sample SB-13(6-8) for all target analytes except aluminum, antimony, barium, calcium, iron, magnesium, manganese, potassium, sodium, and zinc. The MSD exceeded laboratory specifications for sodium, however no action was warranted as the MS was within specifications. The %R exceeded laboratory specifications for barium, potassium, and zinc. These results have been qualified as estimated (J) due to the analytical inaccuracy. The %R were below laboratory specifications for antimony. Antimony results have been qualified as estimated (UJ) due to analytical inaccuracy. Aluminum, calcium, iron, magnesium, and manganese also exceed laboratory specifications. No action is warranted for these analytes, due to the native concentration being greater than 4x's the spike added.

Significant chemical and matrix interference was observed during the serial dilution analysis of sample SB-13(6-8). The percent difference between initial and serially diluted results was greater than 10% for chromium, copper, potassium, and zinc. Associated results for these metals are considered estimated (J) due to matrix interference.

A laboratory duplicate evaluation was performed on sample SB-13(6-8). Refer to Attachment B of the Data Evaluation Checklist for the laboratory duplicate evaluation.

Megan Drosky
Environmental Scientist

SUBJECT: Data Usability Summary Report (DUSR)
Durkee St. OU#2
Chemtech SDG No.: T4105
C.T. Male Project No.: 04.9498

DATE: November 16, 2005

On August 4, 2005, C.T. Male Associates P.C. (C. T. Male) collected three (3) soil samples from the Durkee St. Site. The samples were submitted to CHEMTECH in Mountainside, NJ along with a trip blank, for the following analyses:

Parameter	Sample Date	VOC, SW-846 8260B	SVOC, SW-846 8270C	Pesticides, SW-846 8081	PCB's, SW-846 8082	Metals and Hg, SW-846 6010B/7471A
Sample Ids						
SS-13	8/4/2005	1	1	1	1	1
SS-14	8/4/2005	1	1	1	1	1
SS-22	8/4/2005	1	1	1	1	1
Trip Blank	8/4/2005	1	0	0	0	0
Total Samples		4	3	3	3	3

VOC – Volatile organic compounds
SVOC – Semi-volatile organic compounds
PCB – Polychlorinated biphenyls
Hg - Mercury

C. T. Male evaluated the data reported by the laboratory to determine usability per Appendix B of the *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NY DEC, December 2002). The following criteria were reviewed:

- Completeness of data package as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables;
- Holding time compliance for chemical analysis;
- Protocol required limits and specification compliance for quality control (QC) data (e.g., instrument tuning, calibration standards, blank results, spike results, duplicate results, etc);
- Contract compliance for analytical protocols;
- Omissions and Transcription errors; and
- Data qualification

All required documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms. The laboratory Case Narrative (Attachment A) identified all deviations from laboratory analytical specifications. C. T. Male reviewed these QC results to determine if sample results should be qualified based on the criteria provided in Appendix B of the *Technical Guidance for Site Investigation and Remediation.* QC exceedances and data qualification recommendations are presented in the Data Evaluation Checklist (Attachment B). Qualified sample results are presented in the laboratory summary forms, which are located in Attachment C. Overall, data quality objectives for the Durkee St. project were met, as there were not any data deficiencies that would indicate the need for re-sampling.

Data Completeness

All required documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms for the validated samples. The laboratory Case Narrative identified all deviations from laboratory analytical specifications, and is attached along with the qualified sample results for the two validated samples. QC exceedances and data qualification recommendations are presented below.

Sample Condition upon Receipt and Holding Times

Chemtech received all the samples listed on the COC records intact and in good condition on August 8, 2005. The temperature of samples (16ºC) exceeded the laboratory specification limits of 2 to 6ºC upon receipt. All results for all parameters have been qualified as estimated (J/UJ), as the results may be biased low.

All samples were prepared and analyzed within EPA-established holding times.

Volatile Organic Analyses (VOA) by SW-846 8260B

All samples were analyzed within 12 hours of the performance check standard, BFB. Percent relative abundance of all ions met the criteria specified in Table 4 of the EPA SW-846 Method 8260B. Laboratory specifications were met during the initial calibrations on July 29, 2005 and August 1, 2005 and the continuing calibrations on August 9 and 12, 2005. In addition the average relative response factor (RRF) was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The percent relative standard deviation (%RSD) between relative response factors RRF was less than or equal to 30% during the initial calibration, and the percent difference (%D) between the initial calibration average RRF and continuing calibration RRF was less than or equal to 25% for all target analytes, except carbon disulfide (39.1%RSD and 27.6%D), bromoform (36.6%RSD), 1,2-dibromo-3-chloropropane (29.1%D), and 1,2,4-trichlorobenzene (31.7%D) for the initial and continuing calibrations of July 29 and August 9, respectively, associated with the analysis of the trip blank. Laboratory specifications were not met during the continuing calibration associated with the analysis of samples SS-22 and SS-13 for 1,1,2-trichlorotrifluoroethane (28%D), carbon disulfide (40.7%D), methyl acetate (41.2%D), methylene chloride (104.1%D), cyclohexane (31.1%D), and methylcyclohexane (29.6%D), as well as during the continuing calibration associated with the analysis of SS-14 and the reanalysis of SS-22 for carbon disulfide (32.6%D) and methylene chloride (86.7%D). The associated results are qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples except the surrogate recovery for 4-BFB (65 and 58%R) during the initial and reanalysis of sample SS-22, respectively. The internal standard 1,4-DCB-d4 was below lab specifications during the reanalysis of sample SS-22. All results for the analysis and reanalysis of sample SS-22 have been qualified as estimated (J/UJ) due to analytical imprecision.

The percent recovery results for blank spike analysis were within laboratory specifications for 1,1-dichloroethene, benzene, trichloroethene, toluene, and chlorobenzene.

A method blank was reported for each analytical batch and a trip blank was also submitted to the laboratory for VOA. Target analytes were not detected during the VOA of the trip blank. Methylene chloride (a common laboratory contaminant) was detected in both method blanks associated with the soil analysis at concentrations of 24 and 16 µg/Kg. Action levels were developed by multiplying the highest concentration observed among the associated blanks by a factor of 10. Samples with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Semivolatile Organic Analysis (SVOA) by SW-846 8270C

All samples were analyzed within 12 hours of the performance check standard, DFTPP. Percent relative abundance of all ions met the criteria specified in Table 3 of the EPA SW-846 Method 8270C. Laboratory specifications were met during the initial and continuing calibrations on August 10, 2005. In addition the average RRF was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The %RSD between RRF was less than or equal to 30% during the initial calibration. The percent difference %D between the initial calibration average RRF and the continuing calibration was less than or equal to 25% for all target analytes.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes except 4-nitrophenol (36%R) was below laboratory specifications of 45-95%R during the analysis of blank spike PB06837BS. Associated results are qualified as estimated (J/UJ) for 4-nitrophenol.

A method blank was reported for each analytical batch. Target compounds and tentatively identified compounds (TIC) were not detected during the analysis of the method blank.

Criteria for accuracy and precision were met during the MS/MSD analysis of sample SS-14 for all target analytes except 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, bis(2-ethylhexyl)phthalate, indeno(1,2,3-cd)pyrene, and benzo(g,h,i)perylene. The %R for the MSD and the MS were below laboratory specifications for bis(2-ethylhexyl)phthalate and benzo(g,h,i)perylene, respectively. No action was warranted as the MS and MSD were within specifications for bis(2-ethylhexyl)phthalate and benzo(g,h,i)perylene, respectively. The %R for 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol and indeno(1,2,3-cd)pyrene were below laboratory specifications for the MS and MSD. The associated results have been qualified as estimated (UJ) due to analytical imprecision.

Pesticide Analysis by SW-846 8081

Laboratory specifications were met during the initial calibration on August 2, 2005 and continuing calibrations on August 11, 2005. The %RSD between calibration factors was less than or equal to 30% during the initial calibration. The %D between the initial and continuing calibration factors was less than or equal to 25% for all target analytes except endrin ketone (26%D) on the secondary column. No action is warranted as the results were obtained from the primary column.

Internal standard results met laboratory specifications for all project samples. Surrogate recoveries were below laboratory specifications for decachlorobiphenyl in all three samples. All associated results have been qualified as estimated (J/UJ) due to analytical imprecision.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes during the analysis of blank spike PB06836BS.

A method blank was reported for each analytical batch. Target compounds were not detected during the analysis of the method blank.

Criteria for accuracy and precision were met during the MS/MSD analysis of sample SS-14 for all target analytes.

Polychlorinated Biphenyl (PCB) Analysis by SW-846 8082

Laboratory specifications were met during the initial calibration on July 30, 2005 and continuing calibrations on August 10 and 11, 2005. The %RSD between calibration factors was less than or equal to 30% during the initial calibration, and the %D between the initial and continuing calibration factors was less than or equal to 25% for all target analytes.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples.

The percent recovery results for blank spike analysis were within laboratory specifications for aroclor 1016 and 1260 during the analysis of blank spike PB06835BS.

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 not met during the MS/MSD analysis of sample SS-14. The %R for Aroclor 1016 and 1260 exceeded laboratory specifications of 55-128%R and 58-140%R, respectively. No action was warranted as these analytes were not detected in the sample.

Metals and Mercury Analysis by SW-846 6010B and 7471A

The inductively coupled plasma (ICP) instrument was calibrated according to the SW-846 Methods 6010B and 7470A. All samples were bracketed by initial and continuing calibration verification standards (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 fell within 80-120% of the true standard concentration for all target analytes.

Laboratory specifications (80-120%R) were met during the analysis of the Laboratory Control Sample for metals.

The recovery of the CRDL standard fell within 75-125% of the true value for all 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 A of the Data Evaluation Checklist for an 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 ND (U) and the DL has been elevated to the amount detected in the sample.

Criteria for accuracy and precision were met during the MS/MSD metals analysis of sample SS-22 for all target analytes except aluminum, antimony, barium, calcium, iron, magnesium, manganese, potassium, and sodium. The %R were below laboratory specifications for antimony and manganese. These results have been qualified as estimated (J) due to analytical inaccuracy. The %R exceeded laboratory specifications for potassium and sodium. These results have been qualified as estimated (J) due to the analytical inaccuracy. Aluminum, calcium, iron, and magnesium also exceed laboratory specifications. No action is warranted for these analytes, due to the native concentration being greater than 4x's the spike added.

Significant chemical and matrix interference was observed during the serial dilution analysis of sample SS-22. The percent difference between initial and serially diluted results was greater than 10% for barium, calcium, copper, potassium, vanadium, and zinc. Associated results for these metals are considered estimated (J) due to matrix interference.

A laboratory duplicate evaluation was performed on sample SS-22. Refer to Attachment B of the Data Evaluation Checklist for the laboratory duplicate evaluation.

Megan Drosky
Environmental Scientist

C.T. MALE ASSOCIATES, P.C.

SUBJECT: Data Usability Summary Report (DUSR)
Durkee St. OU#2
Chemtech SDG No.: T4212
C.T. Male Project No.: 04.9498

DATE: November 4, 2005

On August 11, 2005, C.T. Male Associates P.C. (C. T. Male) collected six (6) groundwater samples from the Durkee St. Site. The samples were submitted to CHEMTECH in Mountainside, NJ along with a trip and equipment blank, for the following analyses:

Parameter	Sample Date	VOC, SW-846 8260B	SVOC, SW-846 8270C	Pesticides, SW-846 8081	PCB's, SW-846 8082	Metals and Hg, SW-846 6010B/7470A
Sample Ids						
MW-18	8/11/2005	1	1	1	1	1
MW-16	8/11/2005	1	1	1	1	1
DUP[1]	8/11/2005	1	1	1	1	1
MW-20	8/11/2005	1	1	1	1	1
MW-19	8/11/2005	1	1	1	1	1
MW-17	8/11/2005	1	1	1	1	1
Equipment Blank	8/11/2005	1	1	1	1	1
Trip Blank	-	1	0	0	0	0
Total Samples		**8**	**7**	**7**	**7**	**7**

VOC – Volatile organic compounds
SVOC – Semi-volatile organic compounds
PCB – Polychlorinated biphenyls
Hg - Mercury

C. T. Male evaluated the data reported by the laboratory to determine usability per Appendix B of the *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NY DEC, December 2002). The following criteria were reviewed:

- Completeness of data package as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables;
- Holding time compliance for chemical analysis;
- Protocol required limits and specification compliance for quality control (QC) data (e.g., instrument tuning, calibration standards, blank results, spike results, duplicate results, etc);
- Contract compliance for analytical protocols;
- Omissions and Transcription errors; and
- Data qualification

All required documentation required by the project was included in the data package. A discrepancy was observed between the raw data and summary forms. The result for sodium in sample MW-16 was originally reported as not detected. This issue was brought to the laboratory's attention on November 1, 2005, and the corrections were sent to C.T. Male on November 4, 2005. Refer to Attachment A for the

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[1] Field duplicate of MW-18.

corrected pages and correspondence. The laboratory Case Narrative (Attachment B) identified all deviations from laboratory analytical specifications. C. T. Male reviewed these QC results to determine if sample results should be qualified based on the criteria provided in Appendix B of the *Technical Guidance for Site Investigation and Remediation*. QC exceedances and data qualification recommendations are presented in the Data Evaluation checklist (Attachment C). Qualified sample results are presented in the laboratory summary forms, which are located in Attachment D. Overall, data quality objectives for the Durkee St. project were met, as there were not any data deficiencies that would indicate the need for re-sampling.

Data Completeness

All required documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms for the validated samples. The laboratory Case Narrative identified all deviations from laboratory analytical specifications, and is attached along with the qualified sample results for the two validated samples. QC exceedances and data qualification recommendations are presented below for the samples selected for validation.

Sample Condition upon Receipt and Holding Times

Chemtech received all the samples listed on the COC records intact and in good condition on August 15, 2005. The temperature of samples was within laboratory specification limits of 2 to 6°C upon receipt.

All samples were prepared and analyzed within EPA-established holding times.

Volatile Organic Analyses (VOA) by SW-846 8260B

All samples were analyzed within 12 hours of the performance check standard, BFB. Percent relative abundance of all ions met the criteria specified in Table 4 of the EPA SW-846 Method 8260B. Laboratory specifications were met during the initial and continuing calibrations on August 31, 2005 and September 27, 2005, respectively. In addition the average relative response factor (RRF) was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The percent relative standard deviation (%RSD) between relative response factors RRF was less than or equal to 30% during the initial calibration, and the percent difference (%D) between the initial calibration average RRF was less than or equal to 25% for all target analytes, except chloroethane (31%D), carbon disulfide (49.4%D), methyl acetate (26.6%D), and tetrachloroethane (38.2%D). The associated results are qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples.

The percent recovery results for blank spike analysis were within laboratory specifications for 1,1-dichloroethene, benzene, trichloroethene, toluene, and chlorobenzene.

A method blank was reported for each analytical batch and an equipment and trip blank were also submitted to the laboratory for VOA. Target analytes were not detected during the VOA of the method, equipment, and trip blanks.

Criteria for accuracy and precision were met during the matrix spike (MS) and MS duplicate (MSD) analysis of sample MW-16 for all target analytes.

A field duplicate evaluation was performed on samples DUP and MW-18. Criteria for precision was achieved, as target analytes were not detected in the associated samples.

Semivolatile Organic Analysis (SVOA) by SW-846 8270C

All samples were analyzed within 12 hours of the performance check standard, DFTPP. Percent relative abundance of all ions met the criteria specified in Table 3 of the EPA SW-846 Method 8270C. Laboratory specifications were met during the initial and continuing calibrations on August 16 and 24, 2005, respectively. In addition the average RRF was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The %RSD between RRF was less than or equal to 30% during the initial calibration, and the percent difference %D between the initial calibration average RRF was less than or equal to 25% for all target analytes except 4-nitrophenol (31.5%D). The associated results are qualified as estimated (J/UJ) due to poor correlation.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples except the surrogate recovery for 2-fluorophenol (19%R) in sample MW-17. No action is warranted as all other base/neutral surrogates were within specifications.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes except caprolactam (9%R) and di-n-octyl phthalate (64%R) were below laboratory specifications of 20-150%R and 66-124%R, respectively, during the analysis of blank spike PB07047BS. Associated results are qualified as estimated for caprolactam and di-n-octyl phthalate.

A method blank was reported for each analytical batch. An equipment blank was submitted to the laboratory for SVOA. Target compounds were not detected during the analysis of the method or equipment blanks except bis(2-ethylhexyl)phthalate was detected at concentrations of 3.0 and 2.7 µg/L, respectively. A tentatively identified compound (TIC) 2-methoxy-2-methyl-butane was detected in the associated method and equipment blanks at 14 and 16 µg/L, respectively. Action levels were developed by multiplying the highest concentration observed among the associated blank by a factor of 5. Samples with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Criteria for accuracy and precision were met during the MS/MSD analysis of sample MW-16 for all target analytes except caprolactam. The %R was below the laboratory specifications of 20-150%R (5 and 6%). The results in the associated sample have been qualified as estimated (UJ) due to analytical inaccuracy.

A field duplicate evaluation was performed on samples DUP and MW-18. 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 on July 29, 2005 and August 24, 2005, respectively. The %D between the initial calibration factors was less than or equal to 25% for all target analytes except methoxychlor (26%D) on the secondary column. No action is warranted as the sample results were obtained from the primary column.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples except the surrogate recovery for tetrachloro-m-xylene (37%R) in sample DUP. All associated results have been qualified as estimated (J/UJ) due to analytical imprecision.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes during the analysis of blank spike PB07048BS.

A method blank was reported for each analytical batch. An equipment blank was submitted to the laboratory for pesticide analysis. Target compounds were not detected during the analysis of the method or equipment blanks.

Criteria for accuracy and precision were met during the MS/MSD analysis of sample MW-16 for all target analytes except dieldrin. The %R was below the laboratory specifications of 78-134%R for the MS (76%R). No action was warranted as the %R for the MSD was within laboratory specifications.

A field duplicate evaluation was performed on samples DUP and MW-18. Criteria for precision was achieved, as target analytes were not detected in the associated samples.

Polychlorinated Biphenyl (PCB) Analysis by SW-846 8082

Laboratory specifications were met during the initial and continuing calibrations on July 30, 2005 and August 24, 2005, respectively. The %D between the initial calibration factors was less than or equal to 25% for all target analytes.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples except the surrogate recoveries for tetrachloro-m-xylene (151%R) and decachlorobiphenyl (141%R) in sample DUP. Qualification was not warranted as PCB's were not detected in the associated sample.

The percent recovery results for blank spike analysis were within laboratory specifications for aroclor 1016 and 1260 during the analysis of blank spike PB07751BS.

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/MSD analysis of sample MW-16 for all target analytes except Aroclor 1260. The %RPD exceeded laboratory specifications of 20%RPD. The associated result has been qualified as estimated (UJ) due to analytical imprecision.

A field duplicate evaluation was performed on samples DUP and MW-18. Criteria for precision was achieved, as target analytes were not detected in the associated samples.

Metals and Mercury Analysis by SW-846 6010B and 7470A

The inductively coupled plasma (ICP) instrument was calibrated according to the SW-846 Methods 6010B and 7470A. All samples were bracketed by initial and continuing calibration verification standards (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 fell within 80-120% of the true standard concentration for all target analytes.

Laboratory specifications (80-120%R) were met during the analysis of the Laboratory Control Sample for metals.

The recovery of the 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 A of the Data Evaluation Checklist for an 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 ND (U) and the DL has been elevated to the amount detected in the sample.

Criteria for accuracy and precision were met during the MS/MSD analysis of sample MW-16 for all target analytes except barium, calcium, chromium, cobalt, copper, iron, magnesium, silver, and sodium. The %R was below the laboratory specifications of 80-120%R for the MS and MSD for barium (72.9 and 77%R), iron (76.4 and 78.9%R), and silver (10 and 10.3%R). The associated results have been qualified as estimated (J/UJ) in MW-16. The MS was below laboratory specifications for chromium (78.1%R), cobalt (76.6%R), copper (78.8%R), and iron (76.4%R). No action was warranted for these analytes as the MSD was within specifications. The %R exceeded laboratory specifications for calcium, magnesium, and sodium as well. The %RPD exceeded laboratory specifications of 20%RPD for sodium. No action is warranted for these analytes, due to the native concentration being greater than 4x's the spike added.

Significant chemical and matrix interference was observed during the serial dilution analysis of sample MW-16. The percent difference between initial and serially diluted results was greater than 10% for calcium (44.6%D), magnesium (35.8%D), manganese (30.5%D), and potassium (15.2%D). Associated metal results are considered estimated (J) due to matrix interference in sample MW-16.

A laboratory duplicate evaluation was performed on sample MW-16. Refer to Attachment B of the Data Evaluation Checklist for the laboratory duplicate evaluation.

A field duplicate evaluation was performed on samples DUP and MW-18. Refer to Attachment C of the Data Evaluation Checklist for the field duplicate evaluation.

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C.T. MALE ASSOCIATES, P.C.

SUBJECT: Data Usability Summary Report (DUSR)
Durkee St. OU#2
Chemtech SDG No.: T4852
C.T. Male Project No.: 04.9498

DATE: November 7, 2005

On September 21, 2005, C.T. Male Associates P.C. (C. T. Male) collected two (2) groundwater samples from the Durkee St. Site. The samples were submitted to CHEMTECH in Mountainside, NJ along with a trip blank, for the following analyses:

Parameter	**Sample Date**	**VOC, SW-846 8260B**	**SVOC, SW-846 8270C**	**Pesticides, SW-846 8081**	**PCB's, SW-846 8082**	**Metals and Hg, SW-846 6010B/7470A**
Sample Ids						
MW-19	9/21/2005	1	1	1	1	1
MW-17	9/21/2005	1	1	1	1	1
Trip Blank	-	1	0	0	0	0
Total Samples		**3**	**2**	**2**	**2**	**2**

VOC – Volatile organic compounds
SVOC – Semi-volatile organic compounds
PCB – Polychlorinated biphenyls
Hg - Mercury

C. T. Male evaluated the data reported by the laboratory to determine usability per Appendix B of the *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NY DEC, December 2002). The following criteria were reviewed:

- Completeness of data package as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables;
- Holding time compliance for chemical analysis;
- Protocol required limits and specification compliance for quality control (QC) data (e.g., instrument tuning, calibration standards, blank results, spike results, duplicate results, etc);
- Contract compliance for analytical protocols;
- Omissions and Transcription errors; and
- Data qualification

All required documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms. The laboratory Case Narrative (Attachment A) identified all deviations from laboratory analytical specifications. C. T. Male reviewed these QC results to determine if sample results should be qualified based on the criteria provided in Appendix B of the *Technical Guidance for Site Investigation and Remediation*. QC exceedances and data qualification recommendations are presented in the Data Evaluation checklist (Attachment B). Qualified sample results are presented in the laboratory summary forms, which are located in Attachment C. Overall, data quality objectives for the Durkee St. project were met, as there were not any data deficiencies that would indicate the need for re-sampling.

Data Completeness

All required documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms. The laboratory Case Narrative identified all deviations from laboratory analytical specifications, and is attached along with the qualified sample results for the two validated samples. QC exceedances and data qualification recommendations are presented below for the samples selected for validation.

Sample Condition upon Receipt and Holding Times

Chemtech received all the samples listed on the COC records intact and in good condition on September 23, 2005. The temperature of samples was within laboratory specification limits of 2 to 6°C upon receipt.

All samples were prepared and analyzed within EPA-established holding times.

Volatile Organic Analyses (VOA) by SW-846 8260B

All samples were analyzed within 12 hours of the performance check standard, BFB. Percent relative abundance of all ions met the criteria specified in Table 4 of the EPA SW-846 Method 8260B. Laboratory specifications were met during the initial and continuing calibrations on August 31, 2005 and September 27, 2005, respectively. In addition the average relative response factor (RRF) was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The percent relative standard deviation (%RSD) between relative response factors RRF was less than or equal to 30% during the initial calibration, and the percent difference (%D) between the initial calibration average RRF was less than or equal to 25% for all target analytes, except bromoform (35.3%RSD, 27.8%D), chloroethane (46%D), trichloroethane (25.5%D), and tetrachloroethane (50.6%D). The associated results are qualified as estimated (J/UJ) due to poor correlation in the calibration standards.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples.

The percent recovery results for blank spike analysis were within laboratory specifications.

A method blank was reported for each analytical batch and a trip blank was also submitted to the laboratory for VOA. Target analytes were not detected during the VOA of the method and trip blanks.

Semivolatile Organic Analysis (SVOA) by SW-846 8270C

All samples were analyzed within 12 hours of the performance check standard, DFTPP. Percent relative abundance of all ions met the criteria specified in Table 3 of the EPA SW-846 Method 8270C. Laboratory specifications were met during the initial and continuing calibrations on September 9 and 24, 2005, respectively. In addition the average RRF was greater than or equal to 0.05 for all target analytes during the initial and continuing calibrations. The %RSD between RRF was less than or equal to 30% during the initial calibration, and the percent difference %D between the initial calibration average RRF was less than or equal to 25% for all target analytes except n-nitroso-di-n-propylamine (37.7%RSD), hexachloroethane (27.4%D), and 4-nitrophenol (26.6%D). The associated results are qualified as estimated (J/UJ) due to poor correlation.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes except n-nitroso-di-n-propylamine (104%R) exceeded laboratory specifications of 48-96%R. Caprolactam (10%R) and di-n-octyl phthalate (64%R) were below laboratory specifications of 20-15%R and 66-124%R, respectively, during the analysis of blank spike PB07747BS. Associated results are qualified as estimated for caprolactam and di-n-octyl phthalate. No action is warranted for n-nitroso-di-n-propylamine results, as n-nitroso-di-n-propylamine was not detected in the associated samples.

A method blank was reported for each analytical batch. Target compounds were not detected during the analysis of the method blanks. Tentatively identified compounds (TIC) 4-ethyl-5-methyl-heptanamide and squalene were detected in the associated method blank (PB07747B) at 2.1and 2.4 µg/L, respectively. Action levels were developed by multiplying the highest concentration observed among the associated blank by a factor of 5. Samples with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Pesticide Analysis by SW-846 8081

Laboratory specifications were met during the initial and continuing calibrations on September 8 and 25, 2005, respectively. The %RSD between calibration factors was less than or equal to 30% during the initial calibration, and the percent difference %D between the initial calibration average RRF was less than or equal to 25% for all target analytes except endosulfan II (48%RSD) and 4,4'-DDT (64%RSD and 28%D) on the secondary column. No action is warranted as the sample results were obtained from the primary column.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes during the analysis of blank spike PB07750BS.

A method blank was reported for each analytical batch. Target compounds were not detected during the analysis of the method blanks.

Polychlorinated Biphenyl (PCB) Analysis by SW-846 8082

Laboratory specifications were met during the initial and continuing calibrations on September 22 and 25, 2005, respectively. The %RSD between calibration factors was less than or equal to 30% during the initial calibration, and the percent difference %D between the initial calibration average RRF was less than or equal to 25% for all target analytes.

Surrogate recoveries and internal standard results met laboratory specifications for all project samples.

The percent recovery results for blank spike analysis were within laboratory specifications for all target analytes during the analysis of blank spike PB07751BS.

A method blank was reported for each analytical batch. Target compounds were not detected during the analysis of the method blanks.

Metals and Mercury Analysis by SW-846 6010B and 7470A

The inductively coupled plasma (ICP) instrument was calibrated according to the SW-846 Methods 6010B and 7470A. All samples were bracketed by initial and continuing calibration verification standards (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 fell within 80-120% of the true standard concentration for all target analytes.

Laboratory specifications (80-120%R) were met during the analysis of the Laboratory Control Sample.

The recovery of the 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 A of the Data Evaluation Checklist for an 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 ND (U) and the DL has been elevated to the amount detected in the sample.

Megan Drosky
Environmental Scientist

C.T. MALE ASSOCIATES, P.C.

SUBJECT: Data Usability Summary Report (DUSR)
Durkee St. OU #2 Supplemental Investigation
Chemtech SDG Nos.: X1810, X1832 and X1857
C.T. Male Project No.: 04.9498

DATE: April 7, 2006

Between February 27, 2006 and March 7, 2006, C.T. Male Associates, P.C. (C. T. Male) collected eight (8) soil samples, including a blind field duplicate, from the Durkee St. Site. The samples were submitted to CHEMTECH in Mountainside, NJ along with an equipment blank and a trip blank for the following analyses:

SDG	Parameter	Sample Date	VOC, SW-846 8260B	SVOC, SW-846 8270C
	Sample Ids			
X1810	SB-22 (4'-6')	3/2/2006	1	1
	SB-23 (14'-16')	3/1/2006	1	1
	SB-24 (4'-6')	2/27/2006	1	1
	Dup[1]	3/2/2006	1	1
X1832	SB-25 (14'-16')	3/3/2006	1	1
X1857	SB-21 (6'-8')	3/7/2006	1	1
	SB-21 (18'-20')	3/7/2006	1	1
	SB-26 (16'-18')	3/6/2006	1	1
	Equipment Blank	3/6/2006	1	1
	Trip Blank	- -	1	0
	Total Samples		**10**	**9**

VOC – Volatile organic compounds
SVOC – Semi-volatile organic compounds

C. T. Male evaluated the data reported by the laboratory to determine usability per Appendix 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 Data Review* (October 1999). 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.

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[1] Field duplicate of SB-22 (4'-6').

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 analysis of each sample be reported as the representative results for that sample.

Sample Condition upon Receipt and Holding Times

Chemtech 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.

There were instances during the semi-volatile organic analysis (SVOA) where analyte concentrations exceeded the calibration range. This was presented in the laboratory report as E-flagged. E-flagged results are not as accurate as those results obtained from a diluted analysis that fall within the calibration range. The E-flagged data has been qualified as unusable (R) and it is recommended that the results from the lowest dilution for each specific analyte, within the calibration range, be reported as the representative results for that sample.

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 as follows:

- SDG X1857 – Bromomethane (44.9%RSD), acetone (37.6%RSD), methylene chloride (55.1%D) and tetrachloroethene (32.2%D) for the initial and continuing calibrations associated with the analysis of the trip blank and the equipment blank 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:

- SDG X1810, Surrogate Recoveries –

  - The surrogate percent recovery (%R) was below laboratory specifications for dibromofluoromethane, and exceeded laboratory specifications for 4-BFB during the initial and reanalysis of SB-24 (4'-6'). The associated results have been qualified as estimated (J/UJ).
  - The surrogate %R was below laboratory specifications for dibromofluoromethane during the initial and reanalysis of SB-23 (14'-16'). The associated results have been qualified as estimated (J/UJ).
- SDG X1810, Internal Standards –
  - 1,4-Dichlorobenzene-d4 was below laboratory specifications during the reanalysis of SB-24 (4'-6'). The associated results have been qualified as estimated (J/UJ) due to low machine sensitivity.
- SDG X1857, Surrogate Recoveries –
  - The surrogate %R was below laboratory specifications for 4-BFB during the initial and reanalysis of SB-21 (6'-8'). The associated results have been qualified as estimated (J/UJ).
  - The surrogate %R was below laboratory specifications for 4-BFB during the initial and reanalysis of SB-21 (18'-20'), and the surrogate %R was below laboratory specifications during the initial analysis of SB-21 (18'-20'). The associated results have been qualified as estimated (J/UJ).

The %R results for Laboratory Control Sample (LCS) analysis were within laboratory specifications for target analytes except the following:

- SDG X1832 – The %R exceeded laboratory specifications for acetone, MTBE and methylene chloride during the LCS analysis associated with the samples in this SDG. Associated detected results have been qualified as estimated (J) due to analytical inaccuracy.

A method blank was reported for each analytical batch. A trip blank and equipment blank were also submitted to the laboratory for VOA. Acetone and methylene chloride were detected in method blanks associated with SDGs X1810, X1832 and X1857, and 2-butanone was detected in a method blank associated with SDG X1857. Target analytes were not detected during the VOA of the trip or equipment blanks. Action levels were developed by multiplying the highest concentration observed among the associated blanks in each SDG by a factor of 10 for these common laboratory contaminants. Samples associated with the analysis of the SDG in which the associated blanks exhibited blank contamination, with results reported below the action level, have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Criteria for accuracy and precision were met during the matrix spike (MS) and MS duplicate (MSD) analysis of sample SB-26 (16'-18') for target analytes except the %R for methyl acetate exceeded laboratory specifications during the MS and MSD analyses. No action was warranted, as methyl acetate was not detected in the associated sample. The %R for styrene was below specifications during the MS analysis. No action was warranted, as the %R for MSD results was within laboratory specifications. The relative percent difference (%RPD) between MS and MSD results exceeded laboratory specifications for 2-butanone. Associated 2-butanone results have been qualified as estimated (J) due to analytical imprecision.

A field duplicate evaluation was performed on samples Dup (blind field duplicate) and SB-22 (4'-6'). Refer to Attachment B-1 for an evaluation of detected results. Results for acetone, carbon disulfide, m&p-xylenes and o-xylene did not meet the criteria for precision. The associated results have been qualified as estimated (J/UJ) due to analytical imprecision.

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 X1832 – 2,4-Dinitrophenol (41.55%RSD) for the initial calibration associated with the analysis of the samples for this SDG. The associated 2,4-dinitrophenol results have been qualified as estimated (J/UJ) due to poor correlation in the initial calibration standards.
- SDG X1857 – 2,4-Dinitrophenol (41.55%RSD) for the initial calibration associated with the analysis of the samples for this SDG. The associated 2,4-dinitrophenol results have been qualified as estimated (J/UJ) due to poor correlation in the initial calibration standards. 2,4-Dinitrophenol (60.6%D) for the continuing calibration associated with the analysis of the equipment blank, as well as 2,4-dinitrophenol (50%D) and 4,6-dinitro-2-methylphenol (40.8%D) for the continuing calibration associated with the reanalysis of sample SB-21 (6'-8'). 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 except the following:

- SDG X1810, Surrogate Recoveries – The surrogate %R for terphenyl-d14 exceeded laboratory specifications during the analyses of samples SB-24 (4'-6') and SB-22 (4'-6'). Qualification was not warranted, as the remaining base/neutral (B/N) surrogates were within specifications.
- SDG X1810, Internal Standards – Perylene-d12 was below laboratory specifications during the initial and reanalysis of sample SB-24 (4'-6') as well as the initial and diluted analyses of samples SB-22 (4'-6') and Dup. The associated analytes have been qualified as estimated (J/UJ) due to low machine sensitivity.
- SDG X1857, Internal Standards – Perylene-d12 was below laboratory specifications during the initial and reanalysis of sample SB-21 (6'-8'). The associated analytes have been qualified as estimated (J/UJ) due to low machine sensitivity.

The %R results for LCS analysis were within laboratory specifications for target analytes except the following:

- SDG X1832 – The %R was below laboratory specifications for benzaldehyde during the LCS analysis associated with the analysis of samples in this SDG. Associated results have been qualified as estimated (J/UJ) due to analytical inaccuracy.

- SDG X1857 – The %R exceeded laboratory specifications for bis(2-Chloroethyl)ether, n-nitroso-di-n-propylamine, 2,4-dichlorophenol, 2,4,6-trichlorophenol, 2-chloronaphthalene, acenaphthylene, 2,6-dinitrotoluene, 2,4-dinitrotoluene, fluorene, 4-chlorophenyl-phenylether, 4,6-dinitro-2-methylphenol, phenanthrene, carbazole, di-n-butylphthalate, benzo(a)anthracene, chrysene and benzo(a)pyrene during the LCS analysis associated with the equipment blank. Associated detected results have been qualified as estimated (J) due to analytical inaccuracy. The %R was below laboratory specifications for caprolactam and benzo(k)fluoranthene during the LCS analysis associated with the equipment blank. Associated results have been qualified as estimated (J/UJ) due to analytical inaccuracy.
- SDG X1857 – Benzaldehyde was below laboratory specifications during the LCS analysis associated with the analyses of the soil samples in this SDG. Associated results have been qualified as estimated (J/UJ) due to analytical inaccuracy.

A method blank was reported for each analytical batch. An equipment blank was also submitted to the laboratory for SVOA. Target compounds were not detected during the analysis of the method blanks. Suspected aldol-condensation products (ACP) were detected as tentatively identified compounds (TICs) in the method blanks associated with SDGs X1810, X1832 and X1857, as well as in the equipment blank, at various retention times. Also, an unknown TIC was detected in a method blank associated with SDG X1857. Bis(2-ethylhexyl)phthalate and an unknown TIC were also detected in the equipment blank. Action levels were developed by multiplying the highest concentration observed among the associated blanks in each SDG by a factor of 5. Samples associated with the analysis of the SDG in which the associated blanks exhibited blank contamination, with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Criteria for accuracy and precision were met during the matrix spike (MS) and MS duplicate (MSD) analysis of samples SB-23 (14'-16'), SB-25 (14'-16') and SB-26 (16'-18') for target analytes except the following:

- SB-23 (14'-16') – The %R were below laboratory specifications during the MS and MSD analyses for hexachlorocyclopentadiene, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, fluoranthene, indeno(1,2,3-cd)pyrene, and exceeded laboratory specifications for pyrene and butylbenzylphthalate. Associated hexachlorocyclopentadiene, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, fluoranthene, indeno(1,2,3-cd)pyrene results have been qualified as estimated (J/UJ) and detected pyrene results have been qualified as estimated (J) due to analytical inaccuracy. No action was warranted for butylbenzylphthalate as this analyte was not detected in the associated sample.
- SB-25 (14'-16') – The %R were below laboratory specifications during the MS and MSD analyses for 2-nitrophenol, hexachlorocyclopentadiene, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol and indeno(1,2,3-cd)pyrene. Associated results for 2-nitrophenol, hexachlorocyclopentadiene, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol and indeno(1,2,3-cd)pyrene have been qualified as estimated (UJ) due to analytical inaccuracy. The %R for hexachloroethane was below laboratory specifications during the MSD. No action was warranted as the MS %R was within laboratory specifications.
- SB-26 (16'-18') – The %R were below laboratory specifications during the MS and MSD analyses for hexachloroethane, hexachlorocyclopentadiene, 2,4-dinitrophenol, 2,4-dinitrotoluene, 4,6-dinitro-2-methylphenol, 3,3-dichlorobenzidine, indeno(1,2,3-cd)pyrene, benzo(k)fluoranthene

and dibenz(a,h)anthracene. The %R exceeded laboratory specifications for the MS and MSD for acenaphthylene, anthracene, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b) fluoranthene and benzo(a)pyrene. Associated results for hexachloroethane, hexachlorocyclopentadiene, 2,4-dinitrophenol, 2,4-dinitrotoluene, 4,6-dinitro-2-methylphenol, 3,3-dichlorobenzidine, indeno(1,2,3-cd)pyrene, benzo(k)fluoranthene and dibenz(a,h)anthracene have been qualified as estimated (UJ) due to analytical inaccuracy. Associated detected results for acenaphthylene, anthracene, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b) fluoranthene and benzo(a)pyrene have been qualified as estimated (J) due to analytical inaccuracy.

A field duplicate evaluation was performed on samples Dup (blind field duplicate) and SB-22 (4'-6'). Refer to Attachment B-1 for an evaluation of detected results. Results for naphthalene, 2-methylnaphthalene, 1,1-biphenyl, acenaphthylene, acenaphthene, dibenzofuran, fluorene, phenanthrene, anthracene, carbazole, fluoranthene, pyrene, benzo(a)anthracene, chrysene, bis(2-ethylhexyl)phthalate, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene and benzo(g,h,i)perylene did not meet criteria for precision. The associated results have been qualified as estimated (J) due to analytical imprecision.

Summary

Overall, data quality objectives for the Durkee St. project 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
Environmental Scientist

SUBJECT: Data Usability Summary Report (DUSR)
Durkee St. OU #2 Supplemental Investigation
Chemtech SDG No.: X1979
C.T. Male Project No.: 04.9498

DATE: April 18, 2006

On March 14 and 15, 2006, C.T. Male Associates P.C. (C. T. Male) collected nine (9) groundwater samples, including a blind field duplicate, from the Durkee St. Site. The samples were submitted along with a trip blank, a transport blank and a field blank to CHEMTECH in Mountainside, NJ for the following analyses:

Parameter	Sample Date	VOC, SW-846 8260B	SVOC, SW-846 8270C	Pesticides, SW-846 8081	PCBs, SW-846 8082
Sample Ids					
MW-21	3/14/2006	1	1	0	0
MW-22	3/14/2006	1	1	0	0
MW-23	3/14/2006	1	1	0	0
MW-24	3/14/2006	1	1	0	0
MW-25	3/14/2006	1	1	0	0
MW-26	3/14/2006	1	1	0	0
MW-13	3/14/2006[1]	1	1	1	1
MW-14	3/14/2006	1	0	0	0
FD[2]	3/14/2006	1	1	0	0
Field Blank	3/14/2006	1	1	1	1
Transport Blank	-	1	0	0	0
Trip Blank	-	1	0	0	0
Total Samples		**12**	**9**	**2**	**2**

VOC – Volatile organic compounds
SVOC – Semi-volatile organic compounds
PCBs – Polychlorinated biphenyls

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 Data Review* (October 1999). 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.

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[1] MW-13 sample for pesticide and PCB analysis was collected on 03/15/06.
[2] Field duplicate of MW-25.

Data Completeness

Documentation required by the project was included in the data package. The chain of custody (COC) indicated that sample Field Blank was to be analyzed for TAL Metals, also there was no indication on the COC that sample MW-13 was to be analyzed for PCBs. Correspondence between C. T. Male and Chemtech specified that sample Field Blank was not to be analyzed for TAL Metals and sample MW-13 was to be analyzed for PCBs. The correspondence is documented in Attachment A. The laboratory Case Narratives (Attachment B) 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 C). Qualified sample results are presented in the laboratory summary forms, which are located in Attachment D.

QC exceedences and data qualification recommendations are summarized below. It is recommended that results from the initial analysis of each sample be reported as the representative results for that sample.

Sample Condition upon Receipt and Holding Times

Chemtech 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

Project 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 bromomethane (44.9%RSD) and acetone (37.6%RSD) for the initial calibration; dichlorodifluoromethane (25.9%D), chloromethane (30.2%D), bromomethane (27%D), trichlorofluoromethane (43.8%D), 1,1-dichloroethene (52.3%D), acetone (53.2%D), carbon disulfide (62.7%D), methyl acetate (37.1%D), methylene chloride (52.4%D), 2-butanone (32.6%D), 4-methyl-2-pentanone (28.8%D) and 2-hexanone (40.3%D) for the continuing calibration associated with the analysis of the project samples except MW-13 and MW-14; and dichlorodifluoromethane (37.1%D), trichlorofluoromethane (37.1%D), 1,1-dichloroethene (55.7%D), acetone (34.1%D), carbon disulfide (73%D), methyl acetate (31.4%D), methylene chloride (56.7%D), 2-butanone (27.9%D), 4-methyl-2-pentanone (28.3%D) and 2-hexanone (33.3%D) for the continuing calibration associated with the analysis of samples MW-13 and MW-14. 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) analysis were within laboratory specifications for target analytes except dichlorodifluoromethane, chloromethane, trichlorofluoromethane, carbon disulfide and 2-hexanone were below laboratory specifications during the LCS analysis. Associated results have been qualified as estimated (J/UJ) due to analytical inaccuracy.

A method blank was reported for each analytical batch. A field blank, trip blank and transport blank were also submitted to the laboratory for VOA. Target analytes were not detected in the field, trip or transport blanks. Acetone was detected in the method blanks at concentrations of 24 and 25 μg/L and 2-butanone was detected in a method blank at a concentration of 9.5 μg/L. Action levels were developed by multiplying the highest concentration observed among the associated blanks by a factor of 10 for these common laboratory contaminants. Samples with results reported below the action level have been have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Criteria for accuracy and precision were met during the matrix spike (MS) and MS duplicate (MSD) analysis of sample MW-26 for target analytes except the %R was below laboratory specifications during the MS and MSD analysis for chloromethane and trichlorofluoromethane. Associated results have been qualified as estimated (UJ) due to analytical inaccuracy. The %R exceeded laboratory specifications during the MS and MSD analysis for 1,3-dichlorobenzene and 1,2,4-trichlorobenzene. No action was warranted as 1,3-dichlorobenzene and 1,2,4-trichlorobenzene were not detected in MW-26. The relative percent difference (%RPD) exceeded laboratory specifications for chloroethane. Associated results have been qualified as estimated (UJ) due to analytical imprecision.

A field duplicate evaluation was performed on samples FD (blind field duplicate) and MW-25. Refer to Attachment C-1 for the duplicate evaluation. Criteria for precision was achieved for target analytes detected in the associated samples.

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 indeno(1,2,3-cd)pyrene (32.8%D) for the continuing calibration associated with the analysis of project samples MW-21 and MW-22; and 2,4-dinitrophenol (40.3%D), benzo(b)fluoranthene (35.8%D), benzo(k)fluoranthene (27.7%D), indeno(1,2,3-cd)pyrene (50.8%D) and benzo(g,h,i)perylene (37.8%D) for the continuing calibration associated with the reanalysis of project sample MW-21. 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 except the surrogate %R for 2-fluorophenol was below laboratory specifications during the analyses of MW-22 and MW-24. Qualification was not warranted, as the remaining acid surrogates were within specifications. The internal standard results were below specifications for perylene-d12 during the initial and reanalysis of MW-21. The associated results have been qualified as estimated (J/UJ) due to low machine sensitivity.

The %R results for LCS analysis were within laboratory specifications for target analytes except caprolactam and 4-nitrophenol were below laboratory specifications. Associated results have been qualified as estimated (J/UJ) due to analytical inaccuracy.

A method blank was reported for each analytical batch. A field blank was also submitted to the laboratory for SVOA. Target compounds were not detected during the analysis of the method or field blanks. Suspected aldol-condensation products (ACP) were detected as a tentatively identified compound (TICs), with a retention time of 4.09, in the method and field blanks at concentrations of 4.9 and 5.1 µg/L, respectively. Also, an unknown TIC, with a retention time of 15.68, was detected in the field blank at a concentration of 2.1 µg/L. Action levels were developed by multiplying the highest concentration observed among the associated blanks by a factor of 5. Samples with results reported below the action level have been edited to reflect non-detection (U) and the detection limit has been elevated to reflect the amount that was detected in the sample.

Criteria for accuracy and precision were met during the matrix spike (MS) and MS duplicate (MSD) analysis of sample MW-26 for target analytes except the %R was below laboratory specifications during the MS and MSD analyses for caprolactam and 4-nitrophenol. Associated results have been qualified as estimated (UJ) due to analytical inaccuracy. The %R exceeded laboratory specifications during the MS and MSD analysis for benzo(b)fluoranthene and benzo(a)pyrene. No action was warranted as benzo(b)fluoranthene and benzo(a)pyrene were not detected in MW-26.

A field duplicate evaluation was performed on samples FD (blind field duplicate) and MW-25. Criteria for precision was achieved as target analytes were not detected in the associated samples.

Pesticides by SW-846 8081

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 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. A field blank was also submitted to the laboratory for pesticide analysis. Target compounds were not detected during the analysis of the method or field blanks.

PCBs by SW-846 8082

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 met laboratory specifications for project samples.

The %R results for LCS analysis were within laboratory specifications for target analytes Aroclor 1016 and Aroclor 1260.

A method blank was reported for each analytical batch. A field blank was also submitted to the laboratory for pesticide analysis. Target compounds were not detected during the analysis of the method or field blanks.

Summary

Overall, data quality objectives for the Durkee St. project 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
Environmental Scientist

C.T. MALE ASSOCIATES, P.C.

SUBJECT: Data Usability Summary Report (DUSR)
Durkee Street Soil Vapor
STL SDG Nos.: 111609
C.T. Male Project No.: 04.9498

DATE: January 12, 2006

On December 8, 2005 C.T. Male Associates P.C. (C. T. Male) collected seven (7) soil vapor samples, which included a blind duplicate, from the Durkee Street Site. The samples were submitted, along with an ambient air sample to Severn Trent Laboratories (STL) in Colchester, VT for the following analyses:

Parameter	Sample Date	VOC, EPA TO15
Sample Ids		
SG-4	12/8/2005	1
SG-5	12/8/2005	1
SG-6	12/8/2005	1
SG-7	12/8/2005	1
SG-8	12/8/2005	1
SG-9	12/8/2005	1
DUP[1]	12/8/2005	1
AMBIENT	12/8/2005	1
Total Samples		**8**

VOC – Volatile organic compounds
EPA – Environmental Protection Agency

C. T. Male evaluated the data reported by the laboratory to determine usability per Appendix B of the *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NYSDEC, December 2002), with guidance from the *USEPA Region 2 SOP HW-18* (August 1994) and *USEPA CLP National Functional Guidelines for Organic Data Review* (October 1999). 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

All documentation required by the project was included in the data package. There were no discrepancies found between the raw data and summary forms. The laboratory Case Narrative (Attachment A) identified all deviations from laboratory analytical specifications. C.T. Male reviewed these QC results to determine if sample results should be qualified based on the criteria provided in Appendix B of the

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[1] Field duplicate of SG-5.

Technical Guidance for Site Investigation and Remediation. QC exceedences and data qualification recommendations are presented in the Organic 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 presented below.

Sample Condition upon Receipt and Holding Times

STL received all the samples listed on the COC record intact, in good condition and at an ambient temperature.

The samples were prepared and analyzed within EPA-established holding times.

Volatile Organic Analyses (VOA) by EPA Method TO15

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 3 of the EPA Method TO15. 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.

Surrogate recoveries and internal standard results met laboratory specifications for project samples.

The percent recovery results for laboratory control sample (LCS) and LCS duplicate (LCSD) analysis were within laboratory specifications for all target analytes. In addition the %RSD between LCS and LCSD results were within laboratory specifications.

A method blank was reported for each analytical batch. Target analytes were not detected during the VOA of the method blank.

A field duplicate evaluation was performed on samples SG-5 and DUP (blind field duplicate). Refer to Attachment B-1 of the Data Evaluation Checklist for the duplicate evaluation. Criteria for precision was achieved during the duplicate evaluation.

Summary

Overall, data quality objectives for the Durkee Street project 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
Environmental Scientist

C.T. MALE ASSOCIATES, P.C.

SUBJECT: Data Usability Summary Report (DUSR)
Durkee St. OU #2 Groundwater Investigation (12/07/06)
Chemtech SDG No.: X5806
C.T. Male Project No.: 04.9498

DATE: January 2, 2007

On December 7, 2006, C.T. Male Associates P.C. (C. T. Male) collected five (5) groundwater samples, including a blind field duplicate, from the Durkee St. Site. The samples were submitted along with a trip blank and an equipment blank to CHEMTECH in Mountainside, NJ for the following analyses:

Parameter	**Sample Date**	**VOC, SW-846 8260B**
Sample Ids		
MW-10	12/7/2006	1
MW-23	12/7/2006	1
MW-25	12/7/2006	1
MW-26	12/7/2006	1
FD-01[1]	12/7/2006	1
Equipment Blank	12/7/2006	1
Trip Blank	-	1
	Total Samples	**7**

VOC – Volatile organic compounds

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 Data Review* (October 1999). 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

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[1] Field duplicate of MW-23.

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

Chemtech 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

Project 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 dichlorodifluoromethane, bromomethane, trichlorofluoromethane, 1,1,2-trichlorotrifluoroethane and methylcyclohexane for the continuing calibration associated with the analyses of samples MW-10, MW-25, FD-01, EB-01 and Trip Blank; and dichlorodifluoromethane, trichlorofluoromethane, carbon disulfide and 1,1-dichloroethane for the continuing calibration associated with the analyses of samples MW-23 and MW-26. 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) analysis were within laboratory specifications for target analytes except dichlorodifluoromethane and trichlorofluoromethane were below specifications during the LCS analysis associated with the analyses of samples MW-10, MW-25, FD-01, EB-01 and Trip Blank; and dichlorodifluoromethane, chloroethane, carbon disulfide and 1,1-dichloroethane were below laboratory specifications during the LCS analysis associated with the analyses of samples MW-23 and MW-26. Associated results have been qualified as estimated (J/UJ) due to analytical inaccuracy.

A method blank was reported for each analytical batch. A trip blank and an equipment blank were also submitted to the laboratory for VOA. Target analytes were not detected in the method, trip or equipment blanks.

Criteria for accuracy and precision were met during the matrix spike (MS) and MS duplicate (MSD) analysis of sample MW-10 for target analytes except the %R was below laboratory specifications during the MS and MSD analysis for trichlorofluoromethane, 1,1-dichloroethene and 1,1-dichloroethane. Associated results have been qualified as estimated (UJ) due to analytical inaccuracy.

A field duplicate evaluation was performed on samples FD-01 (blind field duplicate) and MW-23. Refer to Attachment B-1 for the duplicate evaluation. Vinyl chloride results in the associated samples have been qualified as estimated (J) due to analytical imprecision.

Summary

Overall, data quality objectives for the Durkee St. project 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

ATTACHMENT A
Case Narrative

CHEMTECH

CASE NARRATIVE

C.T. Male & Associates
Project Name: durkee Street Project
Project # N/A
Chemtech Project # X5806

A. Number of Samples and Date of Receipt:
9 Water samples were received on 12/8/06.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: TCL Volatiles + 10. This data package contains results for TCL Volatiles + 10.

C. Analytical Techniques:
The analysis performed on instrument MSVOA H were done using GC column RTX624, which is 75 meters, 0.53 ID, 3.0 df, Restek Cat. #10974. The Trap was supplied BY OI Analytical, OI #10 Trap , OI Eclipse 4660 Concentrator.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds except for Chloroethane, Trichlorofluoromethane, 1,1-Dichloroethene, 1,1-Dichloroethane, Chloroform, t-1,3-Dichloropropene, cis-1,3-Dichloropropene, Dibromochloromethane, Bromoform, 1,1,2,2-Tetrachloroethane, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 1,2-Dichlorobenzene, 1,2-Dibromo-3-Chloropropane and 1,2,4-Trichlorobenzene.
The MSD recoveries met the acceptable requirements except for Trichlorofluoromethane, 1,1-Dichloroethene, 1,1-Dichloroethane, t-1,3-Dichloropropene, cis-1,3-Dichloropropene, Dibromochloromethane, 1,1,2,2-Tetrachloroethane, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 1,2-Dichlorobenzene, 1,2-Dibromo-3-Chloropropane and 1,2,4-Trichlorobenzene.
The RPD recoveries met criteria.
The Blank Spike met requirements for all samples except for Dichlorodifluoromethane, Chloroethane, Trichlorofluoromethane, 1,1-Dichloroethane, 1,2,4-Trichlorobenzene and Carbon Disulfide.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Tuning criteria met requirements.

E. Additional Comments:
Response Factor was used for Compound #5, 64 and 85.

Please use %D calculated based on AvgRF and CCRF for all compounds using Average Response Factor when the %RSD value for a compound is <15% for the Initial Calibration Curve and use %D calculated based on Amount added and Calculated amount for all compounds using Linear Regression when the %RSD value for a compound is > 15% for the Initial Calibration curve for SW-846 analysis.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature ____________ Name: Mildred Reyes

Date: 12/28/06 Title: QA/QC

ATTACHMENT B
Data Evaluation Checklist

Data Evaluation Checklist
Organic Analyses

Project: Durkee St. OU#2 December Groundwater Sampling
Work Order: X5806
Laboratory: CHEMTECH

Reviewer: Megan Drosky

Project No: 04.9498
Method: SW-846 Method 8260B (VOA)
Associated Sample IDs: MW-10, MW-23, MW-25, MW-26, FD-01, EB-01 and Trip Blank
Sample Date: 12/07/06
Date: 01/02/07

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
1. Were holding times met?	✓			VOA: ≤14 days	
2. Were sample storage and preservation requirements met?	✓			4°C (2-6°C).	
3. Was a method blank analyzed with each batch?	✓				
4. Were target analytes reported in the method or calibration blanks above the Detection Limit?		✓		VBLK01, VBLK02	
5. Were target analytes reported in field blank analyses (e.g., trip, ~~ambient, field,~~ or equipment) above the DL?		✓			
6. Were contaminants detected in samples below the blank contamination action level?			✓	Blank contamination does not exist.	
7. Were initial and continuing calibration standards analyzed at the lab-specified frequency for each instrument?	✓			• VOA o Initial calibration: 12/07/06 o Continuing calibration: 12/14/06 @04:46 and @17:30	
8. Were these results within lab or project specifications?	✓			VOA – • Initial Calibration of 12/07/06. The RF >0.05 and %RSD between response factors was less than 30% for all target analytes. • Continuing calibrations of 12/14/06. The RF>0.05 and %D <25% for all target analytes, except as follows: o @04:46 (Associated samples: EB-01, Trip Blank, MW-10, MW-25 and FD-01) – Dichlorodifluoromethane (33.8%D), bromomethane (27.6%D), trichlorofluoromethane (34.7%D), 1,1,2-trichlorotrifluoroethane (27.6%D) and methylcyclohexane (27.8%D). J/UJ associated samples.	J/UJ

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				o @17:30 (Associated samples: MW-23 and MW-26) – Dichlorodifluoromethane (27.8%D), trichlorofluoromethane (43.4%D), carbon disulfide (30.6%D) and 1,1-dichloroethane (41.1%D). J/UJ associated samples.	
9. Were the results of the ICS Check Standard analysis within 80-120% of the true value (metals only)?			✓		
10. Was a CRDL Standard analyzed for metals?			✓		
11. Were recoveries within 75-125% of the true value during the CRDL analysis (CRA, CRI)?			✓		
12. Was a LCS analyzed with each batch?	✓			BSH1213-04, BSH1214-02	
13. Were LCS' recoveries within lab specifications?		✓		VOA, BSH1213-04 (Associated samples: EB-01, Trip Blank, MW-10, MW-25 and FD-01) – • Dichlorodifluoromethane @55%R (70-130). J/UJ • Trichlorofluoromethane @60%R (70-130). J/UJ VOA, BSH1214-02 (Associated samples: MW-26 and MW-23) – • Dichlorodifluoromethane @65%R (70-130). J/UJ • Chloroethane @65%R (70-130). J/UJ • Carbon disulfide @65%R (70-130). J/UJ • 1,1-Dichloroethane @65%R (70-130). J/UJ	J/UJ
14. Were LCS/LCSD RPD within lab specifications?			✓	LCS only	
15. Was a MS/MSD pair analyzed with each batch?	✓			MW-10	
16. Is the MS/MSD parent sample a project-specific sample?	✓				
17. Were MS/MSD recoveries within lab specifications? *Only QC results for project samples are evaluated.*		✓		MW-10, VOA – o Chloroethane @68 and 74%R (71-150). No action warranted as the MSD was within specifications. o Trichlorofluoromethane @46 and 52%R (89-130). UJ o 1,1-Dichloroethene @60 and 66%R (70-140). UJ o 1,1-Dichloroethane @42 and 46%R (74-	UJ

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
				122). UJ ○ Chloroform @76 and 86%R (78-125). No action warranted as the MSD was within specifications. ○ Trans-1,3-Dichloropropene @124 and 124%R (68-113). No action warranted as the analyte was not detected in the sample. ○ Cis-1,3-Dichloropropene @120 and 120%R (70-117). No action warranted as the analyte was not detected in the sample. ○ Dibromochloromethane @126 and 126%R (71-124). No action warranted as the analyte was not detected in the sample. ○ Bromoform @128 and 120%R (66-127). No action warranted as the MSD was within specifications. ○ 1,1,2,2-Tetrachloroethane @126 and 128%R (52-111). No action warranted as the analyte was not detected in the sample. ○ 1,3-DCB @116 and 116%R (74-111). No action warranted as the analyte was not detected in the sample. ○ 1,4-DCB @112 and 112%R (77-111). No action warranted as the analyte was not detected in the sample. ○ 1,2-DCB @114 and 114%R (79-113). No action warranted as the analyte was not detected in the sample. ○ 1,2-Dibromo-3-Chloropropane @130 and 128%R (56-127). No action warranted as the analyte was not detected in the sample. ○ 1,2,4-Trichlorobenzene @128 and 136%R (78-112). No action warranted as the analyte was not detected in the sample.	
18. Were MS/MSD RPD within lab specifications? *Only QC results for project samples are evaluated.*	✓				
19. Was a serial dilution conducted on each inorganic batch?			✓		
20. Is the serial dilution parent sample a project-specific sample?			✓		

Data Evaluation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
21. Is the percent difference between the serially diluted result and undiluted result less than 10% (for those analytes with native concentrations greater than 50x the DL)? *Only QC results for project samples are evaluated.*			✓		
22. Was a laboratory duplicate analyzed with each batch?		✓			
23. Is the laboratory duplicate sample a project-specific sample?			✓		
24. Does laboratory duplicate results meet lab specifications? *Only QC results for project samples are evaluated.*			✓		
25. Were surrogate recoveries within lab specifications during organic analysis?	✓				
26. Were internal standard results within lab specifications during the VOA?	✓				
27. Were TIC reported and were reported results qualified as estimated concentrations?			✓		
28. Were field duplicate samples submitted to the laboratory for analysis?	✓			FD-01 is the duplicate of MW-23	
29. Was precision deemed acceptable as defined by DV Guidelines?		✓		Refer to Attachment B-1 for duplicate evaluation.	J
30. Were laboratory-generated Corrective Action Reports (i.e., QCER) issued? If yes, summarize contents or attach copy of the report.		✓			
31. Were lab comments included in report? If yes, summarize contents or attach a copy of the narrative.	✓			Refer to Case Narratives	

Comments:

The data review process was modeled after the EPA Region 2 Data Validation Guidelines for unusable data and Appendix 2B, Guidance for the Development of Data Usability Summary Reports, of *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NYSDEC, December 2002).

Key:

J	Positive sample result is considered estimated	UJ	Sample result is not detected and the detection limit is considered estimated
R	Unusable data	ND	Sample result is not detected
R+	Positive sample result is considered unusable	N	A "tentative identification" has been made of the presence of an analyte
U	Not present above the associated level; blank contamination exists		

Evaluation of Field Duplicate Results

ATTACHMENT B-1

Analyte	MW-23	FD-01	CRDL	CRDLx5	*Criteria*	RPD	Absolute difference	Action
Vinyl Chloride	17	21	0.33	1.65	*RPD*	21	4	J, RPD >20%
trans-1,2-Dichloroethene	8	8.2	0.4	2	*RPD*	2	0.2	None, RPD <20%
cis-1,2-Dichloroethene	52	59	0.29	1.45	*RPD*	13	7	None, RPD <20%
Trichloroethene	4.6	4.6	0.46	2.3	*RPD*	0	0	None, RPD <20%

Note: If the analyte was not detected, then the cell is left blank.

DL - Detection limit

RPD - Relative percent difference

*Results are reported on a dry weight basis (ug/Kg)

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the CRDL, then precision is based on the absolute difference between duplicate results. If sample results >5x's CRDL, then precision is evaluated using RPD. J sample results whenever the absolute difference is greater than CRDL or RPD >20%. If the analyte is detected in one sample but not the other, then J/UJ sample results. Above table presents results for detected analytes only. Blank cells indicates that the analyte was not detected.

ATTACHMENT C
Qualified Sample Results

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	C.T. Male & Associates	Date Collected:	12/7/2006
Project:	durkee Street Project	Date Received:	12/8/2006
Client Sample ID:	MW-23	SDG No.:	X5806
Lab Sample ID:	X5806-01	Matrix:	WATER
Analytical Method:	8260	% Moisture:	100
Sample Wt/Wol:	5.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VH012407.D	1	12/14/2006	VH120706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.17	U	5.0	0.17	ug/L
74-87-3	Chloromethane	0.34	U	5.0	0.34	ug/L
75-01-4	Vinyl chloride	17		5.0	0.33	ug/L
74-83-9	Bromomethane	0.41	U	5.0	0.41	ug/L
75-00-3	Chloroethane	0.83	U	5.0	0.83	ug/L
75-69-4	Trichlorofluoromethane	0.22	U	5.0	0.22	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1.3	U	5.0	1.3	ug/L
75-35-4	1,1-Dichloroethene	0.42	U	5.0	0.42	ug/L
67-64-1	Acetone	2.3	U	25	2.3	ug/L
75-15-0	Carbon disulfide	0.40	U	5.0	0.40	ug/L
1634-04-4	Methyl tert-butyl Ether	0.28	U	5.0	0.28	ug/L
79-20-9	Methyl Acetate	0.20	U	5.0	0.20	ug/L
75-09-2	Methylene Chloride	0.43	U	5.0	0.43	ug/L
156-60-5	trans-1,2-Dichloroethene	8.0		5.0	0.40	ug/L
75-34-3	1,1-Dichloroethane	0.38	U	5.0	0.38	ug/L
110-82-7	Cyclohexane	0.36	U	5.0	0.36	ug/L
78-93-3	2-Butanone	1.1	U	25	1.1	ug/L
56-23-5	Carbon Tetrachloride	1.1	U	5.0	1.1	ug/L
156-59-2	cis-1,2-Dichloroethene	52		5.0	0.29	ug/L
67-66-3	Chloroform	0.33	U	5.0	0.33	ug/L
71-55-6	1,1,1-Trichloroethane	0.32	U	5.0	0.32	ug/L
108-87-2	Methylcyclohexane	0.34	U	5.0	0.34	ug/L
71-43-2	Benzene	0.39	U	5.0	0.39	ug/L
107-06-2	1,2-Dichloroethane	0.34	U	5.0	0.34	ug/L
79-01-6	Trichloroethene	4.6	J	5.0	0.46	ug/L
78-87-5	1,2-Dichloropropane	0.40	U	5.0	0.40	ug/L
75-27-4	Bromodichloromethane	0.33	U	5.0	0.33	ug/L
108-10-1	4-Methyl-2-Pentanone	1.6	U	25	1.6	ug/L
108-88-3	Toluene	0.36	U	5.0	0.36	ug/L
10061-02-6	t-1,3-Dichloropropene	0.32	U	5.0	0.32	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.36	U	5.0	0.36	ug/L
79-00-5	1,1,2-Trichloroethane	0.41	U	5.0	0.41	ug/L

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

Sample results have been qualified by C.T. Male Associates, P.C. based on the results of the data review process, which is modeled after the EPA Region 2 Data Validation Guidelines for unusable data and Appendix 2B, Guidance for the Development of Data Usability Summary Reports, of *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NYSDEC, December 2002).

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	C.T. Male & Associates	**Date Collected:**	12/7/2006
Project:	durkee Street Project	**Date Received:**	12/8/2006
Client Sample ID:	MW-23	**SDG No.:**	X5806
Lab Sample ID:	X5806-01	**Matrix:**	WATER
Analytical Method:	8260	**% Moisture:**	100
Sample Wt/Wol:	5.0 Units: mL	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VH012407.D	1	12/14/2006	VH120706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	1.7	U	25	1.7	ug/L
124-48-1	Dibromochloromethane	0.26	U	5.0	0.26	ug/L
106-93-4	1,2-Dibromoethane	0.32	U	5.0	0.32	ug/L
127-18-4	Tetrachloroethene	0.48	U	5.0	0.48	ug/L
108-90-7	Chlorobenzene	0.47	U	5.0	0.47	ug/L
100-41-4	Ethyl Benzene	0.45	U	5.0	0.45	ug/L
126777-61-2	m/p-Xylenes	1.2	U	10	1.2	ug/L
95-47-6	o-Xylene	0.46	U	5.0	0.46	ug/L
100-42-5	Styrene	0.41	U	5.0	0.41	ug/L
75-25-2	Bromoform	0.32	U	5.0	0.32	ug/L
98-82-8	Isopropylbenzene	0.44	U	5.0	0.44	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.30	U	5.0	0.30	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	5.0	0.50	ug/L
106-46-7	1,4-Dichlorobenzene	0.54	U	5.0	0.54	ug/L
95-50-1	1,2-Dichlorobenzene	0.44	U	5.0	0.44	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.38	U	5.0	0.38	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.46	U	5.0	0.46	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	59.36	119 %	72 - 119		SPK: 50
1868-53-7	Dibromofluoromethane	49.51	99 %	85 - 115		SPK: 50
2037-26-5	Toluene-d8	49.6	99 %	81 - 120		SPK: 50
460-00-4	4-Bromofluorobenzene	48.53	97 %	76 - 119		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	440411	4.65			
540-36-3	1,4-Difluorobenzene	808841	5.25			
3114-55-4	Chlorobenzene-d5	865763	8.99			
3855-82-1	1,4-Dichlorobenzene-d4	384866	11.55			

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MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

Sample results have been qualified by C.T. Male Associates, P.C. based on the results of the data review process, which is modeled after the EPA Region 2 Data Validation Guidelines for unusable data and Appendix 2B, Guidance for the Development of Data Usability Summary Reports, of *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NYSDEC, December 2002).

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	C.T. Male & Associates	**Date Collected:**	12/7/2006
Project:	durkee Street Project	**Date Received:**	12/8/2006
Client Sample ID:	MW-10	**SDG No.:**	X5806
Lab Sample ID:	X5806-02	**Matrix:**	WATER
Analytical Method:	8260	**% Moisture:**	100
Sample Wt/Wol:	5.0 Units: mL	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VH012380.D	1	12/14/2006	VH120706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.17	U	5.0	0.17	ug/L
74-87-3	Chloromethane	0.34	U	5.0	0.34	ug/L
75-01-4	Vinyl chloride	0.33	U	5.0	0.33	ug/L
74-83-9	Bromomethane	0.41	U	5.0	0.41	ug/L
75-00-3	Chloroethane	0.83	U	5.0	0.83	ug/L
75-69-4	Trichlorofluoromethane	0.22	U	5.0	0.22	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1.3	U	5.0	1.3	ug/L
75-35-4	1,1-Dichloroethene	0.42	U	5.0	0.42	ug/L
67-64-1	Acetone	2.3	U	25	2.3	ug/L
75-15-0	Carbon disulfide	0.40	U	5.0	0.40	ug/L
1634-04-4	Methyl tert-butyl Ether	0.28	U	5.0	0.28	ug/L
79-20-9	Methyl Acetate	0.20	U	5.0	0.20	ug/L
75-09-2	Methylene Chloride	0.43	U	5.0	0.43	ug/L
156-60-5	trans-1,2-Dichloroethene	0.40	U	5.0	0.40	ug/L
75-34-3	1,1-Dichloroethane	0.38	U	5.0	0.38	ug/L
110-82-7	Cyclohexane	0.36	U	5.0	0.36	ug/L
78-93-3	2-Butanone	1.1	U	25	1.1	ug/L
56-23-5	Carbon Tetrachloride	1.1	U	5.0	1.1	ug/L
156-59-2	cis-1,2-Dichloroethene	8.2		5.0	0.29	ug/L
67-66-3	Chloroform	0.33	U	5.0	0.33	ug/L
71-55-6	1,1,1-Trichloroethane	0.32	U	5.0	0.32	ug/L
108-87-2	Methylcyclohexane	0.34	U	5.0	0.34	ug/L
71-43-2	Benzene	0.39	U	5.0	0.39	ug/L
107-06-2	1,2-Dichloroethane	0.34	U	5.0	0.34	ug/L
79-01-6	Trichloroethene	11		5.0	0.46	ug/L
78-87-5	1,2-Dichloropropane	0.40	U	5.0	0.40	ug/L
75-27-4	Bromodichloromethane	0.33	U	5.0	0.33	ug/L
108-10-1	4-Methyl-2-Pentanone	1.6	U	25	1.6	ug/L
108-88-3	Toluene	0.36	U	5.0	0.36	ug/L
10061-02-6	t-1,3-Dichloropropene	0.32	U	5.0	0.32	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.36	U	5.0	0.36	ug/L
79-00-5	1,1,2-Trichloroethane	0.41	U	5.0	0.41	ug/L

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

Sample results have been qualified by C.T. Male Associates, P.C. based on the results of the data review process, which is modeled after the EPA Region 2 Data Validation Guidelines for unusable data and Appendix 2B, Guidance for the Development of Data Usability Summary Reports, of *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NYSDEC, December 2002).

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	C.T. Male & Associates	**Date Collected:**	12/7/2006
Project:	durkee Street Project	**Date Received:**	12/8/2006
Client Sample ID:	MW-10	**SDG No.:**	X5806
Lab Sample ID:	X5806-02	**Matrix:**	WATER
Analytical Method:	8260	**% Moisture:**	100
Sample Wt/Wol:	5.0 Units: mL	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VH012380.D	1	12/14/2006	VH120706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	1.7	U	25	1.7	ug/L
124-48-1	Dibromochloromethane	0.26	U	5.0	0.26	ug/L
106-93-4	1,2-Dibromoethane	0.32	U	5.0	0.32	ug/L
127-18-4	Tetrachloroethene	0.48	U	5.0	0.48	ug/L
108-90-7	Chlorobenzene	0.47	U	5.0	0.47	ug/L
100-41-4	Ethyl Benzene	0.45	U	5.0	0.45	ug/L
126777-61-2	m/p-Xylenes	1.2	U	10	1.2	ug/L
95-47-6	o-Xylene	0.46	U	5.0	0.46	ug/L
100-42-5	Styrene	0.41	U	5.0	0.41	ug/L
75-25-2	Bromoform	0.32	U	5.0	0.32	ug/L
98-82-8	Isopropylbenzene	0.44	U	5.0	0.44	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.30	U	5.0	0.30	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	5.0	0.50	ug/L
106-46-7	1,4-Dichlorobenzene	0.54	U	5.0	0.54	ug/L
95-50-1	1,2-Dichlorobenzene	0.44	U	5.0	0.44	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.38	U	5.0	0.38	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.46	U	5.0	0.46	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	53.23	106 %	72 - 119		SPK: 50
1868-53-7	Dibromofluoromethane	52.45	105 %	85 - 115		SPK: 50
2037-26-5	Toluene-d8	50.41	101 %	81 - 120		SPK: 50
460-00-4	4-Bromofluorobenzene	48.48	97 %	76 - 119		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	430579	4.64			
540-36-3	1,4-Difluorobenzene	767499	5.24			
3114-55-4	Chlorobenzene-d5	802070	8.98			
3855-82-1	1,4-Dichlorobenzene-d4	361332	11.56			

U = Not Detected
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N = Presumptive Evidence of a Compound

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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	C.T. Male & Associates	**Date Collected:**	12/7/2006
Project:	durkee Street Project	**Date Received:**	12/8/2006
Client Sample ID:	MW-26	**SDG No.:**	X5806
Lab Sample ID:	X5806-05	**Matrix:**	WATER
Analytical Method:	8260	**% Moisture:**	100
Sample Wt/Wol:	5.0 **Units:** mL	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VH012406.D	1	12/14/2006	VH120706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.17	U	5.0	0.17	ug/L
74-87-3	Chloromethane	0.34	U	5.0	0.34	ug/L
75-01-4	Vinyl chloride	11		5.0	0.33	ug/L
74-83-9	Bromomethane	0.41	U	5.0	0.41	ug/L
75-00-3	Chloroethane	0.83	U	5.0	0.83	ug/L
75-69-4	Trichlorofluoromethane	0.22	U	5.0	0.22	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1.3	U	5.0	1.3	ug/L
75-35-4	1,1-Dichloroethene	0.42	U	5.0	0.42	ug/L
67-64-1	Acetone	2.3	U	25	2.3	ug/L
75-15-0	Carbon disulfide	0.40	U	5.0	0.40	ug/L
1634-04-4	Methyl tert-butyl Ether	0.28	U	5.0	0.28	ug/L
79-20-9	Methyl Acetate	0.20	U	5.0	0.20	ug/L
75-09-2	Methylene Chloride	0.43	U	5.0	0.43	ug/L
156-60-5	trans-1,2-Dichloroethene	1.0	J	5.0	0.40	ug/L
75-34-3	1,1-Dichloroethane	0.38	U	5.0	0.38	ug/L
110-82-7	Cyclohexane	0.36	U	5.0	0.36	ug/L
78-93-3	2-Butanone	1.1	U	25	1.1	ug/L
56-23-5	Carbon Tetrachloride	1.1	U	5.0	1.1	ug/L
156-59-2	cis-1,2-Dichloroethene	7.3		5.0	0.29	ug/L
67-66-3	Chloroform	0.33	U	5.0	0.33	ug/L
71-55-6	1,1,1-Trichloroethane	0.32	U	5.0	0.32	ug/L
108-87-2	Methylcyclohexane	0.34	U	5.0	0.34	ug/L
71-43-2	Benzene	0.39	U	5.0	0.39	ug/L
107-06-2	1,2-Dichloroethane	0.34	U	5.0	0.34	ug/L
79-01-6	Trichloroethene	1.2	J	5.0	0.46	ug/L
78-87-5	1,2-Dichloropropane	0.40	U	5.0	0.40	ug/L
75-27-4	Bromodichloromethane	0.33	U	5.0	0.33	ug/L
108-10-1	4-Methyl-2-Pentanone	1.6	U	25	1.6	ug/L
108-88-3	Toluene	0.36	U	5.0	0.36	ug/L
10061-02-6	t-1,3-Dichloropropene	0.32	U	5.0	0.32	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.36	U	5.0	0.36	ug/L
79-00-5	1,1,2-Trichloroethane	0.41	U	5.0	0.41	ug/L

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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	C.T. Male & Associates	Date Collected:	12/7/2006
Project:	durkee Street Project	Date Received:	12/8/2006
Client Sample ID:	MW-26	SDG No.:	X5806
Lab Sample ID:	X5806-05	Matrix:	WATER
Analytical Method:	8260	% Moisture:	100
Sample Wt/Wol:	5.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VH012406.D	1	12/14/2006	VH120706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	1.7	U	25	1.7	ug/L
124-48-1	Dibromochloromethane	0.26	U	5.0	0.26	ug/L
106-93-4	1,2-Dibromoethane	0.32	U	5.0	0.32	ug/L
127-18-4	Tetrachloroethene	0.48	U	5.0	0.48	ug/L
108-90-7	Chlorobenzene	0.47	U	5.0	0.47	ug/L
100-41-4	Ethyl Benzene	0.45	U	5.0	0.45	ug/L
126777-61-2	m/p-Xylenes	1.2	U	10	1.2	ug/L
95-47-6	o-Xylene	0.46	U	5.0	0.46	ug/L
100-42-5	Styrene	0.41	U	5.0	0.41	ug/L
75-25-2	Bromoform	0.32	U	5.0	0.32	ug/L
98-82-8	Isopropylbenzene	0.44	U	5.0	0.44	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.30	U	5.0	0.30	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	5.0	0.50	ug/L
106-46-7	1,4-Dichlorobenzene	0.54	U	5.0	0.54	ug/L
95-50-1	1,2-Dichlorobenzene	0.44	U	5.0	0.44	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.38	U	5.0	0.38	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.46	U	5.0	0.46	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	57.46	115 %	72 - 119		SPK: 50
1868-53-7	Dibromofluoromethane	52.52	105 %	85 - 115		SPK: 50
2037-26-5	Toluene-d8	50.85	102 %	81 - 120		SPK: 50
460-00-4	4-Bromofluorobenzene	50.5	101 %	76 - 119		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	443236	4.64			
540-36-3	1,4-Difluorobenzene	794899	5.26			
3114-55-4	Chlorobenzene-d5	846482	8.98			
3855-82-1	1,4-Dichlorobenzene-d4	380197	11.56			

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Report of Analysis

Client:	C.T. Male & Associates	Date Collected:	12/7/2006
Project:	durkee Street Project	Date Received:	12/8/2006
Client Sample ID:	MW-25	SDG No.:	X5806
Lab Sample ID:	X5806-06	Matrix:	WATER
Analytical Method:	8260	% Moisture:	100
Sample Wt/Wol:	5.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VH012384.D	1	12/14/2006	VH120706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.17	U	5.0	0.17	ug/L
74-87-3	Chloromethane	0.34	U	5.0	0.34	ug/L
75-01-4	Vinyl chloride	0.33	U	5.0	0.33	ug/L
74-83-9	Bromomethane	0.41	U	5.0	0.41	ug/L
75-00-3	Chloroethane	0.83	U	5.0	0.83	ug/L
75-69-4	Trichlorofluoromethane	0.22	U	5.0	0.22	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1.3	U	5.0	1.3	ug/L
75-35-4	1,1-Dichloroethene	0.42	U	5.0	0.42	ug/L
67-64-1	Acetone	2.3	U	25	2.3	ug/L
75-15-0	Carbon disulfide	0.40	U	5.0	0.40	ug/L
1634-04-4	Methyl tert-butyl Ether	0.28	U	5.0	0.28	ug/L
79-20-9	Methyl Acetate	0.20	U	5.0	0.20	ug/L
75-09-2	Methylene Chloride	0.43	U	5.0	0.43	ug/L
156-60-5	trans-1,2-Dichloroethene	1.5	J	5.0	0.40	ug/L
75-34-3	1,1-Dichloroethane	0.38	U	5.0	0.38	ug/L
110-82-7	Cyclohexane	0.36	U	5.0	0.36	ug/L
78-93-3	2-Butanone	1.1	U	25	1.1	ug/L
56-23-5	Carbon Tetrachloride	1.1	U	5.0	1.1	ug/L
156-59-2	cis-1,2-Dichloroethene	3.4	J	5.0	0.29	ug/L
67-66-3	Chloroform	0.33	U	5.0	0.33	ug/L
71-55-6	1,1,1-Trichloroethane	0.32	U	5.0	0.32	ug/L
108-87-2	Methylcyclohexane	0.34	U	5.0	0.34	ug/L
71-43-2	Benzene	0.39	U	5.0	0.39	ug/L
107-06-2	1,2-Dichloroethane	0.34	U	5.0	0.34	ug/L
79-01-6	Trichloroethene	0.46	U	5.0	0.46	ug/L
78-87-5	1,2-Dichloropropane	0.40	U	5.0	0.40	ug/L
75-27-4	Bromodichloromethane	0.33	U	5.0	0.33	ug/L
108-10-1	4-Methyl-2-Pentanone	1.6	U	25	1.6	ug/L
108-88-3	Toluene	0.36	U	5.0	0.36	ug/L
10061-02-6	t-1,3-Dichloropropene	0.32	U	5.0	0.32	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.36	U	5.0	0.36	ug/L
79-00-5	1,1,2-Trichloroethane	0.41	U	5.0	0.41	ug/L

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Report of Analysis

Client:	C.T. Male & Associates	**Date Collected:**	12/7/2006
Project:	durkee Street Project	**Date Received:**	12/8/2006
Client Sample ID:	MW-25	**SDG No.:**	X5806
Lab Sample ID:	X5806-06	**Matrix:**	WATER
Analytical Method:	8260	**% Moisture:**	100
Sample Wt/Wol:	5.0 **Units:** mL	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VH012384.D	1	12/14/2006	VH120706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	1.7	U	25	1.7	ug/L
124-48-1	Dibromochloromethane	0.26	U	5.0	0.26	ug/L
106-93-4	1,2-Dibromoethane	0.32	U	5.0	0.32	ug/L
127-18-4	Tetrachloroethene	0.48	U	5.0	0.48	ug/L
108-90-7	Chlorobenzene	0.47	U	5.0	0.47	ug/L
100-41-4	Ethyl Benzene	0.45	U	5.0	0.45	ug/L
126777-61-2	m/p-Xylenes	1.2	U	10	1.2	ug/L
95-47-6	o-Xylene	0.46	U	5.0	0.46	ug/L
100-42-5	Styrene	0.41	U	5.0	0.41	ug/L
75-25-2	Bromoform	0.32	U	5.0	0.32	ug/L
98-82-8	Isopropylbenzene	0.44	U	5.0	0.44	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.30	U	5.0	0.30	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	5.0	0.50	ug/L
106-46-7	1,4-Dichlorobenzene	0.54	U	5.0	0.54	ug/L
95-50-1	1,2-Dichlorobenzene	0.44	U	5.0	0.44	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.38	U	5.0	0.38	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.46	U	5.0	0.46	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	47.49	95 %	72 - 119		SPK: 50
1868-53-7	Dibromofluoromethane	51.7	103 %	85 - 115		SPK: 50
2037-26-5	Toluene-d8	47.75	96 %	81 - 120		SPK: 50
460-00-4	4-Bromofluorobenzene	50.55	101 %	76 - 119		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	436287	4.64			
540-36-3	1,4-Difluorobenzene	771493	5.24			
3114-55-4	Chlorobenzene-d5	785706	8.98			
3855-82-1	1,4-Dichlorobenzene-d4	390780	11.56			

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Report of Analysis

Client:	C.T. Male & Associates	Date Collected:	12/7/2006
Project:	durkee Street Project	Date Received:	12/8/2006
Client Sample ID:	FD-01	SDG No.:	X5806
Lab Sample ID:	X5806-07	Matrix:	WATER
Analytical Method:	8260	% Moisture:	100
Sample Wt/Wol:	5.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VH012385.D	1	12/14/2006	VH120706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.17	U	5.0	0.17	ug/L
74-87-3	Chloromethane	0.34	U	5.0	0.34	ug/L
75-01-4	Vinyl chloride	21		5.0	0.33	ug/L
74-83-9	Bromomethane	0.41	U	5.0	0.41	ug/L
75-00-3	Chloroethane	0.83	U	5.0	0.83	ug/L
75-69-4	Trichlorofluoromethane	0.22	U	5.0	0.22	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1.3	U	5.0	1.3	ug/L
75-35-4	1,1-Dichloroethene	0.42	U	5.0	0.42	ug/L
67-64-1	Acetone	2.3	U	25	2.3	ug/L
75-15-0	Carbon disulfide	0.40	U	5.0	0.40	ug/L
1634-04-4	Methyl tert-butyl Ether	0.28	U	5.0	0.28	ug/L
79-20-9	Methyl Acetate	0.20	U	5.0	0.20	ug/L
75-09-2	Methylene Chloride	0.43	U	5.0	0.43	ug/L
156-60-5	trans-1,2-Dichloroethene	8.2		5.0	0.40	ug/L
75-34-3	1,1-Dichloroethane	0.38	U	5.0	0.38	ug/L
110-82-7	Cyclohexane	0.36	U	5.0	0.36	ug/L
78-93-3	2-Butanone	1.1	U	25	1.1	ug/L
56-23-5	Carbon Tetrachloride	1.1	U	5.0	1.1	ug/L
156-59-2	cis-1,2-Dichloroethene	59		5.0	0.29	ug/L
67-66-3	Chloroform	0.33	U	5.0	0.33	ug/L
71-55-6	1,1,1-Trichloroethane	0.32	U	5.0	0.32	ug/L
108-87-2	Methylcyclohexane	0.34	U	5.0	0.34	ug/L
71-43-2	Benzene	0.39	U	5.0	0.39	ug/L
107-06-2	1,2-Dichloroethane	0.34	U	5.0	0.34	ug/L
79-01-6	Trichloroethene	4.6	J	5.0	0.46	ug/L
78-87-5	1,2-Dichloropropane	0.40	U	5.0	0.40	ug/L
75-27-4	Bromodichloromethane	0.33	U	5.0	0.33	ug/L
108-10-1	4-Methyl-2-Pentanone	1.6	U	25	1.6	ug/L
108-88-3	Toluene	0.36	U	5.0	0.36	ug/L
10061-02-6	t-1,3-Dichloropropene	0.32	U	5.0	0.32	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.36	U	5.0	0.36	ug/L
79-00-5	1,1,2-Trichloroethane	0.41	U	5.0	0.41	ug/L

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Report of Analysis

Client:	C.T. Male & Associates	**Date Collected:**	12/7/2006
Project:	durkee Street Project	**Date Received:**	12/8/2006
Client Sample ID:	FD-01	**SDG No.:**	X5806
Lab Sample ID:	X5806-07	**Matrix:**	WATER
Analytical Method:	8260	**% Moisture:**	100
Sample Wt/Wol:	5.0 Units: mL	**Soil Extract Vol:**	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VH012385.D	1	12/14/2006	VH120706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	1.7	U	25	1.7	ug/L
124-48-1	Dibromochloromethane	0.26	U	5.0	0.26	ug/L
106-93-4	1,2-Dibromoethane	0.32	U	5.0	0.32	ug/L
127-18-4	Tetrachloroethene	0.48	U	5.0	0.48	ug/L
108-90-7	Chlorobenzene	0.47	U	5.0	0.47	ug/L
100-41-4	Ethyl Benzene	0.45	U	5.0	0.45	ug/L
126777-61-2	m/p-Xylenes	1.2	U	10	1.2	ug/L
95-47-6	o-Xylene	0.46	U	5.0	0.46	ug/L
100-42-5	Styrene	0.41	U	5.0	0.41	ug/L
75-25-2	Bromoform	0.32	U	5.0	0.32	ug/L
98-82-8	Isopropylbenzene	0.44	U	5.0	0.44	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.30	U	5.0	0.30	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	5.0	0.50	ug/L
106-46-7	1,4-Dichlorobenzene	0.54	U	5.0	0.54	ug/L
95-50-1	1,2-Dichlorobenzene	0.44	U	5.0	0.44	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.38	U	5.0	0.38	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.46	U	5.0	0.46	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	53.11	106 %	72 - 119		SPK: 50
1868-53-7	Dibromofluoromethane	52	104 %	85 - 115		SPK: 50
2037-26-5	Toluene-d8	50	100 %	81 - 120		SPK: 50
460-00-4	4-Bromofluorobenzene	48.74	97 %	76 - 119		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	431513	4.64			
540-36-3	1,4-Difluorobenzene	770081	5.24			
3114-55-4	Chlorobenzene-d5	745976	8.98			
3855-82-1	1,4-Dichlorobenzene-d4	372138	11.56			

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range
J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	C.T. Male & Associates	Date Collected:	12/7/2006
Project:	durkee Street Project	Date Received:	12/8/2006
Client Sample ID:	EB-01	SDG No.:	X5806
Lab Sample ID:	X5806-08	Matrix:	WATER
Analytical Method:	8260	% Moisture:	100
Sample Wt/Wol:	5.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VH012378.D	1	12/14/2006	VH120706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.17	U	5.0	0.17	ug/L
74-87-3	Chloromethane	0.34	U	5.0	0.34	ug/L
75-01-4	Vinyl chloride	0.33	U	5.0	0.33	ug/L
74-83-9	Bromomethane	0.41	U	5.0	0.41	ug/L
75-00-3	Chloroethane	0.83	U	5.0	0.83	ug/L
75-69-4	Trichlorofluoromethane	0.22	U	5.0	0.22	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1.3	U	5.0	1.3	ug/L
75-35-4	1,1-Dichloroethene	0.42	U	5.0	0.42	ug/L
67-64-1	Acetone	2.3	U	25	2.3	ug/L
75-15-0	Carbon disulfide	0.40	U	5.0	0.40	ug/L
1634-04-4	Methyl tert-butyl Ether	0.28	U	5.0	0.28	ug/L
79-20-9	Methyl Acetate	0.20	U	5.0	0.20	ug/L
75-09-2	Methylene Chloride	0.43	U	5.0	0.43	ug/L
156-60-5	trans-1,2-Dichloroethene	0.40	U	5.0	0.40	ug/L
75-34-3	1,1-Dichloroethane	0.38	U	5.0	0.38	ug/L
110-82-7	Cyclohexane	0.36	U	5.0	0.36	ug/L
78-93-3	2-Butanone	1.1	U	25	1.1	ug/L
56-23-5	Carbon Tetrachloride	1.1	U	5.0	1.1	ug/L
156-59-2	cis-1,2-Dichloroethene	0.29	U	5.0	0.29	ug/L
67-66-3	Chloroform	0.33	U	5.0	0.33	ug/L
71-55-6	1,1,1-Trichloroethane	0.32	U	5.0	0.32	ug/L
108-87-2	Methylcyclohexane	0.34	U	5.0	0.34	ug/L
71-43-2	Benzene	0.39	U	5.0	0.39	ug/L
107-06-2	1,2-Dichloroethane	0.34	U	5.0	0.34	ug/L
79-01-6	Trichloroethene	0.46	U	5.0	0.46	ug/L
78-87-5	1,2-Dichloropropane	0.40	U	5.0	0.40	ug/L
75-27-4	Bromodichloromethane	0.33	U	5.0	0.33	ug/L
108-10-1	4-Methyl-2-Pentanone	1.6	U	25	1.6	ug/L
108-88-3	Toluene	0.36	U	5.0	0.36	ug/L
10061-02-6	t-1,3-Dichloropropene	0.32	U	5.0	0.32	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.36	U	5.0	0.36	ug/L
79-00-5	1,1,2-Trichloroethane	0.41	U	5.0	0.41	ug/L

U = Not Detected
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E = Value Exceeds Calibration Range

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B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

Sample results have been qualified by C.T. Male Associates, P.C. based on the results of the data review process, which is modeled after the EPA Region 2 Data Validation Guidelines for unusable data and Appendix 2B, Guidance for the Development of Data Usability Summary Reports, of *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NYSDEC, December 2002).

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Report of Analysis

Client:	C.T. Male & Associates	Date Collected:	12/7/2006
Project:	durkee Street Project	Date Received:	12/8/2006
Client Sample ID:	EB-01	SDG No.:	X5806
Lab Sample ID:	X5806-08	Matrix:	WATER
Analytical Method:	8260	% Moisture:	100
Sample Wt/Wol:	5.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VH012378.D	1	12/14/2006	VH120706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	1.7	U	25	1.7	ug/L
124-48-1	Dibromochloromethane	0.26	U	5.0	0.26	ug/L
106-93-4	1,2-Dibromoethane	0.32	U	5.0	0.32	ug/L
127-18-4	Tetrachloroethene	0.48	U	5.0	0.48	ug/L
108-90-7	Chlorobenzene	0.47	U	5.0	0.47	ug/L
100-41-4	Ethyl Benzene	0.45	U	5.0	0.45	ug/L
126777-61-2	m/p-Xylenes	1.2	U	10	1.2	ug/L
95-47-6	o-Xylene	0.46	U	5.0	0.46	ug/L
100-42-5	Styrene	0.41	U	5.0	0.41	ug/L
75-25-2	Bromoform	0.32	U	5.0	0.32	ug/L
98-82-8	Isopropylbenzene	0.44	U	5.0	0.44	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.30	U	5.0	0.30	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	5.0	0.50	ug/L
106-46-7	1,4-Dichlorobenzene	0.54	U	5.0	0.54	ug/L
95-50-1	1,2-Dichlorobenzene	0.44	U	5.0	0.44	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.38	U	5.0	0.38	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.46	U	5.0	0.46	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	44.88	90 %	72 - 119		SPK: 50
1868-53-7	Dibromofluoromethane	50.74	101 %	85 - 115		SPK: 50
2037-26-5	Toluene-d8	48.74	97 %	81 - 120		SPK: 50
460-00-4	4-Bromofluorobenzene	51.1	102 %	76 - 119		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	416341	4.63			
540-36-3	1,4-Difluorobenzene	711161	5.24			
3114-55-4	Chlorobenzene-d5	682086	8.97			
3855-82-1	1,4-Dichlorobenzene-d4	363869	11.55			

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Report of Analysis

Client:	C.T. Male & Associates	Date Collected:	12/7/2006
Project:	durkee Street Project	Date Received:	12/8/2006
Client Sample ID:	TRIPBLANKS	SDG No.:	X5806
Lab Sample ID:	X5806-09	Matrix:	WATER
Analytical Method:	8260	% Moisture:	100
Sample Wt/Wol:	5.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VH012379.D	1	12/14/2006	VH120706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.17	U	5.0	0.17	ug/L
74-87-3	Chloromethane	0.34	U	5.0	0.34	ug/L
75-01-4	Vinyl chloride	0.33	U	5.0	0.33	ug/L
74-83-9	Bromomethane	0.41	U	5.0	0.41	ug/L
75-00-3	Chloroethane	0.83	U	5.0	0.83	ug/L
75-69-4	Trichlorofluoromethane	0.22	U	5.0	0.22	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1.3	U	5.0	1.3	ug/L
75-35-4	1,1-Dichloroethene	0.42	U	5.0	0.42	ug/L
67-64-1	Acetone	2.3	U	25	2.3	ug/L
75-15-0	Carbon disulfide	0.40	U	5.0	0.40	ug/L
1634-04-4	Methyl tert-butyl Ether	0.28	U	5.0	0.28	ug/L
79-20-9	Methyl Acetate	0.20	U	5.0	0.20	ug/L
75-09-2	Methylene Chloride	0.43	U	5.0	0.43	ug/L
156-60-5	trans-1,2-Dichloroethene	0.40	U	5.0	0.40	ug/L
75-34-3	1,1-Dichloroethane	0.38	U	5.0	0.38	ug/L
110-82-7	Cyclohexane	0.36	U	5.0	0.36	ug/L
78-93-3	2-Butanone	1.1	U	25	1.1	ug/L
56-23-5	Carbon Tetrachloride	1.1	U	5.0	1.1	ug/L
156-59-2	cis-1,2-Dichloroethene	0.29	U	5.0	0.29	ug/L
67-66-3	Chloroform	0.33	U	5.0	0.33	ug/L
71-55-6	1,1,1-Trichloroethane	0.32	U	5.0	0.32	ug/L
108-87-2	Methylcyclohexane	0.34	U	5.0	0.34	ug/L
71-43-2	Benzene	0.39	U	5.0	0.39	ug/L
107-06-2	1,2-Dichloroethane	0.34	U	5.0	0.34	ug/L
79-01-6	Trichloroethene	0.46	U	5.0	0.46	ug/L
78-87-5	1,2-Dichloropropane	0.40	U	5.0	0.40	ug/L
75-27-4	Bromodichloromethane	0.33	U	5.0	0.33	ug/L
108-10-1	4-Methyl-2-Pentanone	1.6	U	25	1.6	ug/L
108-88-3	Toluene	0.36	U	5.0	0.36	ug/L
10061-02-6	t-1,3-Dichloropropene	0.32	U	5.0	0.32	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.36	U	5.0	0.36	ug/L
79-00-5	1,1,2-Trichloroethane	0.41	U	5.0	0.41	ug/L

U = Not Detected
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E = Value Exceeds Calibration Range

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N = Presumptive Evidence of a Compound

Sample results have been qualified by C.T. Male Associates, P.C. based on the results of the data review process, which is modeled after the EPA Region 2 Data Validation Guidelines for unusable data and Appendix 2B, Guidance for the Development of Data Usability Summary Reports, of *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NYSDEC, December 2002).

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Report of Analysis

Client:	C.T. Male & Associates	Date Collected:	12/7/2006
Project:	durkee Street Project	Date Received:	12/8/2006
Client Sample ID:	TRIPBLANKS	SDG No.:	X5806
Lab Sample ID:	X5806-09	Matrix:	WATER
Analytical Method:	8260	% Moisture:	100
Sample Wt/Wol:	5.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VH012379.D	1	12/14/2006	VH120706

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	1.7	U	25	1.7	ug/L
124-48-1	Dibromochloromethane	0.26	U	5.0	0.26	ug/L
106-93-4	1,2-Dibromoethane	0.32	U	5.0	0.32	ug/L
127-18-4	Tetrachloroethene	0.48	U	5.0	0.48	ug/L
108-90-7	Chlorobenzene	0.47	U	5.0	0.47	ug/L
100-41-4	Ethyl Benzene	0.45	U	5.0	0.45	ug/L
126777-61-2	m/p-Xylenes	1.2	U	10	1.2	ug/L
95-47-6	o-Xylene	0.46	U	5.0	0.46	ug/L
100-42-5	Styrene	0.41	U	5.0	0.41	ug/L
75-25-2	Bromoform	0.32	U	5.0	0.32	ug/L
98-82-8	Isopropylbenzene	0.44	U	5.0	0.44	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.30	U	5.0	0.30	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	5.0	0.50	ug/L
106-46-7	1,4-Dichlorobenzene	0.54	U	5.0	0.54	ug/L
95-50-1	1,2-Dichlorobenzene	0.44	U	5.0	0.44	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.38	U	5.0	0.38	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.46	U	5.0	0.46	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	54.68	109 %	72 - 119		SPK: 50
1868-53-7	Dibromofluoromethane	53.48	107 %	85 - 115		SPK: 50
2037-26-5	Toluene-d8	50.12	100 %	81 - 120		SPK: 50
460-00-4	4-Bromofluorobenzene	43.88	88 %	76 - 119		SPK: 50
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	425652	4.63			
540-36-3	1,4-Difluorobenzene	763722	5.24			
3114-55-4	Chlorobenzene-d5	779822	8.97			
3855-82-1	1,4-Dichlorobenzene-d4	344554	11.55			

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J = Estimated Value
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Sample results have been qualified by C.T. Male Associates, P.C. based on the results of the data review process, which is modeled after the EPA Region 2 Data Validation Guidelines for unusable data and Appendix 2B, Guidance for the Development of Data Usability Summary Reports, of *Draft DER-10 Technical Guidance for Site Investigation and Remediation* (NYSDEC, December 2002).